



ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

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

2014



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

| | |
|--------------------|--|
| BW | BiWeekly |
| C | Control |
| DEHNR | Department of Environmental Health and Natural Resources |
| EPA | Environmental Protection Agency |
| ERA | Environmental Resource Associates |
| GI-LLI | Gastrointestinal – Lower Large Intestine |
| GPS | Global Positioning System |
| ISFSI | Independent Spent Fuel Storage Installation |
| LLD | Lower Limit of Detection |
| M | Monthly |
| MDA | Minimum Detectable Activity |
| MNS | McGuire Nuclear Station |
| mrem | millirem |
| NIST | National Institute of Standards and Technology |
| NRC | Nuclear Regulatory Commission |
| ODCM | Offsite Dose Calculation Manual |
| pCi/kg | picocurie per kilogram |
| pCi/l | picocurie per liter |
| pCi/m ³ | picocurie per cubic meter |
| PIP | Problem Investigation Program |
| Q | Quarterly |
| REMP | Radiological Environmental Monitoring Program |
| SA | Semiannually |
| SLCs | Selected Licensee Commitments |
| SM | Semimonthly |
| TECH SPECS | Technical Specifications |
| TLD | Thermoluminescent Dosimeter |
| μCi/ml | microcurie per milliliter |
| UFSAR | Updated Final Safety Analysis Report |
| W | Weekly |

1.0 EXECUTIVE SUMMARY

This Annual Radiological Environmental Operating Report describes the McGuire Nuclear Station Radiological Environmental Monitoring Program (REMP), and the program results for the calendar year 2014.

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 fifty-five samples were analyzed comprising 1,246 test results in order to compile data for the 2014 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 2014 for station related radionuclides were generally within the ranges of concentrations observed in the past. Inspection of data showed that radioactivity concentrations in surface water, drinking water, shoreline sediment and fish 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 $9.71E-2$ mrem for 2014. 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 Megawatts of electricity. Unit 1 achieved criticality August 8, 1981 and Unit 2 on May 8, 1983.

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 LEVEL OF DETECTION AND MINIMUM DETECTABLE ACTIVITY

The Lower Level 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* 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" LLD's 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 Chernobyl accident). Some of these factors may be obvious while others are sometimes unknown. Therefore, how trends are identified will include some judgment by plant personnel.

Figure 2.1-1

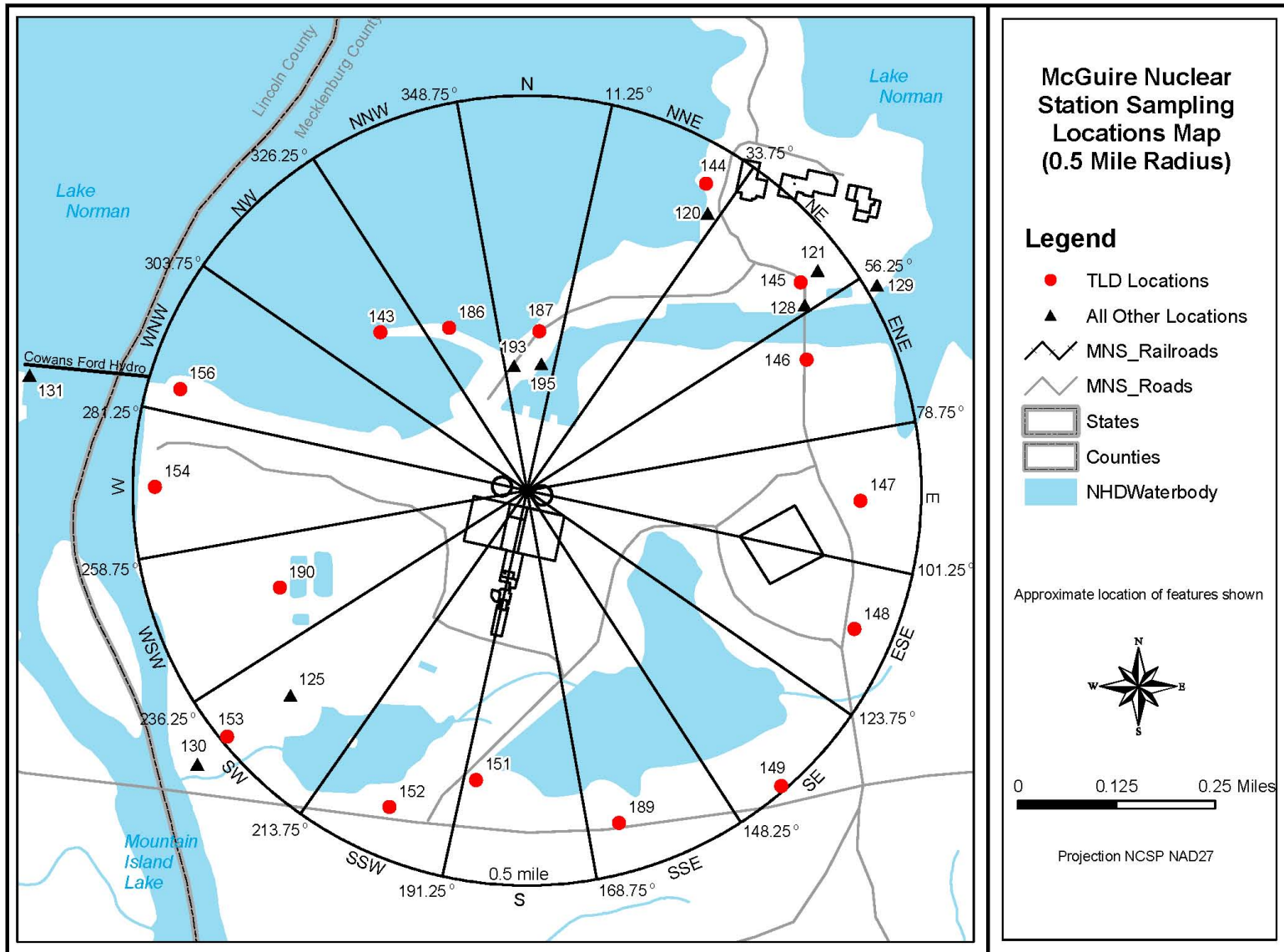


Figure 2.1-2

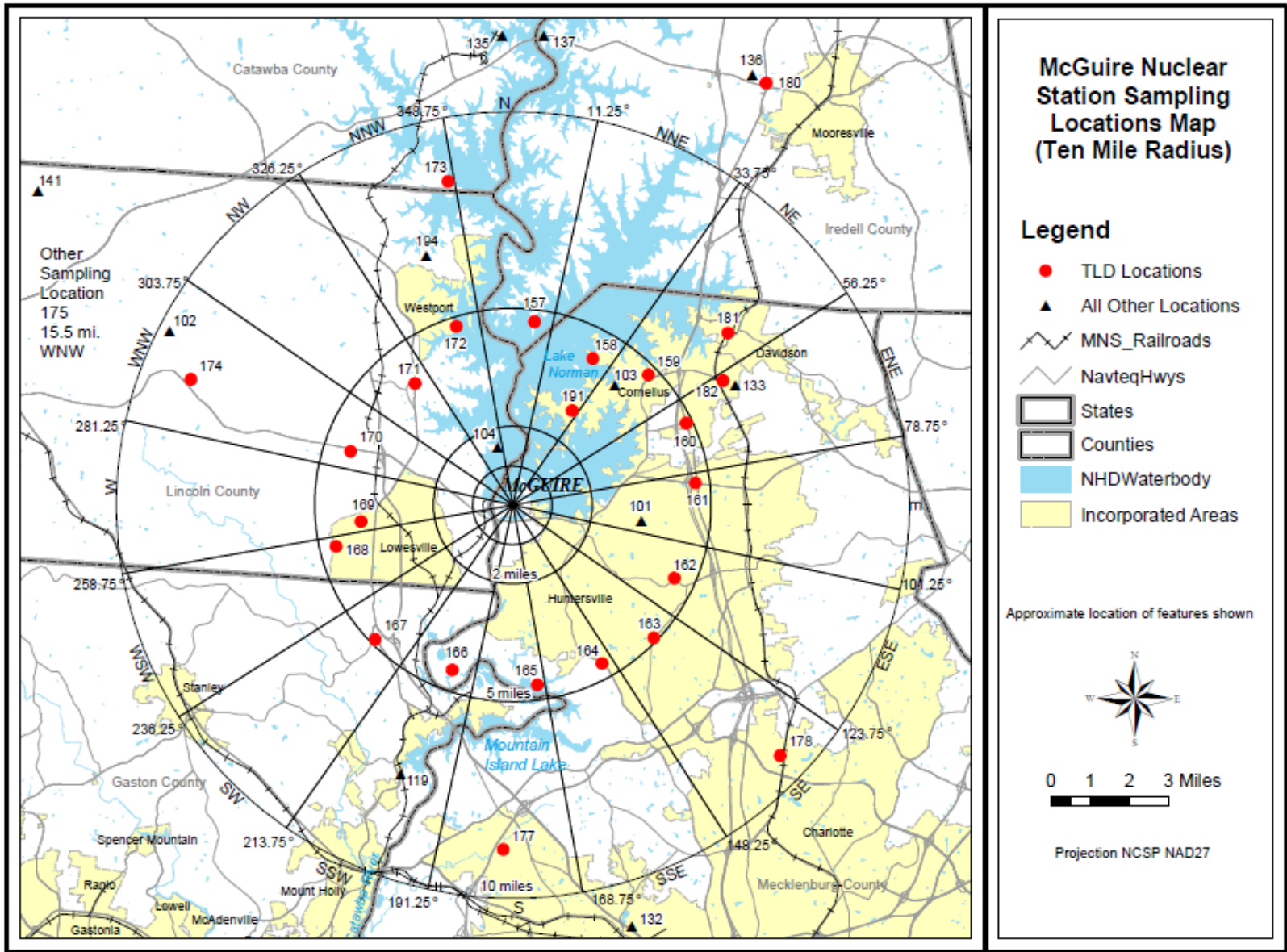


TABLE 2.1-A

**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 | Mooresville 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 | |
| 188 | I | 5 mile radius Gardens (2.79 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 REFUGE 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 | BELMARR 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 Particulate | Weekly | --- | --- | --- | X | --- |
| | Quarterly Composite | X | --- | --- | --- | --- |
| Direct Radiation | Quarterly | --- | --- | --- | --- | X |
| Surface Water | Monthly Composite | X | --- | --- | --- | --- |
| | Quarterly Composite | --- | X | --- | --- | --- |
| Drinking Water | Monthly Composite | X | --- | (a) | X | --- |
| | Quarterly Composite | --- | X | --- | --- | --- |
| Shoreline Sediment | Semiannually | X | --- | --- | --- | --- |
| Milk | Semimonthly | X | --- | X | --- | --- |
| Fish | Semiannually | X | --- | --- | --- | --- |
| Broadleaf Vegetation | Monthly ^(b) | X | --- | --- | --- | --- |
| Food Products | Monthly ^(b) | X | --- | --- | --- | --- |

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

(b) When Available

TABLE 2.2-C**MAXIMUM VALUES FOR THE LOWER 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 2014 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 2014 information required by Technical Specification Administrative Control 5.6.2 are located in Appendix B. McGuire 2014 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 2014 was 4.54% for drinking water tritium at the North Mecklenburg Water Treatment Facility (Location 101). Only Selected Licensee Commitments radionuclides were detected in 2014.

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 2014. Similarly, there was no significant increase in ambient background radiation levels in the surrounding areas. The 2014 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 2014, 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.

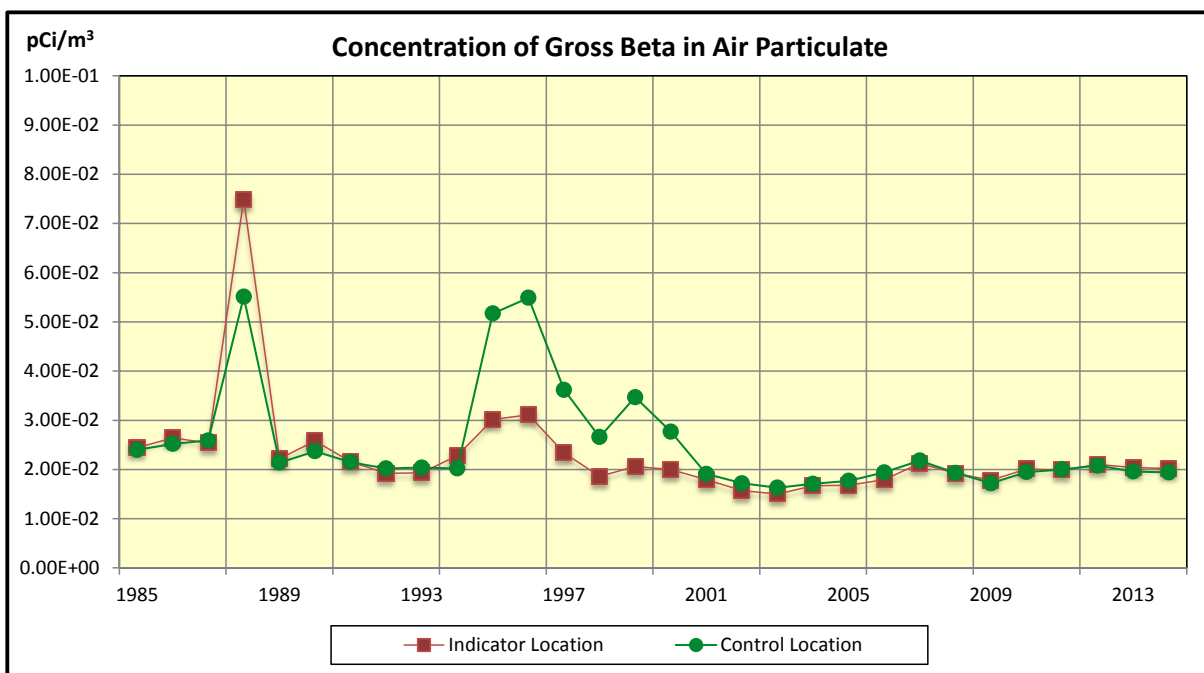
Gross beta analyses indicated $2.02\text{E-}2$ pCi/m³ at the location with the highest annual mean and $1.94\text{E-}2$ pCi/m³ at the control location. No gamma emitting radionuclide attributable to MNS plant operation has been detected in any air samples since 2004 when Co-58 was observed (G-04-00134).

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 2014, 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/m ³) | Cs-137 Control (pCi/m ³) | Beta Indicator (pCi/m ³) | Beta Control (pCi/m ³) |
|------------------------------|---|---|---|---------------------------------------|
| 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 | 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 |
| Average (2004 – 2013) | Not Applicable | Not Applicable | 1.91E-2 | 1.93E-2 |
| 2014 ⁽²⁾ | 0.00E0 | 0.00E0 | 2.02E-2 | 1.94E-2 |

0.00E0 indicates no detectable measurements

* Radioiodine and Particulates analyzed together

2011 concentration affected by Fukushima Daiichi

(1) 1987 – Gamma spectroscopy system change

(2) 2014 – Gamma spectroscopy system change

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

| Year | Indicator Location (pCi/m ³) | Control Location (pCi/m ³) |
|---------------------|--|--|
| 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 | 6.00E-2 | 5.46E-2 |
| 2012 | 0.00E0 | 0.00E0 |
| 2013 | 0.00E0 | 0.00E0 |
| 2014 ⁽²⁾ | 0.00E0 | 0.00E0 |

0.00E0 indicates no detectable measurements

* Radioiodine and Particulate analyzed together.

2011 concentration affected by Fukushima Daiichi

(1) 1987 – Gamma spectroscopy system change

(2) 2014 – Gamma spectroscopy system change

3.2 DRINKING WATER

In 2014, 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. Tritium (H-3) analyses were performed on 20 composite samples, 16 at indicator locations and four at the control location.

No detectable gamma activity attributable to MNS plant operation was found in drinking water samples in 2014 and has not been detected since 1987. K-40 observed in some drinking water samples is a naturally occurring radionuclide. Gross beta analyses indicated 2.18 pCi/l at the location with the highest annual mean and 1.95 pCi/l at the control location. Tritium was detected in 13 of the 16 indicator composite samples taken in 2014. The 2014 highest mean indicator tritium concentration from location 101 was 907 pCi/liter, which is 4.54% 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 2014; therefore low-level iodine analysis is not required.

Figure 3.2 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

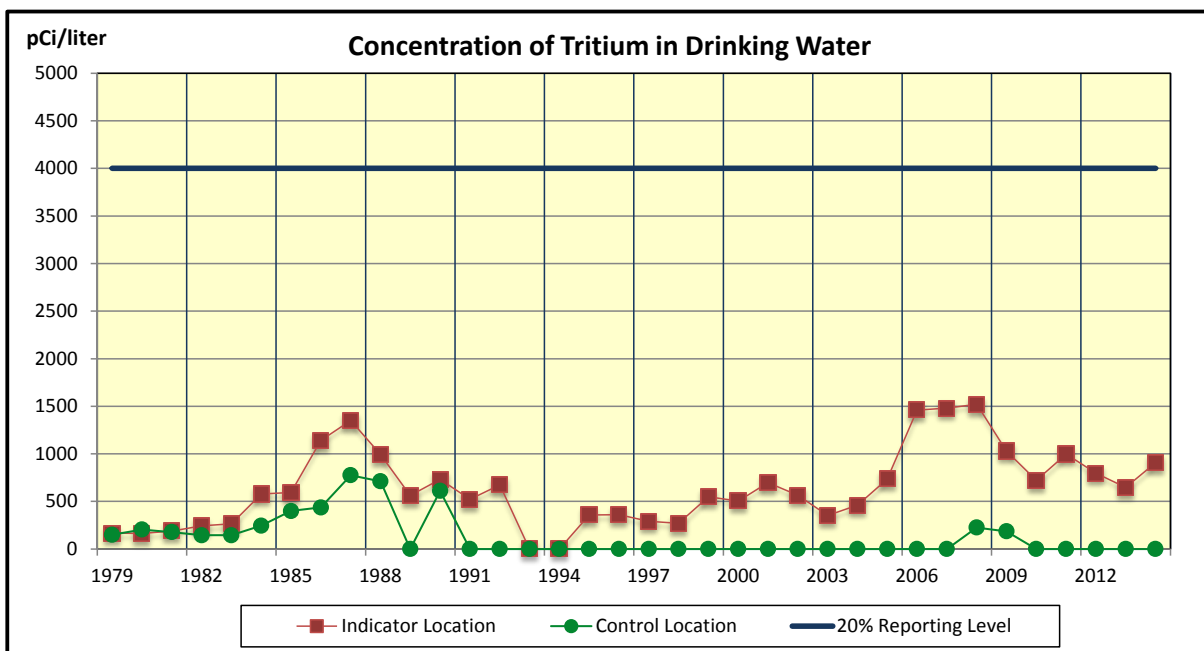


Table 3.2 Mean Concentrations of Radionuclides in Drinking Water

| 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 |

0.00E0 indicates no detectable measurements

3.3 SURFACE WATER

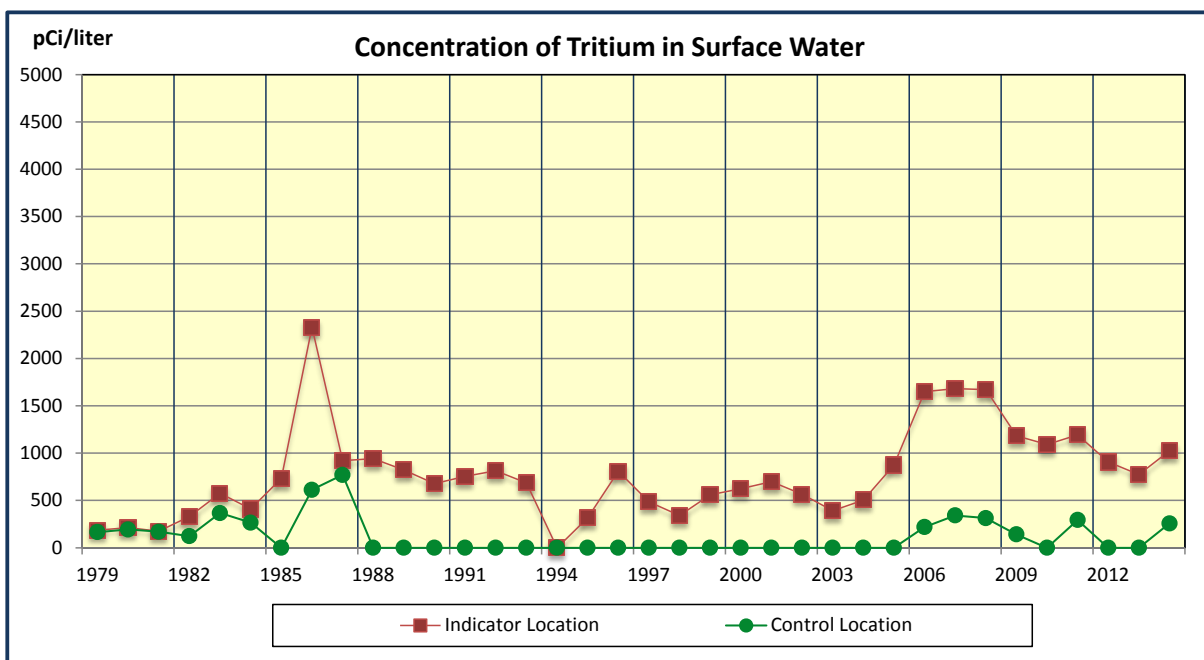
In 2014, 39 surface water samples were analyzed for gamma emitting radionuclides, 26 at the two indicator locations and 13 at the control location. Analyses for H-3 were performed on 12 samples, eight at indicator locations and four at the control location.

No detectable gamma activity attributable to MNS plant operation was found in surface water samples in 2014 and has not been detected since 1988. K-40 observed in some surface water samples is a naturally occurring radionuclide. Tritium was detected in all of the eight indicator composite samples taken in 2014. Tritium was detected in one of the four control location composite samples in 2014.

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 |

0.00E0 indicates no detectable measurements

3.4 MILK

In 2014, 26 milk samples from the control location were analyzed for low level I-131 and other gamma emitting radionuclides. No indicator dairies were sampled during 2014 and none were identified by the 2014 land use census.

There were no gamma emitting radionuclides due to MNS plant operations identified in milk samples in 2014. 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 2014, 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 | 0.00E0 | 0.00E0 |
| 2003 | 0.00E0 | 0.00E0 |
| 2004 | 0.00E0 | 0.00E0 |
| 2005 | 0.00E0 | 0.00E0 |

Table 3.4 continued

| YEAR | Cs-137 Indicator (pCi/l) | Cs-137 Control (pCi/l) |
|---------------------|---------------------------------|-------------------------------|
| 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 | 0.00E0 | 0.00E0 |
| 2012 | 0.00E0 | 0.00E0 |
| 2013 | 0.00E0 | 0.00E0 |
| 2014 ⁽²⁾ | 0.00E0 | 0.00E0 |

0.00E0 indicates no detectable measurements

(1) 1987 – Gamma spectroscopy system change

(2) 2014 – Gamma spectroscopy system change

3.5 BROADLEAF VEGETATION

In 2014, 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 vegetation samples in 2014.

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 |

Table 3.5 continued

| YEAR | Cs-137 Indicator (pCi/kg) | Cs-137 Control (pCi/kg) |
|---------------------|----------------------------------|--------------------------------|
| 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 | 2.29E1 | 0.00E0 |
| 2012 | 0.00E0 | 0.00E0 |
| 2013 | 0.00E0 | 0.00E0 |
| 2014 ⁽²⁾ | 0.00E0 | 0.00E0 |

0.00E0 indicates no detectable measurements

2011 concentration affected by Fukushima Daiichi

(1) 1987 – Gamma spectroscopy system change

(2) 2014 – Gamma spectroscopy system change

3.6 FOOD PRODUCTS

In 2014, 10 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 2014, 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 | 3.06E1 |
| 2012 | 0.00E0 |
| 2013 | 0.00E0 |
| 2014 ⁽²⁾ | 0.00E0 |

0.00E0 indicates no detectable measurements

2011 concentration affected by Fukushima Daiichi

(1) 1987 – Gamma spectroscopy system change

(2) 2014 – Gamma spectroscopy system change

3.7 FISH

In 2014, 12 fish samples were analyzed for gamma emitting radionuclides, six at the indicator location and six at the control location.

Cs-137 activity was detected in 2014 in two of the six indicator samples. Cs-137 was not detected in any of the six control samples taken.

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

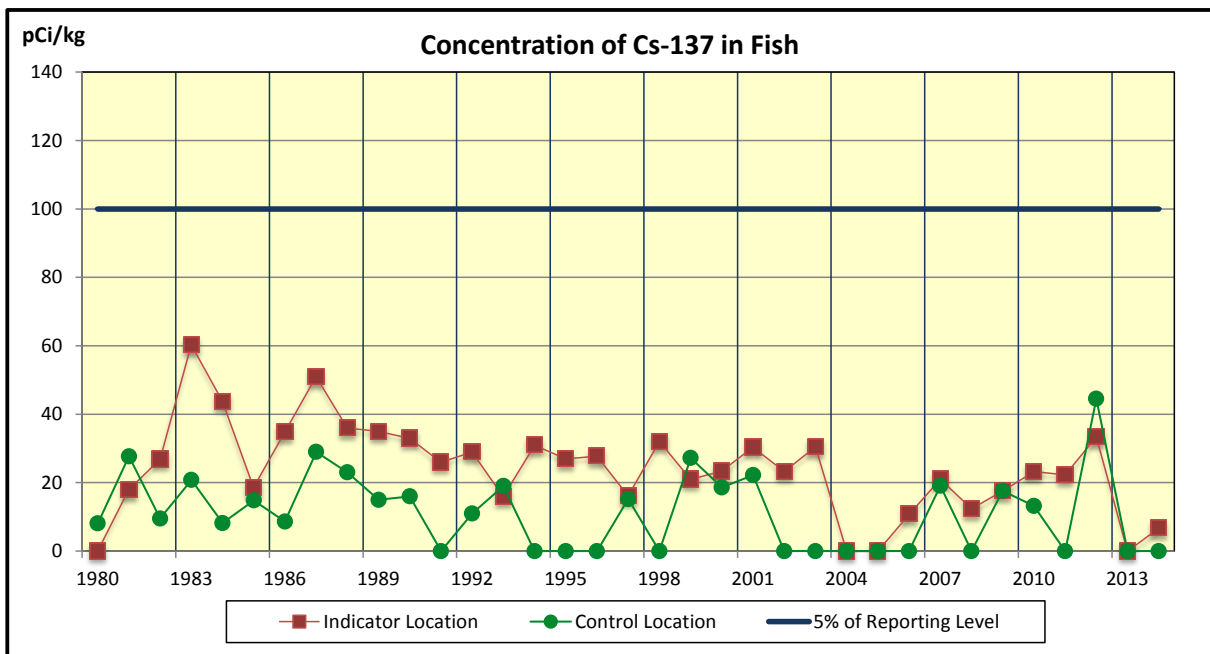


Table 3.7 Mean Concentrations of Radionuclides in Fish (pCi/kg)

| 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 |

0.00E0 indicates no detectable measurements

(1) 1987 – Gamma spectroscopy system change

(2) 2014 – Gamma spectroscopy system change

3.8 SHORELINE SEDIMENT

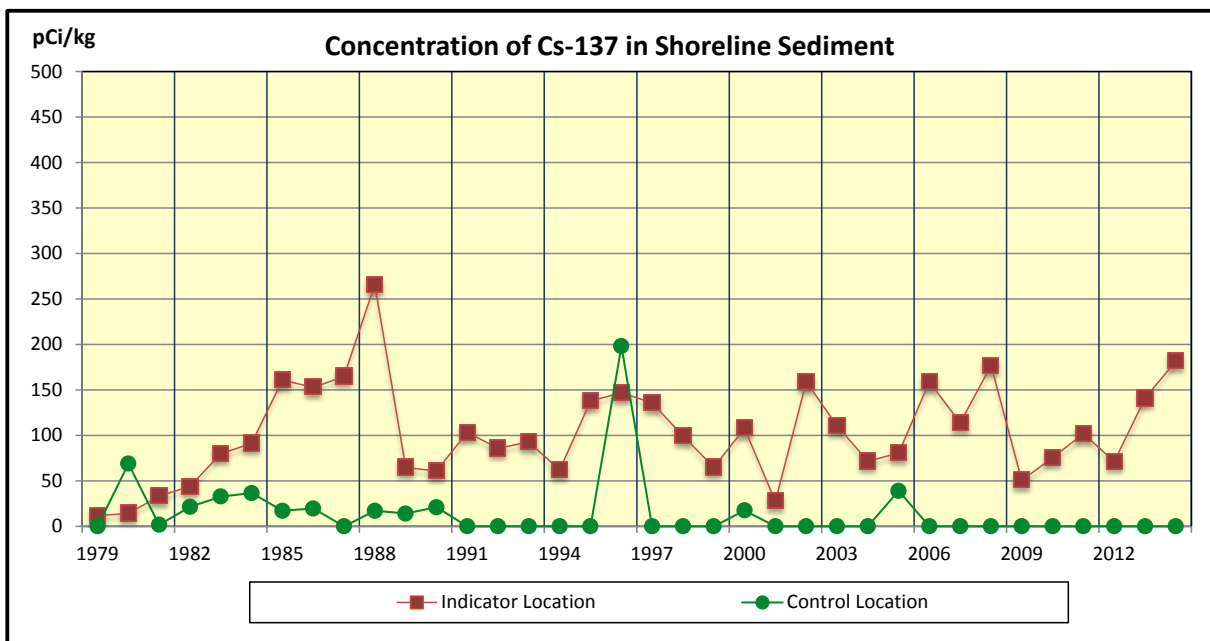
In 2014, six shoreline sediment samples were analyzed, four from two indicator locations and two at the control location.

Cs-137 activity was detected in two of the four indicator samples taken. The shoreline sediment location with the highest annual mean was location 130 with a mean concentration of 182 pCi/kg.

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 |

0.00E0 indicates no detectable measurements

(1) 1987 – Gamma spectroscopy system change

(2) 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 2014, 161 total TLDs were analyzed, 157 at indicator locations and 4 at control locations. 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. The highest annual total dose was 98.7 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 2014 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 2014 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 2014, 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.

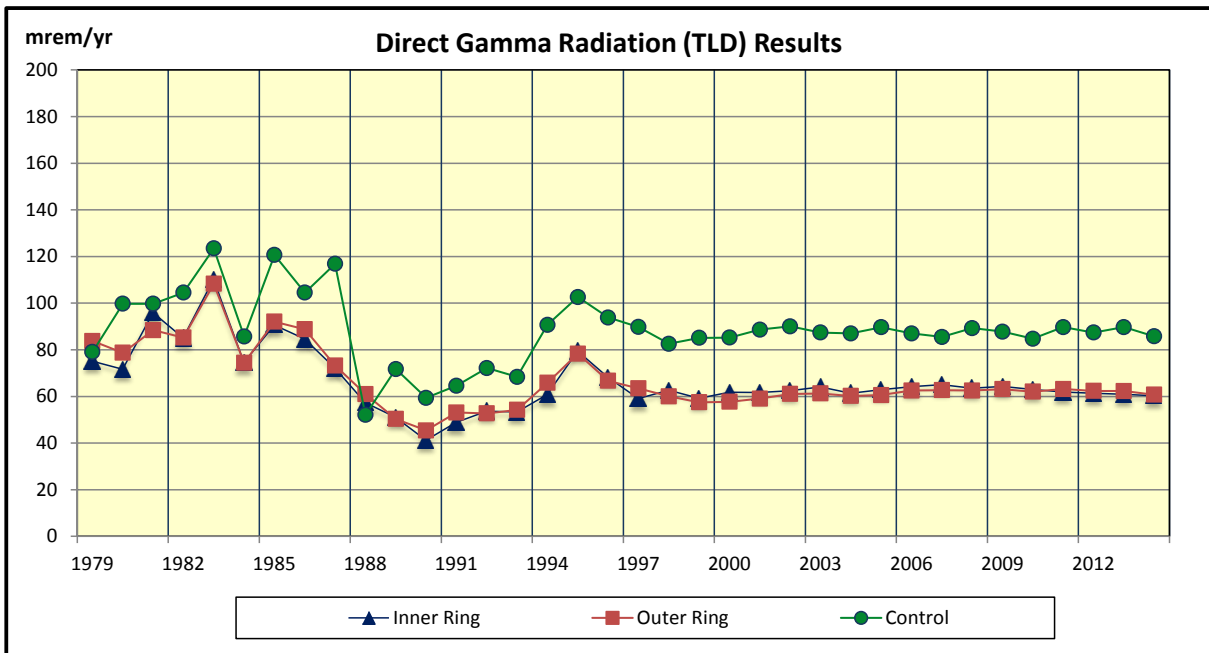
A TLD intercomparison program is conducted as part of the quality assurance program. Results of this program are included in section 5.10.

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)

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

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 |

† 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 2014 Investigation Level

McGuire 2014 MDD_Q: 6

McGuire 2014 MDD_A: 11

| Location | Quarterly (mrem) | | | | | | | | | Annual(mrem) | | |
|----------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|------------------|----------------|
| | 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 | 15.8 | 13.9 | 14.7 | 16.4 | ND | ND | ND | ND | 65.0 | 60.8 | ND |
| 144 | 14.3 | 16.7 | 15.7 | 13.9 | 14.7 | ND | ND | ND | ND | 57.5 | 61.0 | ND |
| 145 | 14.5 | 17.8 | 12.7 | 13.9 | 16.5 | ND | ND | ND | ND | 58.5 | 60.9 | ND |
| 146 | 13.6 | 14.0 | 11.3 | 12.7 | 14.3 | ND | ND | ND | ND | 54.9 | 52.3 | ND |
| 147 | 14.4 | 17.1 | 13.8 | 14.2 | 16.0 | ND | ND | ND | ND | 57.7 | 61.0 | ND |
| 148 | 12.6 | 13.7 | 10.7 | 12.7 | 13.1 | ND | ND | ND | ND | 51.2 | 50.3 | ND |
| 149 | 12.1 | 13.2 | 11.0 | 11.4 | 10.5 | ND | ND | ND | ND | 48.7 | 46.2 | ND |
| 151 | 14.6 | 15.2 | 11.5 | 14.3 | 14.1 | ND | ND | ND | ND | 59.2 | 55.0 | ND |
| 152 | 14.1 | 12.6 | 12.6 | 13.5 | 13.1 | ND | ND | ND | ND | 56.9 | 51.9 | ND |
| 153 | 18.7 | 18.4 | 15.8 | 17.3 | 19.7 | ND | ND | ND | ND | 75.0 | 71.2 | ND |
| 154 | 20.7 | 23.5 | 15.9 | 17.6 | 21.7 | ND | ND | ND | ND | 82.8 | 78.6 | ND |
| 156 | 16.3 | 17.1 | 17.2 | 13.9 | 18.9 | ND | ND | ND | ND | 68.3 | 67.1 | ND |
| 157-P | 14.8 | 15.1 | 13.7 | 16.0 | 13.7 | ND | ND | ND | ND | 60.3 | 58.4 | ND |
| 157-S | 17.2 | 14.7 | 14.0 | 14.3 | 14.7 | ND | ND | ND | ND | 61.9 | 57.7 | ND |
| 158 | 14.2 | 15.3 | 12.0 | 13.5 | 13.5 | ND | ND | ND | ND | 57.8 | 54.2 | ND |
| 159 | 20.7 | 22.9 | --- | --- | 14.8 | ND | ND | ND | ND | 86.0 | 75.4 | ND |
| 160 | 16.1 | 16.2 | 13.9 | 14.7 | 17.2 | ND | ND | ND | ND | 65.4 | 62.0 | ND |
| 161 | 15.3 | 16.2 | 12.8 | 15.7 | 14.2 | ND | ND | ND | ND | 62.1 | 58.8 | ND |
| 162 | 11.4 | 11.5 | 9.8 | 10.5 | 11.4 | ND | ND | ND | ND | 45.8 | 43.2 | ND |
| 163-P | 10.9 | 13.9 | 9.9 | 9.7 | 10.5 | ND | ND | ND | ND | 44.4 | 44.0 | ND |
| 164 | 10.9 | 10.9 | 9.7 | 10.6 | 12.1 | ND | ND | ND | ND | 43.7 | 43.3 | ND |
| 165 | 18.3 | 20.1 | 16.3 | 16.8 | 19.3 | ND | ND | ND | ND | 74.5 | 72.6 | ND |
| 166-P | 17.1 | 18.1 | 15.1 | 15.9 | 17.2 | ND | ND | ND | ND | 68.4 | 66.3 | ND |
| 166-S | 17.0 | 17.8 | 14.3 | 16.1 | 18.7 | ND | ND | ND | ND | 70.9 | 66.9 | ND |
| 167 | 18.3 | 21.4 | 15.8 | 18.7 | 19.3 | ND | ND | ND | ND | 73.2 | 75.1 | ND |
| 168-P | 15.3 | 17.0 | 13.7 | 14.9 | 17.4 | ND | ND | ND | ND | 59.9 | 63.0 | ND |
| 168-S | 16.9 | 18.3 | 13.3 | 17.2 | 15.5 | ND | ND | ND | ND | 68.0 | 64.3 | ND |
| 169 | 13.7 | 13.9 | 13.3 | 12.4 | 13.6 | ND | ND | ND | ND | 55.4 | 53.2 | ND |
| 170 | 20.2 | 20.2 | 16.6 | 19.5 | 19.2 | ND | ND | ND | ND | 80.5 | 75.5 | ND |
| 171 | 15.9 | 17.9 | 14.6 | 16.1 | --- | ND | ND | ND | ND | 63.9 | 64.7 | ND |
| 172 | 15.2 | 18.0 | 12.5 | 13.4 | 14.9 | ND | ND | ND | ND | 62.9 | 58.8 | ND |
| 173 | 23.6 | 23.8 | 23.9 | 22.2 | 19.5 | ND | ND | ND | ND | 94.4 | 89.4 | ND |
| 174 | 21.4 | 24.0 | 20.0 | 21.9 | 21.5 | ND | ND | ND | ND | 87.5 | 87.4 | ND |
| 175 | 21.9 | 21.2 | 20.8 | 21.9 | 21.9 | ND | ND | ND | ND | 87.6 | 85.9 | ND |
| 177 | 13.3 | 13.7 | 11.1 | 14.3 | 13.1 | ND | ND | ND | ND | 53.2 | 52.2 | ND |
| 178-P | 14.1 | 15.9 | 11.1 | 15.3 | 14.2 | ND | ND | ND | ND | 56.5 | 56.4 | ND |
| 178-S | 15.7 | 16.4 | 12.2 | 15.7 | 14.3 | ND | ND | ND | ND | 62.7 | 58.6 | ND |
| 180 | 25.5 | 25.2 | 21.3 | 24.7 | 27.6 | ND | ND | ND | ND | 102.0 | 98.7 | ND |
| 181-P | 15.7 | 17.0 | 13.4 | 14.6 | 15.7 | ND | ND | ND | ND | 63.7 | 60.7 | ND |
| 181-S | 15.9 | 19.6 | 13.3 | 14.4 | 14.7 | ND | ND | ND | ND | 65.6 | 62.0 | ND |
| 182 | 15.6 | 14.3 | 12.4 | 16.0 | 18.4 | ND | ND | ND | ND | 62.3 | 61.0 | ND |
| 186 | 16.5 | 16.2 | 14.2 | 17.2 | 15.4 | ND | ND | ND | ND | 66.6 | 63.0 | ND |
| 187 | 16.6 | 20.2 | 12.9 | 18.2 | 14.7 | ND | ND | ND | ND | 68.0 | 66.1 | ND |
| 189 | 15.2 | 14.9 | 13.4 | 14.1 | 14.2 | ND | ND | ND | ND | 60.5 | 56.5 | ND |
| 190 | 19.5 | 18.2 | 17.0 | 18.1 | 18.2 | ND | ND | ND | ND | 78.0 | 71.5 | ND |
| 191 | 15.9 | 16.7 | 14.3 | 14.2 | 15.3 | ND | ND | ND | ND | 63.1 | 60.4 | ND |

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

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 6/11– 6/12/2014 as required by SLC 16.11.14. Table 3.10 summarizes census results. A map indicating identified locations is shown in Figure 3.10.

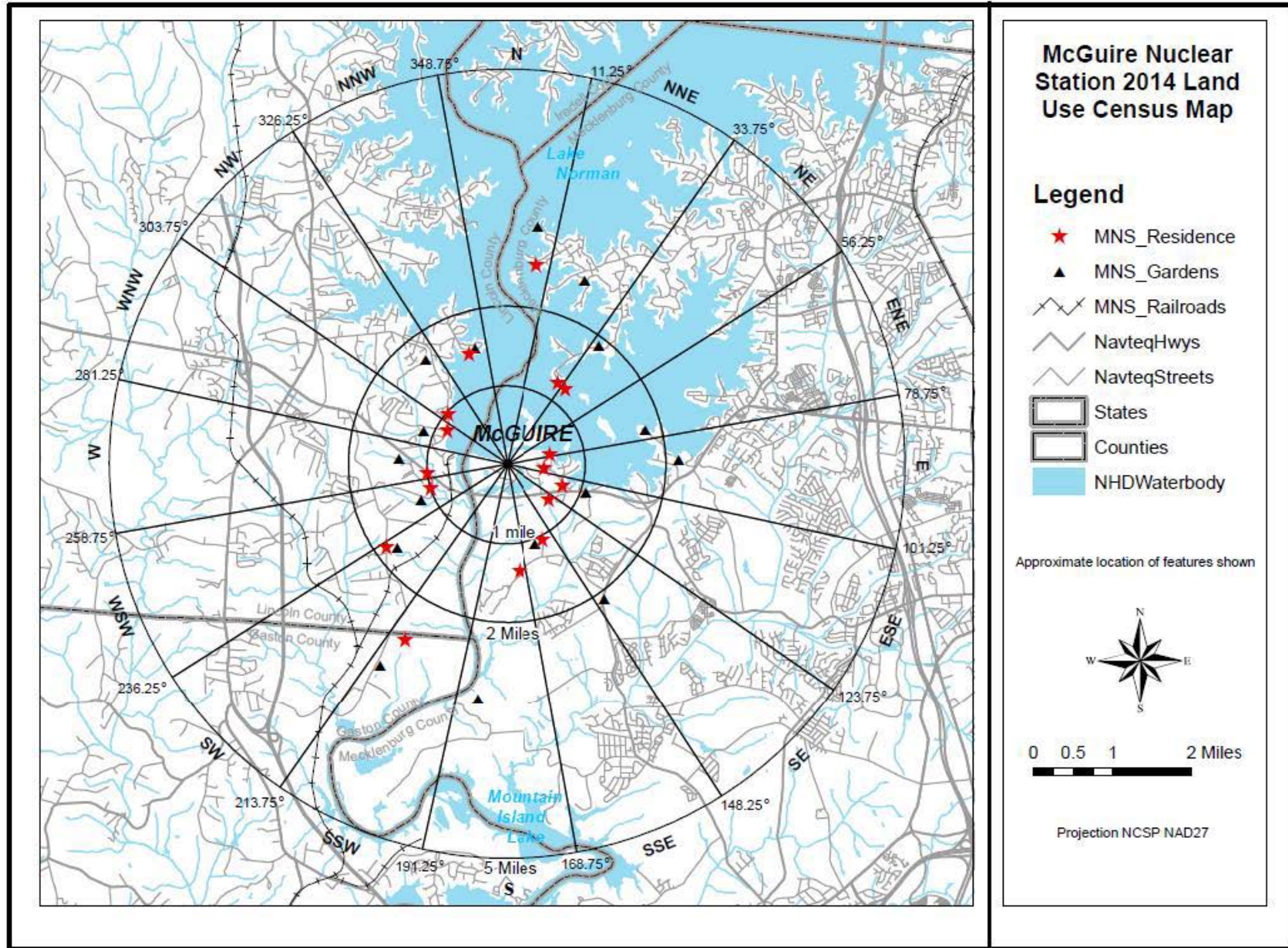
During the 2014 census, no new residences (nearer to the plant), irrigated gardens (superior to existing gardens) or milk locations were identified. The nearest residence is located in the East sector at 0.48 miles. No environmental program changes were required as a result of the 2014 land use census.

Table 3.10 McGuire 2014 Land Use Census Results

| Sector | | Distance (Miles) | Sector | | Distance (Miles) |
|---------------|----------------------------|-----------------------------|---------------|----------------------------|-----------------------------|
| N | Nearest Residence | 2.53 | S | Nearest Residence | 1.35 |
| | Nearest Garden (irrigated) | 3.03 | | Nearest Garden | 3.14 |
| | Nearest Milk Animal | - | | Nearest Milk Animal | - |
| NNE | Nearest Residence | 1.23 | SSW | Nearest Residence | 2.56 |
| | Nearest Garden | 2.53 | | Nearest Garden | 2.94 |
| | Nearest Milk Animal | - | | Nearest Milk Animal | - |
| NE | Nearest Residence | 1.21 | SW | Nearest Residence | 1.85 |
| | Nearest Garden | 1.80 | | Nearest Garden | 1.88 |
| | Nearest Milk Animal | - | | Nearest Milk Animal | - |
| ENE | Nearest Residence | 0.56 | WSW | Nearest Residence | 1.01 |
| | Nearest Garden | 1.98 | | Nearest Garden | 1.10 |
| | Nearest Milk Animal | - | | Nearest Milk Animal | - |
| E | Nearest Residence | 0.48 | W | Nearest Residence | 1.15 |
| | Nearest Garden | 2.11 | | Nearest Garden | 1.23 |
| | Nearest Milk Animal | - | | Nearest Milk Animal | - |
| ESE | Nearest Residence | 0.65 | WNW | Nearest Residence | 0.88 |
| | Nearest Garden | 1.06 | | Nearest Garden | 1.15 |
| | Nearest Milk Animal | - | | Nearest Milk Animal | - |
| SE | Nearest Residence | 0.67 | NW | Nearest Residence | 0.95 |
| | Nearest Garden | 2.10 | | Nearest Garden | 1.68 |
| | Nearest Milk Animal | - | | Nearest Milk Animal | - |
| SSE | Nearest Residence | 1.06 | NNW | Nearest Residence | 1.48 |
| | Nearest Garden | 1.06 | | Nearest Garden (irrigated) | 1.52 |
| | Nearest Milk Animal | - | | Nearest Milk Animal | - |

“-“ indicates no occurrences within the 5 mile radius

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 2014 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, fish, and shoreline sediment 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, food crops, milk or vegetation 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 2014 was 9.39E-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 2014 liquid and gaseous effluent release data. Effluent-based dose estimates were calculated using the RETDAS computer program which employs methodology and data presented in NRC Regulatory Guide 1.109. These doses are shown in Table 4.1-A along with the corresponding REMP-based dose estimates. Summaries of RETDAS dose calculations are reported in the Annual Radioactive Effluent Release Report.

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

4.3 COMPARISON OF DOSES

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

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

Additionally, in 2010 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 2014 environmental sample results was 1.09E-1 mrem to the child liver. The maximum total organ dose of 1.54E-1 mrem for liquid effluent-based estimates was to the child liver.

In calculations based on gaseous release pathways, vegetation was the predominant dose pathway for effluent samples. The maximum organ dose for gaseous effluent estimates was 8.57E-1 mrem to the child bone. No radioactivity was detected from gaseous pathways in environmental samples; therefore, there is no calculated dose.

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

TABLE 4.1-A

**MCGUIRE NUCLEAR STATION
2014 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 | Teen | Shoreline Sediment | 130 (0.52 mi SW) | 4.78E-04 |
| Skin | Effluent | Teen | Shoreline Sediment | Discharge Pt. | 3.89E-04 |
| Bone | Environmental | Child | Fresh Water Fish | 129 (0.51 mi ENE) | 1.52E-02 |
| Bone | Effluent | Child | Fresh Water Fish | Discharge Pt. | 1.61E-02 |
| Liver | Environmental | Child | Drinking Water | 101 (3.31 mi E) | 1.09E-01 |
| Liver | Effluent | Child | Drinking Water | 3.31 mi E | 1.54E-01 |
| T. Body | Environmental | Child | Drinking Water | 101 (3.31 mi E) | 9.71E-02 |
| T. Body | Effluent | Child | Drinking Water | 3.31 mi E | 1.51E-01 |
| Thyroid | Environmental | Child | Drinking Water | 101 (3.31 mi E) | 9.49E-02 |
| Thyroid | Effluent | Child | Drinking Water | 3.31 mi E | 1.50E-01 |
| Kidney | Environmental | Child | Drinking Water | 101 (3.31 mi E) | 9.96E-02 |
| Kidney | Effluent | Child | Drinking Water | 3.31 mi E | 1.51E-01 |
| Lung | Environmental | Child | Drinking Water | 101 (3.31 mi E) | 9.66E-02 |
| Lung | Effluent | Child | Drinking Water | 3.31 mi E | 1.51E-01 |
| GI-LLI | Environmental | Child | Drinking Water | 101 (3.31 mi E) | 9.50E-02 |
| GI-LLI | Effluent | Child | Drinking Water | 3.31 mi E | 1.51E-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 | 1.5 mi. NE | 1.93E-05 |
| Bone | Environmental | - | - | - | 0.00E+00 |
| Bone | Effluent | Child | Vegetation | 1.5 mi. NE | 8.57E-01 |
| Liver | Environmental | - | - | - | 0.00E+00 |
| Liver | Effluent | Child | Vegetation | 1.5 mi. NE | 2.67E-01 |
| T. Body | Environmental | - | - | - | 0.00E+00 |
| T. Body | Effluent | Child | Vegetation | 1.5 mi. NE | 2.67E-01 |
| Thyroid | Environmental | - | - | - | 0.00E+00 |
| Thyroid | Effluent | Child | Vegetation | 1.5 mi. NE | 2.67E-01 |
| Kidney | Environmental | - | - | - | 0.00E+00 |
| Kidney | Effluent | Child | Vegetation | 1.5 mi. NE | 2.67E-01 |
| Lung | Environmental | - | - | - | 0.00E+00 |
| Lung | Effluent | Child | Vegetation | 1.5 mi. NE | 2.67E-01 |
| GI-LLI | Environmental | - | - | - | 0.00E+00 |
| GI-LLI | Effluent | Child | Vegetation | 1.5 mi. NE | 2.67E-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 2014 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 | 9.22E-02 | 9.22E-02 | 9.22E-02 | 9.22E-02 | 9.22E-02 | 9.22E-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 | 9.22E-02 | 9.22E-02 | 9.22E-02 | 9.22E-02 | 9.22E-02 | 9.22E-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 | 9.39E-02 | 9.39E-02 | 9.39E-02 | 9.39E-02 | 9.39E-02 | 9.39E-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 | 1.52E-02 | 1.55E-02 | 3.12E-03 | 9.68E-04 | 5.72E-03 | 2.68E-03 | 1.06E-03 | 0.00E+00 |
| | Shoreline Sediment | 0.00E+00 | 0.00E+00 | 8.56E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.99E-05 |
| | <u>TOTAL</u> | 1.52E-02 | 1.09E-01 | 9.71E-02 | 9.49E-02 | 9.96E-02 | 9.66E-02 | 9.50E-02 | 9.99E-05 |
| 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 | 4.90E-02 | 4.90E-02 | 4.90E-02 | 4.90E-02 | 4.90E-02 | 4.90E-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 | 1.21E-02 | 1.73E-02 | 6.78E-03 | 1.17E-03 | 6.65E-03 | 3.30E-03 | 1.40E-03 | 0.00E+00 |
| | Shoreline Sediment | 0.00E+00 | 0.00E+00 | 4.10E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.78E-04 |
| | <u>TOTAL</u> | 1.21E-02 | 6.63E-02 | 5.62E-02 | 5.02E-02 | 5.57E-02 | 5.23E-02 | 5.04E-02 | 4.78E-04 |
| 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 | 6.95E-02 | 6.95E-02 | 6.95E-02 | 6.95E-02 | 6.95E-02 | 6.95E-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 |
| | 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 | 1.13E-02 | 1.70E-02 | 1.16E-02 | 1.52E-03 | 6.77E-03 | 3.27E-03 | 1.82E-03 | 0.00E+00 |
| | Shoreline Sediment | 0.00E+00 | 0.00E+00 | 7.34E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.56E-05 |
| | <u>TOTAL</u> | 1.13E-02 | 8.65E-02 | 8.12E-02 | 7.10E-02 | 7.63E-02 | 7.28E-02 | 7.13E-02 | 8.56E-05 |

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

McGuire Nuclear Station
Dose from Drinking Water Pathway for 2014 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 | 907 | 0.00E+00 | 9.22E-02 | 9.22E-02 | 9.22E-02 | 9.22E-02 | 9.22E-02 | 9.22E-02 |
| Dose Commitment (mrem) = | | | | | | | | | | 0.00E+00 | 9.22E-02 | 9.22E-02 | 9.22E-02 | 9.22E-02 | 9.22E-02 | 9.22E-02 |

McGuire Nuclear Station
Dose from Drinking Water Pathway for 2014 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 | 907 | 0.00E+00 | 9.39E-02 | 9.39E-02 | 9.39E-02 | 9.39E-02 | 9.39E-02 | 9.39E-02 |
| Dose Commitment (mrem) = | | | | | | | | | | 0.00E+00 | 9.39E-02 | 9.39E-02 | 9.39E-02 | 9.39E-02 | 9.39E-02 | 9.39E-02 |

McGuire Nuclear Station
Dose from Fish Pathway for 2014 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 = 768 pCi/l x 0.9 = 691 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 | Fish | Bone | Liver | T. Body | Thyroid | Kidney | Lung | GI-LLI |
| | | | | | | | | Location | (pCi/kg) | | | | | | | |
| 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 | 129 | 6.75 | 1.52E-02 | 1.46E-02 | 2.15E-03 | 0.00E+00 | 4.75E-03 | 1.71E-03 | 9.13E-05 |
| H-3 | NO DATA | 2.03E-07 | 2.03E-07 | 2.03E-07 | 2.03E-07 | 2.03E-07 | 2.03E-07 | 128 | 691 | 0.00E+00 | 9.68E-04 | 9.68E-04 | 9.68E-04 | 9.68E-04 | 9.68E-04 | 9.68E-04 |
| Dose Commitment (mrem) = | | | | | | | | | | 1.52E-02 | 1.55E-02 | 3.12E-03 | 9.68E-04 | 5.72E-03 | 2.68E-03 | 1.06E-03 |

McGuire Nuclear Station
Dose from Shoreline Sediment Pathway for 2014 Data
Maximum Exposed Child

Shoreline Recreation = 14 hr (in one year)
 Shore Width Factor = 0.3 (lake shore - location 129)
 Shore Width Factor = 0.2 (river shoreline - location 130)
 Sediment Surface Mass = 40 kg/m²

Child Dose from Shoreline Sediment Pathway (mrem) = Shoreline Recreation (hr) x External Dose Factor (mrem/hr per pCi/m²) x Shore Width Factor x Sediment Surface Mass (kg/m²) x Sediment Concentration (pCi/kg)

| Radionuclide | External Dose Factor Standing <u>on Contaminated Ground</u> | | Indicator Location | Highest Annual Net <u>Mean Concentration</u> Sediment (pCi/kg) | <u>Dose</u> (mrem) | |
|--------------------------|--|----------|-----------------------|---|-----------------------|----------|
| | T. Body | Skin | | | T. Body | Skin |
| Cs-134 | 1.20E-08 | 1.40E-08 | ALL | 0.00 | 0.00E+00 | 0.00E+00 |
| Cs-137 | 4.20E-09 | 4.90E-09 | 130 | 182 | 8.56E-05 | 9.99E-05 |
| Dose Commitment (mrem) = | | | | | 8.56E-05 | 9.99E-05 |

McGuire Nuclear Station
Dose from Drinking Water Pathway for 2014 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 | 907 | 0.00E+00 | 4.90E-02 | 4.90E-02 | 4.90E-02 | 4.90E-02 | 4.90E-02 | 4.90E-02 |
| Dose Commitment (mrem)= | | | | | | | | | | 0.00E+00 | 4.90E-02 | 4.90E-02 | 4.90E-02 | 4.90E-02 | 4.90E-02 | 4.90E-02 |

McGuire Nuclear Station
Dose from Fish Pathway for 2014 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 = 768 pCi/l x 0.9 = 691 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 | 129 | 6.75 | 1.21E-02 | 1.61E-02 | 5.61E-03 | 0.00E+00 | 5.48E-03 | 2.13E-03 | 2.29E-04 |
| H-3 | NO DATA | 1.06E-07 | 1.06E-07 | 1.06E-07 | 1.06E-07 | 1.06E-07 | 1.06E-07 | 128 | 691 | 0.00E+00 | 1.17E-03 | 1.17E-03 | 1.17E-03 | 1.17E-03 | 1.17E-03 | 1.17E-03 |
| Dose Commitment (mrem) = | | | | | | | | | | 1.21E-02 | 1.73E-02 | 6.78E-03 | 1.17E-03 | 6.65E-03 | 3.30E-03 | 1.40E-03 |

McGuire Nuclear Station
Dose from Shoreline Sediment Pathway for 2014 Data
Maximum Exposed Teen

Shoreline Recreation = 67 hr (in one year)
 Shore Width Factor = 0.3 (lake shore - location 129)
 Shore Width Factor = 0.2 (river shoreline - location 130)
 Sediment Surface Mass = 40 kg/m²

Teen Dose from Shoreline Sediment Pathway (mrem) = Shoreline Recreation (hr) x External Dose Factor (mrem/hr per pCi/m²) x Shore Width Factor x Sediment Surface Mass (kg/m²) x Sediment Concentration (pCi/kg)

| Radionuclide | External Dose Factor Standing on Contaminated Ground | | Indicator Location | Sediment (pCi/kg) | Dose | |
|--------------------------|---|----------|-----------------------|----------------------|----------|----------|
| | (mrem/hr per pCi/m ²) | | | | (mrem) | |
| | T. Body | Skin | | | T. Body | Skin |
| Cs-134 | 1.20E-08 | 1.40E-08 | ALL | 0.00 | 0.00E+00 | 0.00E+00 |
| Cs-137 | 4.20E-09 | 4.90E-09 | 130 | 182 | 4.10E-04 | 4.78E-04 |
| Dose Commitment (mrem) = | | | | | 4.10E-04 | 4.78E-04 |

McGuire Nuclear Station
Dose from Drinking Water Pathway for 2014 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 | 907 | 0.00E+00 | 6.95E-02 | 6.95E-02 | 6.95E-02 | 6.95E-02 | 6.95E-02 | 6.95E-02 |
| Dose Commitment (mrem) = | | | | | | | | | | 0.00E+00 | 6.95E-02 | 6.95E-02 | 6.95E-02 | 6.95E-02 | 6.95E-02 | 6.95E-02 |

McGuire Nuclear Station
Dose from Fish Pathway for 2014 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 = 768 pCi/l x 0.9 = 691 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 | 129 | 6.75 | 1.13E-02 | 1.55E-02 | 1.01E-02 | 0.00E+00 | 5.24E-03 | 1.74E-03 | 2.99E-04 |
| H-3 | NO DATA | 1.05E-07 | 1.05E-07 | 1.05E-07 | 1.05E-07 | 1.05E-07 | 1.05E-07 | 128 | 691 | 0.00E+00 | 1.52E-03 | 1.52E-03 | 1.52E-03 | 1.52E-03 | 1.52E-03 | 1.52E-03 |
| Dose Commitment (mrem) = | | | | | | | | | | 1.13E-02 | 1.70E-02 | 1.16E-02 | 1.52E-03 | 6.77E-03 | 3.27E-03 | 1.82E-03 |

McGuire Nuclear Station
Dose from Shoreline Sediment Pathway for 2014 Data
Maximum Exposed Adult

Shoreline Recreation = 12 hr (in one year)
 Shore Width Factor = 0.3 (lake shore - location 129)
 Shore Width Factor = 0.2 (river shoreline - location 130)
 Sediment Surface Mass = 40 kg/m²

Adult Dose from Shoreline Sediment Pathway (mrem) = Shoreline Recreation (hr) x External Dose Factor (mrem/hr per pCi/m²) x Shore Width Factor x Sediment Surface Mass (kg/m²) x Sediment Concentration (pCi/kg)

| Radionuclide | <u>External Dose Factor Standing on Contaminated Ground</u> (mrem/hr per pCi/m ²) | | <u>Highest Annual Net Mean Concentration</u> | | <u>Dose</u> (mrem) | |
|--------------------------|--|----------|--|-------------------|-----------------------|----------|
| | T. Body | Skin | Indicator Location | Sediment (pCi/kg) | T. Body | Skin |
| Cs-134 | 1.20E-08 | 1.40E-08 | ALL | 0.00 | 0.00E+00 | 0.00E+00 |
| Cs-137 | 4.20E-09 | 4.90E-09 | 130 | 182 | 7.34E-05 | 8.56E-05 |
| Dose Commitment (mrem) = | | | | | 7.34E-05 | 8.56E-05 |

5.0 QUALITY ASSURANCE

5.1 SAMPLE COLLECTION

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

5.2 SAMPLE ANALYSIS

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

5.3 DOSIMETRY ANALYSIS

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

5.4 LABORATORY EQUIPMENT QUALITY ASSURANCE

5.4.1 DAILY QUALITY CONTROL

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

5.4.2 CALIBRATION VERIFICATION

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

5.4.3 BATCH PROCESSING

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

5.5 DUKE ENERGY INTERLABORATORY COMPARISON PROGRAM

In 2014 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. In addition, EnRad Laboratory participated in the Environmental Resource Associates (ERA) RadChem™ Proficiency Testing program to satisfy the North Carolina state drinking water radiochemistry certification requirements.

EnRad Laboratory participated in three interlaboratory programs: Eckert & Ziegler Analytics (EZA), ERA, and Fleet Scientific Services (FSS). EZA results were evaluated against IP 84750 acceptance criteria. ERA reported results were evaluated based on National Environmental Laboratory Accreditation Conference (NELAC) Field of Proficiency Testing criteria. FSS results were evaluated as prescribed in the Duke Energy Nuclear Generation Procedure SRPMP 9-2.

A low-level Iodine-131 in water cross check was not performed during 2014, but was performed during 2013. A low-level Iodine-131 in milk cross check was performed during 2014. The preparation and analysis of both media (milk and water) for the low-level Iodine-131 analysis is accomplished using the EnRad procedure 54, Preparation of Samples for low-level I-131 Analysis. Low-level Iodine-131 sample preparation and testing for both media is a similar process. A low-level Iodine-131 cross check in water is scheduled for the second quarter 2015 cross check program. Low-level Iodine-131 analysis of water was not required during 2014 since the dose calculated for the consumption of the water was not greater than 1 mrem per year in any supported program (PIP G-15-00781 or CR # 744148).

5.5.1 DUKE ENERGY INTERCOMPARISON PROGRAM

EnRad Laboratories participated in the Duke Energy Fleet Scientific Services (FSS) Intercomparison Program during 2014. Interlaboratory cross-check samples, including gamma in water (Marinelli beakers), low-level I-131 in milk, and tritium in water samples were analyzed during 2014. A summary of the EnRad Laboratory program results for 2014 is documented in Table 5.0-A.

5.5.2 ECKERT & ZIEGLER ANALYTICS CROSS CHECK PROGRAM

EnRad Laboratories participated in the Eckert & Ziegler Analytics Cross Check Program during 2014. Cross-check samples including air filters, air cartridges, gross beta in water, various gamma samples in Marinelli beakers (soil, vegetation, and milk), and Iodine in milk samples were analyzed at various times of the year. A summary of the EnRad Laboratory program results for 2014 is documented in Table 5.0-B.

5.5.3 ERA PROFICIENCY TESTING

EnRad Laboratories performed method proficiency testing through a program administered by Environmental Resource Associates (ERA) of Arvada, CO. ERA supplied requested method proficiency samples for analysis and nuclide

concentration determination. ERA reported proficiency test results to the North Carolina Department of Health and Human Services, North Carolina Public Health Drinking Water Laboratory Certification Program. A summary of these proficiency test data for 2014 is documented in Table 5.0-C.

5.6 DUKE ENERGY AUDITS

The McGuire Nuclear Station Radiological Environmental Monitoring Program was audited by the Quality Assurance Group in 2014. No environmental monitoring issues were identified.

5.7 U.S. NUCLEAR REGULATORY COMMISSION INSPECTIONS

The McGuire Nuclear Station Radiological Environmental Monitoring Program was not audited by the NRC in 2014, but was audited by the NRC in 2013. No findings were noted in the 2013 audit report.

5.8 STATE OF NORTH CAROLINA INTERCOMPARISON PROGRAM

EnRad Laboratories routinely participates with the North Carolina Department of Environmental Health and Human Services, Environmental, Radiation Protection Section in an intercomparison program. EnRad Laboratories sends air, surface water, milk, crops, vegetation, sediment, and fish samples which have been collected to the North Carolina Department of Environmental Health and Human Services, Environmental, Radiation Protection Section.

5.9 TLD INTERCOMPARISON PROGRAM

5.9.1 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 2014 Nuclear Technology Services Intercomparison Report is documented in Table 5.0-D. The individual measurements were evaluated and results falling outside the acceptable ratio criteria had an evaluation performed to identify any recommended remedial actions and to reduce anomalous errors. Complete documentation of any evaluation will be available and provided to the NRC upon request.

5.9.2 INTERNAL CROSSCHECK (DUKE ENERGY)

Radiation Dosimetry and Records participates in a quarterly TLD intracomparison program administered internally by the Dosimetry Lab. The

Dosimetry Lab Staff irradiates environmental dosimeters quarterly and submits them for analysis of the unknown estimated delivered exposure. A summary of the 2014 Internal Cross Check (Duke Energy) Result is documented in Table 5.0-D.

TABLE 5.0-A

DUKE ENERGY

INTERLABORATORY COMPARISON PROGRAM

2014 EnRad Fleet Scientific Services Cross Check Performance Summary

Cross check samples were distributed by Fleet Scientific Services (FSS) in accordance with Duke Energy Nuclear Generation Procedure SRPMP 9-2. Seven water samples were analyzed for tritium and gamma emitters, while three milk samples were analyzed for low-level I-131. The below table lists results for specific analyses. Fifty-eight results were evaluated as prescribed in procedure SRPMP 9-2. The acceptance criteria for the program was based on the NRC Inspection Manual Procedure 84750 (IP 84750). These results passed the acceptance criteria for the program.

| Sample | Sample ID | Nuclide | Quarter | Units | EnRad Value | FSS Value | EnRad/FSS Ratio | Evaluation |
|------------------|-----------|---------|---------|-------|-------------|-----------|-----------------|------------|
| Milk LLI-131 | Q143LIM1 | I-131 | 3 | pCi/L | 3.04E+03 | 2.96E+03 | 1.03 | Agreement |
| | | | 3 | pCi/L | 3.06E+03 | 2.96E+03 | 1.03 | Agreement |
| | | | 3 | pCi/L | 3.07E+03 | 2.96E+03 | 1.04 | Agreement |
| | Q143LIM2 | I-131 | 3 | pCi/L | 1.25E+03 | 1.27E+03 | 0.98 | Agreement |
| | | | 3 | pCi/L | 1.25E+03 | 1.27E+03 | 0.98 | Agreement |
| | | | 3 | pCi/L | 1.24E+03 | 1.27E+03 | 0.97 | Agreement |
| | Q143LIM3 | I-131 | 3 | pCi/L | 4.64E+02 | 4.58E+02 | 1.01 | Agreement |
| | | | 3 | pCi/L | 4.70E+02 | 4.58E+02 | 1.03 | Agreement |
| Tritium in Water | Q143TWR1 | H-3 | 3 | pCi/L | 1.77E+03 | 1.85E+03 | 0.96 | Agreement |
| | | | 3 | pCi/L | 1.79E+03 | 1.85E+03 | 0.97 | Agreement |
| | | | 3 | pCi/L | 1.78E+03 | 1.85E+03 | 0.96 | Agreement |
| | Q143TWR2 | H-3 | 3 | pCi/L | 1.76E+05 | 1.81E+05 | 0.97 | Agreement |
| | | | 3 | pCi/L | 1.75E+05 | 1.81E+05 | 0.96 | Agreement |
| Tritium in Water | Q141TWR1 | H-3 | 1 | pCi/L | 1.10E+03 | 1.05E+03 | 1.05 | Agreement |
| | | | | | 1.14E+03 | 1.05E+03 | 1.09 | Agreement |
| | | | | | 1.11E+03 | 1.05E+03 | 1.06 | Agreement |
| | Q141TWR2 | H-3 | 1 | pCi/L | 7.04E+03 | 7.46E+03 | 0.94 | Agreement |
| | | | | | 7.03E+03 | 7.46E+03 | 0.94 | Agreement |
| | | | | | 7.16E+03 | 7.46E+03 | 0.96 | Agreement |
| | Q141TWR3 | H-3 | 1 | pCi/L | 3.13E+03 | 3.21E+03 | 0.98 | Agreement |
| | | | | | 3.11E+03 | 3.21E+03 | 0.97 | Agreement |
| | | | | | 3.13E+03 | 3.21E+03 | 0.98 | Agreement |

TABLE 5.0-A (Cont.)

| Sample | Sample ID | Nuclide | Quarter | Units | EnRad Value | FSS Value | EnRad/FSS Ratio | Evaluation |
|----------------|----------------|---------|---------|----------|-------------|-----------|-----------------|------------|
| Gamma in Water | Q143GWSL-1.0 L | Cr-51 | 3 | pCi/L | 1.71E+05 | 1.80E+05 | 0.95 | Agreement |
| | | | 3 | pCi/L | 1.70E+05 | 1.80E+05 | 0.95 | Agreement |
| | | Mn-54 | 3 | pCi/L | 6.34E+04 | 5.99E+04 | 1.06 | Agreement |
| | | | 3 | pCi/L | 6.35E+04 | 5.99E+04 | 1.06 | Agreement |
| | | Co-58 | 3 | pCi/L | 6.80E+04 | 6.89E+04 | 0.99 | Agreement |
| | | | 3 | pCi/L | 6.81E+04 | 6.89E+04 | 0.99 | Agreement |
| | | Fe-59 | 3 | pCi/L | 8.72E+04 | 8.38E+04 | 1.04 | Agreement |
| | | | 3 | pCi/L | 8.75E+04 | 8.38E+04 | 1.04 | Agreement |
| | | Co-60 | 3 | pCi/L | 1.27E+05 | 1.22E+05 | 1.04 | Agreement |
| | | | 3 | pCi/L | 1.26E+05 | 1.22E+05 | 1.03 | Agreement |
| | | Zn-65 | 3 | pCi/L | 3.52E+04 | 3.12E+04 | 1.13 | Agreement |
| | | | 3 | pCi/L | 3.53E+04 | 3.12E+04 | 1.13 | Agreement |
| | | Cs-134 | 3 | pCi/L | 5.97E+04 | 6.35E+04 | 0.91 | Agreement |
| | | | 3 | pCi/L | 5.95E+04 | 6.53E+04 | 0.91 | Agreement |
| | | Cs-137 | 3 | pCi/L | 8.01E+04 | 7.87E+04 | 1.02 | Agreement |
| | | | 3 | pCi/L | 7.98E+04 | 7.87E+04 | 1.01 | Agreement |
| | | Ce-141 | 3 | pCi/L | 7.13E+04 | 7.65E+04 | 0.93 | Agreement |
| | | | 3 | pCi/L | 7.24E+04 | 7.65E+04 | 0.95 | Agreement |
| | Q143GWSL-3.5 L | Cr-51 | 3 | pCi/L | 1.76E+05 | 1.80E+05 | 0.98 | Agreement |
| | | | 3 | pCi/L | 1.73E+05 | 1.80E+05 | 0.96 | Agreement |
| | | Mn-54 | 3 | pCi/L | 6.32E+04 | 5.99E+04 | 1.06 | Agreement |
| | | | 3 | pCi/L | 6.31E+04 | 5.99E+04 | 1.05 | Agreement |
| | | Co-58 | 3 | pCi/L | 6.89E+04 | 6.89E+04 | 1.00 | Agreement |
| | | | 3 | pCi/L | 6.84E+04 | 6.89E+04 | 0.99 | Agreement |
| | | Fe-59 | 3 | pCi/L | 8.54E+04 | 8.38E+04 | 1.02 | Agreement |
| | | | 3 | pCi/L | 8.69E+04 | 8.38E+04 | 1.04 | Agreement |
| Co-60 | | 3 | pCi/L | 1.28E+05 | 1.22E+05 | 1.05 | Agreement | |
| | | 3 | pCi/L | 1.27E+05 | 1.22E+05 | 1.04 | Agreement | |
| Zn-65 | | 3 | pCi/L | 3.42E+04 | 3.12E+04 | 1.10 | Agreement | |
| | | 3 | pCi/L | 3.45E+04 | 3.12E+04 | 1.11 | Agreement | |
| Cs-134 | | 3 | pCi/L | 6.39E+04 | 6.53E+04 | 0.98 | Agreement | |
| | | 3 | pCi/L | 6.17E+04 | 6.53E+04 | 0.95 | Agreement | |
| Cs-137 | | 3 | pCi/L | 8.11E+04 | 7.87E+04 | 1.03 | Agreement | |
| | | 3 | pCi/L | 8.08E+04 | 7.87E+04 | 1.03 | Agreement | |
| Ce-141 | | 3 | pCi/L | 7.39E+04 | 7.65E+04 | 0.97 | Agreement | |
| | | 3 | pCi/L | 7.36E+04 | 7.65E+04 | 0.96 | Agreement | |

TABLE 5.0-B

ECKERT & ZIEGLER ANALYTICS

CROSS CHECK PROGRAM

2014 Cross Check Results for EnRad Laboratories

Cross check samples are received, prepared, and analyzed in all four quarters of 2014. 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). Fifty environmental results were reported, of which 49 (98%) 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 | E10901 | Gross Beta | 2 | pCi | 201 | 199 | 1.01 | Agreement |
| Gamma in Soil | E10904 | Ce-141 | 2 | pCi/g | 0.23 | 0.24 | 0.96 | Agreement |
| | | Cr-51 | 2 | pCi/g | 0.48 | 0.49 | 0.98 | Agreement |
| | | Cs-134 | 2 | pCi/g | 0.24 | 0.32 | 0.76 | Non-Agreement* |
| | | Cs-137 | 2 | pCi/g | 0.27 | 0.31 | 0.86 | Agreement |
| | | Co-58 | 2 | pCi/g | 0.18 | 0.22 | 0.83 | Agreement |
| | | Mn-54 | 2 | pCi/g | 0.29 | 0.3 | 0.96 | Agreement |
| | | Fe-59 | 2 | pCi/g | 0.2 | 0.2 | 1.01 | Agreement |
| | | Zn-65 | 2 | pCi/g | 0.49 | 0.49 | 1.00 | Agreement |
| | | Co-60 | 2 | pCi/g | 0.41 | 0.44 | 0.94 | Agreement |
| I-131 in Milk | E10801 | I-131 | 1 | pCi/L | 93.8 | 99.8 | 0.94 | Agreement |
| Gross Beta in Water | E10905 | Gross Beta | 2 | pCi/L | 265 | 249 | 1.06 | Agreement |
| I-131 Charcoal Cartridge | E10802 | I-131 | 1 | pCi | 76.1 | 75.1 | 1.01 | Agreement |
| Gamma in Vegetation (Coffee Grounds) | E10902 | Ce-141 | 2 | pCi/g | 0.22 | 0.24 | 0.91 | Agreement |
| | | Cr-51 | 2 | pCi/g | 0.42 | 0.5 | 0.85 | Agreement |
| | | Cs-134 | 2 | pCi/g | 0.28 | 0.32 | 0.88 | Agreement |
| | | Cs-137 | 2 | pCi/g | 0.22 | 0.24 | 0.94 | Agreement |
| | | Co-58 | 2 | pCi/g | 0.21 | 0.22 | 0.96 | Agreement |
| | | Mn-54 | 2 | pCi/g | 0.28 | 0.3 | 0.92 | Agreement |
| | | Fe-59 | 2 | pCi/g | 0.19 | 0.2 | 0.95 | Agreement |
| | | Zn-65 | 2 | pCi/g | 0.44 | 0.49 | 0.89 | Agreement |
| | | Co-60 | 2 | pCi/g | 0.38 | 0.44 | 0.87 | Agreement |

* See PIP G-14-01710

TABLE 5.0-B (Cont.)

| Sample | Sample ID | Nuclide | Quarter | Units | EnRad Value | EZA Value | EnRad/EZA Ratio | Evaluation |
|---------------------------|-----------|---------|---------|-------|-------------|-----------|-----------------|------------|
| Gamma in Composite Filter | E10987 | Ce-141 | 3 | pCi | 64.1 | 62.6 | 1.02 | Agreement |
| | | Cr-51 | 3 | pCi | 135 | 143 | 0.94 | Agreement |
| | | Cs-134 | 3 | pCi | 74.6 | 78.3 | 0.95 | Agreement |
| | | Cs-137 | 3 | pCi | 97.8 | 95.9 | 1.02 | Agreement |
| | | Co-58 | 3 | pCi | 71.7 | 71 | 1.01 | Agreement |
| | | Mn-54 | 3 | pCi | 69.5 | 70.4 | 0.99 | Agreement |
| | | Fe-59 | 3 | pCi | 86.8 | 78.4 | 1.11 | Agreement |
| | | Zn-65 | 3 | pCi | 37 | 36.2 | 1.02 | Agreement |
| | | Co-60 | 3 | pCi | 161 | 148 | 1.09 | Agreement |
| Gamma in Milk | E10800 | I-131 | 1 | pCi/L | 97.3 | 98.5 | 0.99 | Agreement |
| | | Ce-141 | 1 | pCi/L | 120 | 119 | 1.01 | Agreement |
| | | Cr-51 | 1 | pCi/L | 505 | 491 | 1.03 | Agreement |
| | | Cs-134 | 1 | pCi/L | 192 | 210 | 0.92 | Agreement |
| | | Cs-137 | 1 | pCi/L | 255 | 253 | 1.01 | Agreement |
| | | Co-58 | 1 | pCi/L | 274 | 268 | 1.02 | Agreement |
| | | Mn-54 | 1 | pCi/L | 314 | 297 | 1.06 | Agreement |
| | | Fe-59 | 1 | pCi/L | 232 | 219 | 1.06 | Agreement |
| | | Zn-65 | 1 | pCi/L | 318 | 323 | 0.99 | Agreement |
| | | Co-60 | 1 | pCi/L | 335 | 337 | 0.99 | Agreement |
| Gamma in Soil | E11051 | Ce-141 | 4 | pCi/g | 0.31 | 0.35 | 0.89 | Agreement |
| | | Cr-51 | 4 | pCi/g | 0.61 | 0.648 | 0.94 | Agreement |
| | | Cs-134 | 4 | pCi/g | 0.25 | 0.263 | 0.95 | Agreement |
| | | Cs-137 | 4 | pCi/g | 0.36 | 0.396 | 0.91 | Agreement |
| | | Co-58 | 4 | pCi/g | 0.19 | 0.208 | 0.91 | Agreement |
| | | Mn-54 | 4 | pCi/g | 0.35 | 0.36 | 0.97 | Agreement |
| | | Fe-59 | 4 | pCi/g | 0.27 | 0.279 | 0.97 | Agreement |
| | | Zn-65 | 4 | pCi/g | 0.46 | 0.474 | 0.97 | Agreement |
| | | Co-60 | 4 | pCi/g | 0.34 | 0.375 | 0.91 | Agreement |

TABLE 5.0-C

ENVIRONMENTAL RESOURCE ASSOCIATES (ERA) PROFICIENCY TESTING

2014 Proficiency Test Results for EnRad Laboratories

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

Proficiency test samples are received, prepared, and analyzed in second and fourth quarters of 2014. Results are reported directly to Environmental Resource Associates as described in the instruction package within the study period. Proficiency test data are reported to ERA for evaluation. The acceptance criteria for the program was based on the National Environmental Laboratory Accreditation Conference (NELAC) Field of Proficiency Testing criteria. Fourteen results were reported of which 14 (100 %) met the acceptance criteria. ERA reports proficiency test results to the North Carolina Department of Health and Human Services, North Carolina Public Drinking Water Laboratory Certification Program. This testing is to satisfy the North Carolina state drinking water radiochemistry certification requirements.

| Sample | Sample ID | Nuclide | Quarter | Units | EnRad Value | ERA Value | Acceptance Limits | Evaluation |
|-------------------------|-----------|---------|---------|-------|-------------|-----------|-------------------|------------|
| Gamma Emitters in Water | RAD-97 | Ba-133 | 2 | pCi/L | 87.51 | 87.9 | 74.0 - 96.7 | Agreement |
| | | Cs-134 | 2 | pCi/L | 41.01 | 44.3 | 35.5 - 48.7 | Agreement |
| | | Cs-137 | 2 | pCi/L | 85.47 | 89.1 | 80.2 - 101 | Agreement |
| | | Co-60 | 2 | pCi/L | 62.75 | 64.2 | 57.8 - 73.1 | Agreement |
| | | Zn-65 | 2 | pCi/L | 249.8 | 235 | 212 - 275 | Agreement |
| Gamma Emitters in Water | RAD-99 | Ba-133 | 4 | pCi/L | 46.9 | 49.1 | 40.3 - 54.5 | Agreement |
| | | Cs-134 | 4 | pCi/L | 81.7 | 89.8 | 73.7 - 98.8 | Agreement |
| | | Cs-137 | 4 | pCi/L | 96.9 | 98.8 | 88.9 - 111 | Agreement |
| | | Co-60 | 4 | pCi/L | 91 | 92.1 | 82.9 - 104 | Agreement |
| | | Zn-65 | 4 | pCi/L | 335 | 310 | 279 - 362 | Agreement |
| Tritium in Water | RAD-97 | H-3 | 2 | pCi/L | 8680 | 8770 | 7610 - 9650 | Agreement |
| | RAD-99 | H-3 | 4 | pCi/L | 6290 | 6880 | 5940 - 7570 | Agreement |
| Iodine-131 in Water | RAD-97 | I-131 | 2 | pCi/L | 25.9 | 25.7 | 21.3 - 30.3 | Agreement |
| | RAD-99 | I-131 | 4 | pCi/L | 20.4 | 20.3 | 16.8 - 24.4 | Agreement |

TABLE 5.0-D

2014 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 the 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. Complete documentation of any evaluation will be available and provided to the NRC upon request.

| 1st Quarter 2014 | | | | | | 2nd Quarter 2014 | | | | | |
|---------------------------|---------------|----------------|---------------|--------------------|-----------|---------------------------|---------------|----------------|---------------|--------------------|-----------|
| 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 |
| 102403 | 93.2 | 90.40 | 3.12 | <+/-15% | Pass | 102196 | 18.07 | 18.66 | -3.16 | <+/-15% | Pass |
| 103045 | 99.3 | 90.40 | 9.87 | <+/-15% | Pass | 102193 | 19.44 | 18.66 | 4.18 | <+/-15% | Pass |
| 103009 | 101.0 | 90.40 | 11.76 | <+/-15% | Pass | 102192 | 17.28 | 18.66 | -7.40 | <+/-15% | Pass |
| 102243 | 90.3 | 90.40 | -0.09 | <+/-15% | Pass | 102176 | 17.70 | 18.66 | -5.14 | <+/-15% | Pass |
| 102858 | 97.9 | 90.40 | 8.33 | <+/-15% | Pass | 102175 | 18.66 | 18.66 | 0.00 | <+/-15% | Pass |
| Average Bias (B) | | | 6.60 | | | Average Bias (B) | | | -2.30 | | |
| Standard Deviation (S) | | | 4.93 | | | Standard Deviation (S) | | | 4.53 | | |
| Measure Performance B +S | | | 11.53 | <15% | Pass | Measure Performance B +S | | | 6.83 | <15% | Pass |
| 3rd Quarter 2014 | | | | | | 4th Quarter 2014 | | | | | |
| 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 |
| 103705 | 70.04 | 69.7 | 0.49 | <+/-15% | Pass | 101241 | 84.63 | 77.7 | 8.92 | <+/-15% | Pass |
| 103704 | 69.36 | 69.7 | -0.49 | <+/-15% | Pass | 103494 | 87.46 | 77.7 | 12.56 | <+/-15% | Pass |
| 103686 | 71.90 | 69.7 | 3.16 | <+/-15% | Pass | 103229 | 88.45 | 77.7 | 13.84 | <+/-15% | Pass |
| 103685 | 72.82 | 69.7 | 4.48 | <+/-15% | Pass | 103493 | 89.19 | 77.7 | 14.79 | <+/-15% | Pass |
| 103517 | 73.71 | 69.7 | 5.75 | <+/-15% | Pass | 103044 | 91.02 | 77.7 | 17.14 | <+/-15% | **Fail |
| Average Bias (B) | | | 2.68 | | | Average Bias (B) | | | 13.45 | | |
| Standard Deviation (S) | | | 2.63 | | | Standard Deviation (S) | | | 3.04 | | |
| Measure Performance B +S | | | 5.31 | <15% | Pass | Measure Performance B +S | | | 16.49 | <15% | **Fail |

**Refer to PIP G-15-00554

TABLE 5.0-D (Cont.)

Internal Crosscheck (Duke Energy)

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

| 1st Quarter 2014 | | | | | | 2nd Quarter 2014 | | | | | |
|---------------------------|---------------|----------------|---------------|--------------------|-----------|---------------------------|---------------|----------------|---------------|--------------------|-----------|
| 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 |
| 101221 | 30.14 | 32.7 | -7.83 | <+/-15% | Pass | 103635 | 22.36 | 21.8 | 2.57 | <+/-15% | Pass |
| 102801 | 32.82 | 32.7 | 0.37 | <+/-15% | Pass | 102777 | 22.93 | 21.8 | 5.18 | <+/-15% | Pass |
| 100019 | 30.32 | 32.7 | -7.28 | <+/-15% | Pass | 103181 | 22.78 | 21.8 | 4.50 | <+/-15% | Pass |
| 103173 | 32.14 | 32.7 | -1.71 | <+/-15% | Pass | 103218 | 22.82 | 21.8 | 4.68 | <+/-15% | Pass |
| 100085 | 30.90 | 32.7 | -5.50 | <+/-15% | Pass | 103657 | 22.29 | 21.8 | 2.25 | <+/-15% | Pass |
| 101024 | 30.92 | 32.7 | -5.44 | <+/-15% | Pass | 102927 | 21.90 | 21.8 | 0.46 | <+/-15% | Pass |
| 100350 | 30.73 | 32.7 | -6.02 | <+/-15% | Pass | 103396 | 21.54 | 21.8 | -1.19 | <+/-15% | Pass |
| 102359 | 30.71 | 32.7 | -6.09 | <+/-15% | Pass | 102723 | 22.84 | 21.8 | 4.77 | <+/-15% | Pass |
| 103174 | 30.26 | 32.7 | -7.46 | <+/-15% | Pass | 103394 | 22.47 | 21.8 | 3.07 | <+/-15% | Pass |
| 101376 | 31.49 | 32.7 | -3.70 | <+/-15% | Pass | 103058 | 22.36 | 21.8 | 2.57 | <+/-15% | Pass |
| Average Bias (B) | | | -5.07 | | | Average Bias (B) | | | 2.89 | | |
| Standard Deviation (S) | | | 2.65 | | | Standard Deviation (S) | | | 2.05 | | |
| Measure Performance B +S | | | 7.72 | <15% | Pass | Measure Performance B +S | | | 4.93 | <15% | Pass |
| 3rd Quarter 2014 | | | | | | 4th Quarter 2014 | | | | | |
| 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 |
| 102737 | 47.05 | 43.6 | 7.91 | <+/-15% | Pass | 102768 | 57.48 | 54.5 | 5.47 | <+/-15% | Pass |
| 102750 | 46.06 | 43.6 | 5.64 | <+/-15% | Pass | 103263 | 55.38 | 54.5 | 1.61 | <+/-15% | Pass |
| 102773 | 48.32 | 43.6 | 10.83 | <+/-15% | Pass | 103453 | 56.30 | 54.5 | 3.30 | <+/-15% | Pass |
| 102824 | 45.81 | 43.6 | 5.07 | <+/-15% | Pass | 102746 | 54.25 | 54.5 | -0.46 | <+/-15% | Pass |
| 102397 | 44.38 | 43.6 | 1.79 | <+/-15% | Pass | 103656 | 56.09 | 54.5 | 2.92 | <+/-15% | Pass |
| 102832 | 46.37 | 43.6 | 6.35 | <+/-15% | Pass | 102482 | 53.50 | 54.5 | -1.83 | <+/-15% | Pass |
| 102725 | 47.00 | 43.6 | 7.80 | <+/-15% | Pass | 103446 | 54.71 | 54.5 | 0.39 | <+/-15% | Pass |
| 102481 | 45.21 | 43.6 | 3.69 | <+/-15% | Pass | 103339 | 53.55 | 54.5 | -1.74 | <+/-15% | Pass |
| 102758 | 45.97 | 43.6 | 5.44 | <+/-15% | Pass | 103582 | 53.97 | 54.5 | -0.97 | <+/-15% | Pass |
| 103120 | 46.87 | 43.6 | 7.50 | <+/-15% | Pass | 103288 | 55.43 | 54.5 | 1.71 | <+/-15% | Pass |
| Average Bias (B) | | | 6.20 | | | Average Bias (B) | | | 1.04 | | |
| Standard Deviation (S) | | | 2.51 | | | Standard Deviation (S) | | | 2.40 | | |
| Measure Performance B +S | | | 8.71 | <15% | Pass | Measure Performance B +S | | | 3.44 | <15% | Pass |

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 Fisheries and Aquatic Ecology.

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

I. CHANGE OF SAMPLING PROCEDURES

There were no changes to the sampling procedure during 2014.

II. DESCRIPTION OF ANALYSIS PROCEDURES

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

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

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

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

III. CHANGE OF ANALYSIS PROCEDURES

REMP analytical results reporting with 2 Sigma error was initiated during 2014, replacing the 1 Sigma error reporting (PIP G-14-01981).

Low-level Iodine-131 (LLI-131) test components were modified to include only the LLI-131 component; all other components such as Beryllium-7 and Potassium-40 were removed (PIP G-14-02526).

Gamma spectroscopy milk Iodine-131 MDA requirement was removed from the "GAMMAMILK" analysis as the required low-level Iodine-131 (LLI-131) requirement is satisfied by the "GAMMALLI" LLI-131 preparation and testing procedure and gamma spectroscopy analysis (PIP G-14-02692).

The gamma spectroscopy system was replaced during 2014 (10JUL2014). Gamma spectroscopy system hardware, detector cooling apparatus, software, electronics, nuclide identification libraries, and analytical test matrix components for test matrices were modified (PIP G-15-00625).

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)

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)

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 on 6/11 - 6/12/2014. Results are shown in Table 3.10. No changes were made to the sampling procedures during 2014 as a result of the 2014 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 2014.

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

2014

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

McGuire Nuclear Station
Mecklenburg County, North Carolina

Docket Numbers 50-369, 370
Calendar Year 2014

| 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 | 1.97E-2 (312/312) 9.48E-3 – 3.56E-2 | 195 (0.19 mi N) | 2.02E-2 (52/52) 1.18E-2 – 3.25E-2 | 1.94E-2 (52/52) 8.32E-3 – 2.98E-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 | 1.84 (47/52) 0.74 – 7.51 | 119 (7.40 mi SSW) | 2.18 (11/13) 0.74 – 7.51 | 1.95 (13/13) 1.02 – 3.34 | 0 |
| | Gamma 65 | See Table 2.2-C | All less than LLD | ---- | ---- | All less than LLD | 0 |
| | Tritium 20 | 2000 | 642 (13/16) 254 - 1050 | 101 (3.31 mi E) | 907 (4/4) 793 – 1050 | All less than LLD | 0 |
| Surface Water (pCi/l) | Gamma 39 | See Table 2.2-C | All less than LLD | ---- | ---- | All less than LLD | 0 |
| | Tritium 12 | 2000 | 732 (8/8) 392 - 1280 | 128 (0.45 mi NE) | 1025 (4/4) 827 - 1280 | 257 (1/4) 257 – 257 | 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 2014

| 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 10 | See Table 2.2-C | All less than LLD | ---- | ---- | No Control Location | 0 |
| Fish (pCi/kg, wet) | Gamma 12 Cs-137 | See Table 2.2-C | 6.75 (2/6) 2.90 – 10.6 | 129 (0.51 mi ENE) | 6.75 (2/6) 2.90 – 10.6 | All less than LLD | 0 |
| Sediments--Shoreline (pCi/kg, dry) | Gamma 6 Cs-137 | See Table 2.2-C | 182 (2/4) 155 – 208 | 130 (0.52 mi SW) | 182 (2/2) 155 – 208 | All less than LLD | 0 |
| TLD (mR per quarter) ⁽⁴⁾ | TLD Readout 161 ⁽⁵⁾ | ---- | 16.5 (157/157) 10.3 – 29.0 | 180 (12.7 mi NNE) | 26.0 (4/4) 22.4 – 29.0 | 22.6 (4/4) 21.9 – 23.1 | 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. 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 ($n * 0.95$).
5. Missing samples are discussed in Appendices C and D

APPENDIX C

**SAMPLING DEVIATIONS
&
UNAVAILABLE ANALYSES**

APPENDIX C

MCGUIRE NUCLEAR STATION SAMPLING DEVIATIONS & UNAVAILABLE ANALYSES

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

C.1 SAMPLING DEVIATIONS

Air Radioiodine/Air Particulate

| Location | Scheduled Collection Dates | Actual Collection Dates | Code | Description & Action to Prevent Recurrence | Corrective Action Identity |
|----------|----------------------------|-------------------------|------|--|----------------------------|
| 125 | 1/6 – 1/13/2014 | 1/6 – 1/13/2014 | PI | Power interruption to sampling equipment of 16.4 hours due to planned maintenance. A work request was not necessary as a result of this event. | G-14-00076 |

C.2 UNAVAILABLE ANALYSES

Crops/Food Products

| Location | Scheduled Collection Dates | Code | Description & Action to Prevent Recurrence | Corrective Action Identity |
|----------|----------------------------|------|--|----------------------------|
| 104 | 4/7/2014 | SU | Seasonally unavailable, no crops produced. | G-14-00773 |
| 104 | 5/5/2014 | SU | Seasonally unavailable, no crops produced. | G-14-01016 |

TLD

| Location | Scheduled Collection Dates | Code | Description & Action to Prevent Recurrence | Corrective Action Identity |
|----------|----------------------------|------|--|----------------------------|
| 159 | 3/19/2014 – 6/18/2014 | VN | TLD missing. 3rd quarter TLD placed. | G-14-01426 |
| 159 | 6/18/2014 – 9/17/2014 | VN | TLD missing. 4 th quarter TLD placed. | G-14-02150 |

APPENDIX D

ANALYTICAL DEVIATIONS

APPENDIX D

MCGUIRE NUCLEAR STATION ANALYTICAL DEVIATIONS & UNAVAILABLE ANALYSES

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

D.1 ANALYTICAL DEVIATIONS

There were no analytical deviations during 2014.

D.2 ANALYTICAL UNAVAILABLE ANALYSES

TLD

| Location | Scheduled Collection Dates | Code | Description & Action to Prevent Recurrence | Corrective Action Identity |
|----------|-------------------------------|------|---|-------------------------------|
| 171 | 9/17/2014 – 12/17/2014 | OT | TLD was collected but not reported due to a laboratory error during read out which caused the TLD to not be processed. The laboratory procedure was updated and enhanced to prevent recurrence. | G-15-00458 |

APPENDIX E

**RADIOLOGICAL
ENVIRONMENTAL MONITORING
PROGRAM RESULTS**

2014

This appendix includes sample analysis report summaries and supportive data generated from each sample medium for 2014.

MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|------------------------|---------|-----------|--------------------------|----------|
| 280685 | 12/30/2013 - 1/6/2014 | Beta | 1.57E-02 | 1.32E-03 | 2.90E-03 |
| 280858 | 1/6/2014 - 1/13/2014 | Beta | 1.59E-02 | 1.31E-03 | 2.86E-03 |
| 281217 | 1/13/2014 - 1/20/2014 | Beta | 1.59E-02 | 1.34E-03 | 3.01E-03 |
| 281538 | 1/20/2014 - 1/27/2014 | Beta | 1.99E-02 | 1.41E-03 | 2.87E-03 |
| 282161 | 1/27/2014 - 2/3/2014 | Beta | 2.06E-02 | 1.48E-03 | 3.11E-03 |
| 282973 | 2/3/2014 - 2/10/2014 | Beta | 1.59E-02 | 1.33E-03 | 2.98E-03 |
| 283420 | 2/10/2014 - 2/17/2014 | Beta | 2.55E-02 | 1.59E-03 | 3.16E-03 |
| 284587 | 2/17/2014 - 2/24/2014 | Beta | 1.85E-02 | 1.43E-03 | 3.12E-03 |
| 285148 | 2/24/2014 - 3/3/2014 | Beta | 2.63E-02 | 1.59E-03 | 3.12E-03 |
| 285753 | 3/3/2014 - 3/10/2014 | Beta | 1.56E-02 | 1.43E-03 | 3.53E-03 |
| 286257 | 3/10/2014 - 3/17/2014 | Beta | 1.75E-02 | 1.37E-03 | 2.96E-03 |
| 287142 | 3/17/2014 - 3/24/2014 | Beta | 8.38E-03 | 1.22E-03 | 3.37E-03 |
| 288393 | 3/24/2014 - 3/31/2014 | Beta | 1.46E-02 | 1.32E-03 | 3.06E-03 |
| 289030 | 12/30/2013 - 3/31/2014 | Cs-134 | <1.88E-04 | 0.00E+00 | 1.88E-04 |
| | | Cs-137 | <1.73E-04 | 0.00E+00 | 1.73E-04 |
| | | Be-7 | 1.39E-01 | 3.46E-03 | 2.92E-03 |
| | | K-40 | 1.93E-02 | 1.59E-03 | 2.26E-03 |
| 289117 | 3/31/2014 - 4/7/2014 | Beta | 1.95E-02 | 1.38E-03 | 2.71E-03 |
| 289503 | 4/7/2014 - 4/14/2014 | Beta | 1.59E-02 | 1.36E-03 | 3.11E-03 |
| 289913 | 4/14/2014 - 4/21/2014 | Beta | 1.92E-02 | 1.45E-03 | 3.18E-03 |
| 291518 | 4/21/2014 - 4/28/2014 | Beta | 2.26E-02 | 1.49E-03 | 2.96E-03 |
| 292812 | 4/28/2014 - 5/5/2014 | Beta | 1.53E-02 | 1.27E-03 | 2.76E-03 |
| 293074 | 5/5/2014 - 5/12/2014 | Beta | 2.39E-02 | 1.59E-03 | 3.30E-03 |
| 294705 | 5/12/2014 - 5/19/2014 | Beta | 2.04E-02 | 1.45E-03 | 3.00E-03 |
| 295214 | 5/19/2014 - 5/27/2014 | Beta | 2.22E-02 | 1.33E-03 | 2.44E-03 |
| 295475 | 5/27/2014 - 6/2/2014 | Beta | 2.66E-02 | 1.72E-03 | 3.35E-03 |
| 295990 | 6/2/2014 - 6/9/2014 | Beta | 1.76E-02 | 1.41E-03 | 3.14E-03 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|-------------------------|---------|-----------|--------------------------|----------|
| 296235 | 6/9/2014 - 6/16/2014 | Beta | 1.51E-02 | 1.36E-03 | 3.18E-03 |
| 296756 | 6/16/2014 - 6/23/2014 | Beta | 2.44E-02 | 1.51E-03 | 2.81E-03 |
| 296983 | 6/23/2014 - 6/30/2014 | Beta | 1.72E-02 | 1.34E-03 | 2.83E-03 |
| 297294 | 3/31/2014 - 6/30/2014 | Cs-134 | <1.40E-03 | 0.00E+00 | 1.40E-03 |
| | | Cs-137 | <1.31E-03 | 0.00E+00 | 1.31E-03 |
| | | Be-7 | 1.49E-01 | 4.49E-02 | 3.62E-02 |
| | | K-40 | 2.94E-02 | 1.88E-02 | 7.97E-03 |
| 297380 | 6/30/2014 - 7/7/2014 | Beta | 1.86E-02 | 2.73E-03 | 2.92E-03 |
| 297668 | 7/7/2014 - 7/14/2014 | Beta | 2.13E-02 | 2.85E-03 | 2.94E-03 |
| 298204 | 7/14/2014 - 7/21/2014 | Beta | 1.89E-02 | 2.90E-03 | 3.36E-03 |
| 350496 | 7/21/2014 - 7/28/2014 | Beta | 1.76E-02 | 2.68E-03 | 2.92E-03 |
| 350967 | 7/28/2014 - 8/4/2014 | Beta | 1.77E-02 | 2.68E-03 | 2.88E-03 |
| 351188 | 8/4/2014 - 8/11/2014 | Beta | 2.90E-02 | 3.17E-03 | 2.92E-03 |
| 351594 | 8/11/2014 - 8/18/2014 | Beta | 2.10E-02 | 2.87E-03 | 3.01E-03 |
| 353408 | 8/18/2014 - 8/25/2014 | Beta | 2.16E-02 | 2.90E-03 | 3.02E-03 |
| 354028 | 8/25/2014 - 9/2/2014 | Beta | 2.04E-02 | 2.69E-03 | 2.88E-03 |
| 354425 | 9/2/2014 - 9/8/2014 | Beta | 8.32E-03 | 2.47E-03 | 3.37E-03 |
| 354746 | 9/8/2014 - 9/15/2014 | Beta | 1.22E-02 | 2.42E-03 | 2.95E-03 |
| 355121 | 9/15/2014 - 9/22/2014 | Beta | 2.98E-02 | 3.17E-03 | 2.92E-03 |
| 355610 | 9/22/2014 - 9/29/2014 | Beta | 1.22E-02 | 2.46E-03 | 3.04E-03 |
| 355617 | 6/30/2014 - 9/29/2014 | Cs-134 | <8.08E-04 | 0.00E+00 | 8.08E-04 |
| | | Cs-137 | <8.89E-04 | 0.00E+00 | 8.89E-04 |
| | | Be-7 | 1.27E-01 | 2.41E-02 | 1.67E-02 |
| | | K-40 | 8.72E-03 | 8.37E-03 | 1.26E-02 |
| 356471 | 9/29/2014 - 10/6/2014 | Beta | 2.81E-02 | 3.18E-03 | 3.05E-03 |
| 357021 | 10/6/2014 - 10/13/2014 | Beta | 2.24E-02 | 3.27E-03 | 3.92E-03 |
| 358029 | 10/13/2014 - 10/20/2014 | Beta | 1.34E-02 | 2.53E-03 | 3.07E-03 |
| 358639 | 10/20/2014 - 10/27/2014 | Beta | 1.80E-02 | 2.75E-03 | 3.08E-03 |
| 359298 | 10/27/2014 - 11/3/2014 | Beta | 2.35E-02 | 3.19E-03 | 3.61E-03 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|-------------------------|---------|-----------|--------------------------|----------|
| 360008 | 11/3/2014 - 11/10/2014 | Beta | 2.12E-02 | 2.84E-03 | 2.90E-03 |
| 360693 | 11/10/2014 - 11/17/2014 | Beta | 2.26E-02 | 3.08E-03 | 3.41E-03 |
| 361557 | 11/17/2014 - 11/24/2014 | Beta | 2.46E-02 | 3.13E-03 | 3.32E-03 |
| 361937 | 11/24/2014 - 12/1/2014 | Beta | 1.59E-02 | 2.74E-03 | 3.30E-03 |
| 362761 | 12/1/2014 - 12/8/2014 | Beta | 2.01E-02 | 2.88E-03 | 3.17E-03 |
| 363504 | 12/8/2014 - 12/15/2014 | Beta | 2.16E-02 | 2.87E-03 | 2.95E-03 |
| 363953 | 12/15/2014 - 12/22/2014 | Beta | 2.73E-02 | 3.15E-03 | 3.06E-03 |
| 364480 | 12/22/2014 - 12/29/2014 | Beta | 1.58E-02 | 2.53E-03 | 2.76E-03 |
| 364487 | 9/29/2014 - 12/29/2014 | Cs-134 | <8.62E-04 | 0.00E+00 | 8.62E-04 |
| | | Cs-137 | <7.35E-04 | 0.00E+00 | 7.35E-04 |
| | | Be-7 | 1.33E-01 | 2.32E-02 | 1.10E-02 |
| | | K-40 | 9.55E-03 | 6.93E-03 | 8.32E-03 |

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|------------------------|---------|-----------|--------------------------|----------|
| 280624 | 12/30/2013 - 1/6/2014 | Beta | 1.81E-02 | 1.36E-03 | 2.86E-03 |
| 280797 | 1/6/2014 - 1/13/2014 | Beta | 1.85E-02 | 1.39E-03 | 2.90E-03 |
| 281156 | 1/13/2014 - 1/20/2014 | Beta | 1.44E-02 | 1.30E-03 | 3.01E-03 |
| 281477 | 1/20/2014 - 1/27/2014 | Beta | 1.90E-02 | 1.39E-03 | 2.88E-03 |
| 282100 | 1/27/2014 - 2/3/2014 | Beta | 2.00E-02 | 1.45E-03 | 3.07E-03 |
| 282912 | 2/3/2014 - 2/10/2014 | Beta | 1.50E-02 | 1.32E-03 | 3.02E-03 |
| 283359 | 2/10/2014 - 2/17/2014 | Beta | 2.36E-02 | 1.54E-03 | 3.16E-03 |
| 284526 | 2/17/2014 - 2/24/2014 | Beta | 1.77E-02 | 1.40E-03 | 3.12E-03 |
| 285087 | 2/24/2014 - 3/3/2014 | Beta | 2.17E-02 | 1.47E-03 | 3.07E-03 |
| 285692 | 3/3/2014 - 3/10/2014 | Beta | 1.49E-02 | 1.41E-03 | 3.50E-03 |
| 286196 | 3/10/2014 - 3/17/2014 | Beta | 1.68E-02 | 1.38E-03 | 3.03E-03 |
| 287081 | 3/17/2014 - 3/24/2014 | Beta | 1.17E-02 | 1.31E-03 | 3.37E-03 |
| 288332 | 3/24/2014 - 3/31/2014 | Beta | 1.53E-02 | 1.32E-03 | 3.01E-03 |
| 289031 | 12/30/2013 - 3/31/2014 | Cs-134 | <2.98E-04 | 0.00E+00 | 2.98E-04 |
| | | Cs-137 | <2.33E-04 | 0.00E+00 | 2.33E-04 |
| | | Be-7 | 1.45E-01 | 4.88E-03 | 4.38E-03 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|------------------------|---------|-----------|--------------------------|----------|
| 289031 | 12/30/2013 - 3/31/2014 | K-40 | 2.37E-02 | 2.14E-03 | 2.71E-03 |
| 289056 | 3/31/2014 - 4/7/2014 | Beta | 1.84E-02 | 1.36E-03 | 2.75E-03 |
| 289442 | 4/7/2014 - 4/14/2014 | Beta | 1.72E-02 | 1.40E-03 | 3.13E-03 |
| 289852 | 4/14/2014 - 4/21/2014 | Beta | 1.80E-02 | 1.42E-03 | 3.18E-03 |
| 291457 | 4/21/2014 - 4/28/2014 | Beta | 1.83E-02 | 1.38E-03 | 2.93E-03 |
| 292751 | 4/28/2014 - 5/5/2014 | Beta | 1.59E-02 | 1.30E-03 | 2.78E-03 |
| 293013 | 5/5/2014 - 5/12/2014 | Beta | 2.50E-02 | 1.61E-03 | 3.31E-03 |
| 294644 | 5/12/2014 - 5/19/2014 | Beta | 2.16E-02 | 1.47E-03 | 3.00E-03 |
| 295153 | 5/19/2014 - 5/27/2014 | Beta | 2.19E-02 | 1.32E-03 | 2.41E-03 |
| 295414 | 5/27/2014 - 6/2/2014 | Beta | 2.25E-02 | 1.64E-03 | 3.38E-03 |
| 295929 | 6/2/2014 - 6/9/2014 | Beta | 1.57E-02 | 1.37E-03 | 3.15E-03 |
| 296174 | 6/9/2014 - 6/16/2014 | Beta | 1.57E-02 | 1.37E-03 | 3.19E-03 |
| 296695 | 6/16/2014 - 6/23/2014 | Beta | 2.52E-02 | 1.51E-03 | 2.77E-03 |
| 296922 | 6/23/2014 - 6/30/2014 | Beta | 1.82E-02 | 1.38E-03 | 2.87E-03 |
| 297295 | 3/31/2014 - 6/30/2014 | Cs-134 | <1.40E-03 | 0.00E+00 | 1.40E-03 |
| | | Cs-137 | <1.65E-03 | 0.00E+00 | 1.65E-03 |
| | | Be-7 | 1.68E-01 | 5.01E-02 | 4.58E-02 |
| | | K-40 | <4.68E-02 | 0.00E+00 | 4.68E-02 |
| 297319 | 6/30/2014 - 7/7/2014 | Beta | 1.80E-02 | 2.70E-03 | 2.92E-03 |
| 297607 | 7/7/2014 - 7/14/2014 | Beta | 2.05E-02 | 2.82E-03 | 2.94E-03 |
| 298143 | 7/14/2014 - 7/21/2014 | Beta | 1.51E-02 | 2.71E-03 | 3.33E-03 |
| 350497 | 7/21/2014 - 7/28/2014 | Beta | 1.90E-02 | 2.76E-03 | 2.95E-03 |
| 350968 | 7/28/2014 - 8/4/2014 | Beta | 1.88E-02 | 2.71E-03 | 2.87E-03 |
| 351189 | 8/4/2014 - 8/11/2014 | Beta | 2.46E-02 | 2.99E-03 | 2.92E-03 |
| 351595 | 8/11/2014 - 8/18/2014 | Beta | 2.14E-02 | 2.87E-03 | 2.99E-03 |
| 353409 | 8/18/2014 - 8/25/2014 | Beta | 2.33E-02 | 2.98E-03 | 3.04E-03 |
| 354029 | 8/25/2014 - 9/2/2014 | Beta | 1.93E-02 | 2.63E-03 | 2.87E-03 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|-------------------------|---------|-----------|--------------------------|----------|
| 354426 | 9/2/2014 - 9/8/2014 | Beta | 1.33E-02 | 2.75E-03 | 3.39E-03 |
| 354747 | 9/8/2014 - 9/15/2014 | Beta | 1.22E-02 | 2.39E-03 | 2.92E-03 |
| 355123 | 9/15/2014 - 9/22/2014 | Beta | 3.20E-02 | 3.33E-03 | 3.01E-03 |
| 355611 | 9/22/2014 - 9/29/2014 | Beta | 1.38E-02 | 2.54E-03 | 3.04E-03 |
| 355618 | 6/30/2014 - 9/29/2014 | Cs-134 | <7.09E-04 | 0.00E+00 | 7.09E-04 |
| | | Cs-137 | <9.45E-04 | 0.00E+00 | 9.45E-04 |
| | | Be-7 | 1.25E-01 | 2.28E-02 | 1.25E-02 |
| | | K-40 | <1.77E-02 | 0.00E+00 | 1.77E-02 |
| 356472 | 9/29/2014 - 10/6/2014 | Beta | 2.60E-02 | 3.09E-03 | 3.05E-03 |
| 357022 | 10/6/2014 - 10/13/2014 | Beta | 1.89E-02 | 3.11E-03 | 3.88E-03 |
| 358030 | 10/13/2014 - 10/20/2014 | Beta | 1.68E-02 | 2.72E-03 | 3.12E-03 |
| 358640 | 10/20/2014 - 10/27/2014 | Beta | 1.53E-02 | 2.62E-03 | 3.07E-03 |
| 359300 | 10/27/2014 - 11/3/2014 | Beta | 2.24E-02 | 3.14E-03 | 3.61E-03 |
| 360009 | 11/3/2014 - 11/10/2014 | Beta | 2.20E-02 | 2.86E-03 | 2.88E-03 |
| 360694 | 11/10/2014 - 11/17/2014 | Beta | 1.71E-02 | 2.87E-03 | 3.45E-03 |
| 361558 | 11/17/2014 - 11/24/2014 | Beta | 2.43E-02 | 3.12E-03 | 3.32E-03 |
| 361938 | 11/24/2014 - 12/1/2014 | Beta | 1.84E-02 | 2.85E-03 | 3.29E-03 |
| 362762 | 12/1/2014 - 12/8/2014 | Beta | 1.88E-02 | 2.81E-03 | 3.14E-03 |
| 363505 | 12/8/2014 - 12/15/2014 | Beta | 2.27E-02 | 2.94E-03 | 2.98E-03 |
| 363954 | 12/15/2014 - 12/22/2014 | Beta | 2.79E-02 | 3.18E-03 | 3.06E-03 |
| 364481 | 12/22/2014 - 12/29/2014 | Beta | 1.86E-02 | 2.67E-03 | 2.76E-03 |
| 364488 | 9/29/2014 - 12/29/2014 | Cs-134 | <7.08E-04 | 0.00E+00 | 7.08E-04 |
| | | Cs-137 | <6.83E-04 | 0.00E+00 | 6.83E-04 |
| | | Be-7 | 1.05E-01 | 2.12E-02 | 1.61E-02 |
| | | K-40 | <2.08E-02 | 0.00E+00 | 2.08E-02 |

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|-----------------------|---------|----------|--------------------------|----------|
| 280628 | 12/30/2013 - 1/6/2014 | Beta | 1.90E-02 | 1.36E-03 | 2.80E-03 |
| 280801 | 1/6/2014 - 1/13/2014 | Beta | 1.80E-02 | 1.40E-03 | 2.96E-03 |
| 281160 | 1/13/2014 - 1/20/2014 | Beta | 1.39E-02 | 1.29E-03 | 3.01E-03 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|------------------------|---------|-----------|--------------------------|----------|
| 281481 | 1/20/2014 - 1/27/2014 | Beta | 2.07E-02 | 1.42E-03 | 2.87E-03 |
| 282104 | 1/27/2014 - 2/3/2014 | Beta | 1.96E-02 | 1.41E-03 | 3.00E-03 |
| 282916 | 2/3/2014 - 2/10/2014 | Beta | 1.64E-02 | 1.38E-03 | 3.10E-03 |
| 283363 | 2/10/2014 - 2/17/2014 | Beta | 2.49E-02 | 1.54E-03 | 3.07E-03 |
| 284530 | 2/17/2014 - 2/24/2014 | Beta | 1.93E-02 | 1.45E-03 | 3.12E-03 |
| 285091 | 2/24/2014 - 3/3/2014 | Beta | 2.58E-02 | 1.54E-03 | 3.01E-03 |
| 285696 | 3/3/2014 - 3/10/2014 | Beta | 1.54E-02 | 1.44E-03 | 3.57E-03 |
| 286200 | 3/10/2014 - 3/17/2014 | Beta | 2.07E-02 | 1.47E-03 | 3.03E-03 |
| 287085 | 3/17/2014 - 3/24/2014 | Beta | 1.32E-02 | 1.35E-03 | 3.37E-03 |
| 288336 | 3/24/2014 - 3/31/2014 | Beta | 1.61E-02 | 1.33E-03 | 2.96E-03 |
| 289032 | 12/30/2013 - 3/31/2014 | Cs-134 | <2.54E-04 | 0.00E+00 | 2.54E-04 |
| | | Cs-137 | <2.93E-04 | 0.00E+00 | 2.93E-04 |
| | | Be-7 | 1.31E-01 | 5.58E-03 | 4.13E-03 |
| | | K-40 | 6.24E-03 | 1.71E-03 | 2.26E-03 |
| 289060 | 3/31/2014 - 4/7/2014 | Beta | 1.91E-02 | 1.39E-03 | 2.80E-03 |
| 289446 | 4/7/2014 - 4/14/2014 | Beta | 1.56E-02 | 1.35E-03 | 3.09E-03 |
| 289856 | 4/14/2014 - 4/21/2014 | Beta | 1.91E-02 | 1.46E-03 | 3.22E-03 |
| 291461 | 4/21/2014 - 4/28/2014 | Beta | 2.05E-02 | 1.41E-03 | 2.87E-03 |
| 292755 | 4/28/2014 - 5/5/2014 | Beta | 1.75E-02 | 1.35E-03 | 2.83E-03 |
| 293017 | 5/5/2014 - 5/12/2014 | Beta | 2.47E-02 | 1.61E-03 | 3.32E-03 |
| 294648 | 5/12/2014 - 5/19/2014 | Beta | 2.37E-02 | 1.52E-03 | 3.01E-03 |
| 295157 | 5/19/2014 - 5/27/2014 | Beta | 2.29E-02 | 1.34E-03 | 2.42E-03 |
| 295418 | 5/27/2014 - 6/2/2014 | Beta | 2.73E-02 | 1.75E-03 | 3.36E-03 |
| 295933 | 6/2/2014 - 6/9/2014 | Beta | 1.27E-02 | 1.30E-03 | 3.17E-03 |
| 296178 | 6/9/2014 - 6/16/2014 | Beta | 1.74E-02 | 1.44E-03 | 3.27E-03 |
| 296699 | 6/16/2014 - 6/23/2014 | Beta | 2.59E-02 | 1.51E-03 | 2.72E-03 |
| 296926 | 6/23/2014 - 6/30/2014 | Beta | 1.86E-02 | 1.40E-03 | 2.91E-03 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|-------------------------|---------|-----------|--------------------------|----------|
| 297296 | 3/31/2014 - 6/30/2014 | Cs-134 | <1.98E-03 | 0.00E+00 | 1.98E-03 |
| | | Cs-137 | <1.92E-03 | 0.00E+00 | 1.92E-03 |
| | | Be-7 | 1.90E-01 | 5.08E-02 | 3.75E-02 |
| | | K-40 | <5.95E-02 | 0.00E+00 | 5.95E-02 |
| 297323 | 6/30/2014 - 7/7/2014 | Beta | 2.00E-02 | 2.80E-03 | 2.93E-03 |
| 297611 | 7/7/2014 - 7/14/2014 | Beta | 2.09E-02 | 2.84E-03 | 2.95E-03 |
| 298147 | 7/14/2014 - 7/21/2014 | Beta | 1.81E-02 | 2.79E-03 | 3.23E-03 |
| 350498 | 7/21/2014 - 7/28/2014 | Beta | 1.88E-02 | 2.81E-03 | 3.04E-03 |
| 350969 | 7/28/2014 - 8/4/2014 | Beta | 1.56E-02 | 2.56E-03 | 2.86E-03 |
| 351190 | 8/4/2014 - 8/11/2014 | Beta | 2.74E-02 | 3.12E-03 | 2.94E-03 |
| 351596 | 8/11/2014 - 8/18/2014 | Beta | 2.38E-02 | 2.93E-03 | 2.93E-03 |
| 353410 | 8/18/2014 - 8/25/2014 | Beta | 2.13E-02 | 2.93E-03 | 3.10E-03 |
| 354030 | 8/25/2014 - 9/2/2014 | Beta | 1.95E-02 | 2.64E-03 | 2.87E-03 |
| 354427 | 9/2/2014 - 9/8/2014 | Beta | 1.33E-02 | 2.75E-03 | 3.39E-03 |
| 354748 | 9/8/2014 - 9/15/2014 | Beta | 1.42E-02 | 2.46E-03 | 2.86E-03 |
| 355126 | 9/15/2014 - 9/22/2014 | Beta | 3.30E-02 | 3.39E-03 | 3.05E-03 |
| 355612 | 9/22/2014 - 9/29/2014 | Beta | 1.38E-02 | 2.54E-03 | 3.04E-03 |
| 355619 | 6/30/2014 - 9/29/2014 | Cs-134 | <8.83E-04 | 0.00E+00 | 8.83E-04 |
| | | Cs-137 | <7.00E-04 | 0.00E+00 | 7.00E-04 |
| | | Be-7 | 1.40E-01 | 2.54E-02 | 1.71E-02 |
| | | K-40 | 1.02E-02 | 9.13E-03 | 1.36E-02 |
| 356473 | 9/29/2014 - 10/6/2014 | Beta | 2.73E-02 | 3.13E-03 | 3.02E-03 |
| 357023 | 10/6/2014 - 10/13/2014 | Beta | 1.89E-02 | 3.09E-03 | 3.85E-03 |
| 358031 | 10/13/2014 - 10/20/2014 | Beta | 1.74E-02 | 2.76E-03 | 3.13E-03 |
| 358641 | 10/20/2014 - 10/27/2014 | Beta | 1.85E-02 | 2.86E-03 | 3.21E-03 |
| 359303 | 10/27/2014 - 11/3/2014 | Beta | 2.17E-02 | 3.12E-03 | 3.61E-03 |
| 360010 | 11/3/2014 - 11/10/2014 | Beta | 2.49E-02 | 2.96E-03 | 2.82E-03 |
| 360695 | 11/10/2014 - 11/17/2014 | Beta | 2.61E-02 | 3.30E-03 | 3.53E-03 |
| 361559 | 11/17/2014 - 11/24/2014 | Beta | 2.21E-02 | 3.03E-03 | 3.33E-03 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|-------------------------|---------|-----------|--------------------------|----------|
| 361939 | 11/24/2014 - 12/1/2014 | Beta | 1.60E-02 | 2.74E-03 | 3.29E-03 |
| 362763 | 12/1/2014 - 12/8/2014 | Beta | 2.34E-02 | 2.96E-03 | 3.07E-03 |
| 363506 | 12/8/2014 - 12/15/2014 | Beta | 2.15E-02 | 2.84E-03 | 2.90E-03 |
| 363955 | 12/15/2014 - 12/22/2014 | Beta | 2.42E-02 | 3.03E-03 | 3.07E-03 |
| 364482 | 12/22/2014 - 12/29/2014 | Beta | 1.40E-02 | 2.43E-03 | 2.75E-03 |
| 364489 | 9/29/2014 - 12/29/2014 | Cs-134 | <8.81E-04 | 0.00E+00 | 8.81E-04 |
| | | Cs-137 | <7.53E-04 | 0.00E+00 | 7.53E-04 |
| | | Be-7 | 1.20E-01 | 2.42E-02 | 2.10E-02 |
| | | K-40 | <1.84E-02 | 0.00E+00 | 1.84E-02 |

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|------------------------|---------|-----------|--------------------------|----------|
| 280625 | 12/30/2013 - 1/6/2014 | Beta | 1.68E-02 | 1.31E-03 | 2.80E-03 |
| 280798 | 1/6/2014 - 1/13/2014 | Beta | 1.72E-02 | 1.37E-03 | 2.95E-03 |
| 281157 | 1/13/2014 - 1/20/2014 | Beta | 1.49E-02 | 1.32E-03 | 3.01E-03 |
| 281478 | 1/20/2014 - 1/27/2014 | Beta | 1.90E-02 | 1.43E-03 | 3.02E-03 |
| 282101 | 1/27/2014 - 2/3/2014 | Beta | 2.09E-02 | 1.45E-03 | 3.03E-03 |
| 282913 | 2/3/2014 - 2/10/2014 | Beta | 1.74E-02 | 1.39E-03 | 3.07E-03 |
| 283360 | 2/10/2014 - 2/17/2014 | Beta | 2.29E-02 | 1.50E-03 | 3.07E-03 |
| 284527 | 2/17/2014 - 2/24/2014 | Beta | 1.75E-02 | 1.40E-03 | 3.12E-03 |
| 285088 | 2/24/2014 - 3/3/2014 | Beta | 2.24E-02 | 1.47E-03 | 3.02E-03 |
| 285693 | 3/3/2014 - 3/10/2014 | Beta | 1.57E-02 | 1.44E-03 | 3.56E-03 |
| 286197 | 3/10/2014 - 3/17/2014 | Beta | 1.37E-02 | 1.30E-03 | 3.03E-03 |
| 287082 | 3/17/2014 - 3/24/2014 | Beta | 1.29E-02 | 1.34E-03 | 3.37E-03 |
| 288333 | 3/24/2014 - 3/31/2014 | Beta | 1.88E-02 | 1.39E-03 | 2.97E-03 |
| 289033 | 12/30/2013 - 3/31/2014 | Cs-134 | <2.28E-04 | 0.00E+00 | 2.28E-04 |
| | | Cs-137 | <2.66E-04 | 0.00E+00 | 2.66E-04 |
| | | Be-7 | 1.36E-01 | 4.48E-03 | 3.85E-03 |
| | | K-40 | 2.35E-02 | 2.38E-03 | 2.96E-03 |
| 289057 | 3/31/2014 - 4/7/2014 | Beta | 1.52E-02 | 1.29E-03 | 2.78E-03 |
| 289443 | 4/7/2014 - 4/14/2014 | Beta | 1.79E-02 | 1.41E-03 | 3.10E-03 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|-----------------------|---------|-----------|--------------------------|----------|
| 289853 | 4/14/2014 - 4/21/2014 | Beta | 1.85E-02 | 1.42E-03 | 3.14E-03 |
| 291458 | 4/21/2014 - 4/28/2014 | Beta | 1.90E-02 | 1.38E-03 | 2.88E-03 |
| 292752 | 4/28/2014 - 5/5/2014 | Beta | 1.66E-02 | 1.33E-03 | 2.82E-03 |
| 293014 | 5/5/2014 - 5/12/2014 | Beta | 2.57E-02 | 1.63E-03 | 3.32E-03 |
| 294645 | 5/12/2014 - 5/19/2014 | Beta | 2.12E-02 | 1.47E-03 | 3.00E-03 |
| 295154 | 5/19/2014 - 5/27/2014 | Beta | 2.18E-02 | 1.31E-03 | 2.40E-03 |
| 295415 | 5/27/2014 - 6/2/2014 | Beta | 2.34E-02 | 1.67E-03 | 3.40E-03 |
| 295930 | 6/2/2014 - 6/9/2014 | Beta | 1.66E-02 | 1.40E-03 | 3.17E-03 |
| 296175 | 6/9/2014 - 6/16/2014 | Beta | 1.45E-02 | 1.34E-03 | 3.18E-03 |
| 296696 | 6/16/2014 - 6/23/2014 | Beta | 2.24E-02 | 1.43E-03 | 2.73E-03 |
| 296923 | 6/23/2014 - 6/30/2014 | Beta | 2.15E-02 | 1.47E-03 | 2.91E-03 |
| 297297 | 3/31/2014 - 6/30/2014 | Cs-134 | <4.08E-04 | 0.00E+00 | 4.08E-04 |
| | | Cs-137 | <2.14E-03 | 0.00E+00 | 2.14E-03 |
| | | Be-7 | 2.21E-01 | 5.40E-02 | 3.39E-02 |
| | | K-40 | <4.67E-02 | 0.00E+00 | 4.67E-02 |
| 297320 | 6/30/2014 - 7/7/2014 | Beta | 2.01E-02 | 2.81E-03 | 2.94E-03 |
| 297608 | 7/7/2014 - 7/14/2014 | Beta | 1.95E-02 | 2.77E-03 | 2.94E-03 |
| 298144 | 7/14/2014 - 7/21/2014 | Beta | 1.51E-02 | 2.66E-03 | 3.24E-03 |
| 350499 | 7/21/2014 - 7/28/2014 | Beta | 1.82E-02 | 2.77E-03 | 3.04E-03 |
| 350970 | 7/28/2014 - 8/4/2014 | Beta | 1.66E-02 | 2.61E-03 | 2.87E-03 |
| 351191 | 8/4/2014 - 8/11/2014 | Beta | 3.06E-02 | 3.25E-03 | 2.93E-03 |
| 351597 | 8/11/2014 - 8/18/2014 | Beta | 2.15E-02 | 2.84E-03 | 2.94E-03 |
| 353411 | 8/18/2014 - 8/25/2014 | Beta | 2.21E-02 | 2.97E-03 | 3.09E-03 |
| 354031 | 8/25/2014 - 9/2/2014 | Beta | 1.98E-02 | 2.65E-03 | 2.87E-03 |
| 354428 | 9/2/2014 - 9/8/2014 | Beta | 1.36E-02 | 2.77E-03 | 3.39E-03 |
| 354749 | 9/8/2014 - 9/15/2014 | Beta | 1.39E-02 | 2.45E-03 | 2.86E-03 |
| 355128 | 9/15/2014 - 9/22/2014 | Beta | 3.45E-02 | 3.45E-03 | 3.04E-03 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|-------------------------|---------|-----------|--------------------------|----------|
| 355613 | 9/22/2014 - 9/29/2014 | Beta | 1.46E-02 | 2.57E-03 | 3.04E-03 |
| 355620 | 6/30/2014 - 9/29/2014 | Cs-134 | <7.19E-04 | 0.00E+00 | 7.19E-04 |
| | | Cs-137 | <6.06E-04 | 0.00E+00 | 6.06E-04 |
| | | Be-7 | 1.19E-01 | 2.10E-02 | 1.32E-02 |
| | | K-40 | 1.87E-02 | 7.85E-03 | 2.12E-03 |
| 356474 | 9/29/2014 - 10/6/2014 | Beta | 2.94E-02 | 3.21E-03 | 3.03E-03 |
| 357024 | 10/6/2014 - 10/13/2014 | Beta | 1.79E-02 | 3.04E-03 | 3.84E-03 |
| 358032 | 10/13/2014 - 10/20/2014 | Beta | 1.50E-02 | 2.69E-03 | 3.21E-03 |
| 358642 | 10/20/2014 - 10/27/2014 | Beta | 1.76E-02 | 2.73E-03 | 3.06E-03 |
| 359305 | 10/27/2014 - 11/3/2014 | Beta | 2.19E-02 | 3.13E-03 | 3.62E-03 |
| 360011 | 11/3/2014 - 11/10/2014 | Beta | 2.25E-02 | 2.85E-03 | 2.83E-03 |
| 360696 | 11/10/2014 - 11/17/2014 | Beta | 2.28E-02 | 3.15E-03 | 3.51E-03 |
| 361560 | 11/17/2014 - 11/24/2014 | Beta | 2.63E-02 | 3.20E-03 | 3.33E-03 |
| 361940 | 11/24/2014 - 12/1/2014 | Beta | 1.70E-02 | 2.79E-03 | 3.29E-03 |
| 362764 | 12/1/2014 - 12/8/2014 | Beta | 2.28E-02 | 2.94E-03 | 3.08E-03 |
| 363507 | 12/8/2014 - 12/15/2014 | Beta | 1.99E-02 | 2.86E-03 | 3.04E-03 |
| 363956 | 12/15/2014 - 12/22/2014 | Beta | 2.28E-02 | 2.97E-03 | 3.07E-03 |
| 364483 | 12/22/2014 - 12/29/2014 | Beta | 1.76E-02 | 2.62E-03 | 2.75E-03 |
| 364490 | 9/29/2014 - 12/29/2014 | Cs-134 | <7.91E-04 | 0.00E+00 | 7.91E-04 |
| | | Cs-137 | <6.27E-04 | 0.00E+00 | 6.27E-04 |
| | | Be-7 | 1.11E-01 | 2.06E-02 | 9.67E-03 |
| | | K-40 | <1.65E-02 | 0.00E+00 | 1.65E-02 |

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|-----------------------|---------|----------|--------------------------|----------|
| 280626 | 12/30/2013 - 1/6/2014 | Beta | 1.78E-02 | 1.34E-03 | 2.81E-03 |
| 280799 | 1/6/2014 - 1/13/2014 | Beta | 1.77E-02 | 1.68E-03 | 3.87E-03 |
| 281158 | 1/13/2014 - 1/20/2014 | Beta | 1.37E-02 | 1.29E-03 | 3.01E-03 |
| 281479 | 1/20/2014 - 1/27/2014 | Beta | 1.83E-02 | 1.42E-03 | 3.02E-03 |
| 282102 | 1/27/2014 - 2/3/2014 | Beta | 2.11E-02 | 1.46E-03 | 3.03E-03 |
| 282914 | 2/3/2014 - 2/10/2014 | Beta | 1.91E-02 | 1.43E-03 | 3.06E-03 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|------------------------|---------|-----------|--------------------------|----------|
| 283361 | 2/10/2014 - 2/17/2014 | Beta | 2.43E-02 | 1.53E-03 | 3.08E-03 |
| 284528 | 2/17/2014 - 2/24/2014 | Beta | 1.76E-02 | 1.41E-03 | 3.12E-03 |
| 285089 | 2/24/2014 - 3/3/2014 | Beta | 2.25E-02 | 1.47E-03 | 3.03E-03 |
| 285694 | 3/3/2014 - 3/10/2014 | Beta | 1.59E-02 | 1.45E-03 | 3.55E-03 |
| 286198 | 3/10/2014 - 3/17/2014 | Beta | 1.76E-02 | 1.40E-03 | 3.03E-03 |
| 287083 | 3/17/2014 - 3/24/2014 | Beta | 9.48E-03 | 1.25E-03 | 3.37E-03 |
| 288334 | 3/24/2014 - 3/31/2014 | Beta | 1.59E-02 | 1.33E-03 | 2.98E-03 |
| 289034 | 12/30/2013 - 3/31/2014 | Cs-134 | <2.75E-04 | 0.00E+00 | 2.75E-04 |
| | | Cs-137 | <3.47E-04 | 0.00E+00 | 3.47E-04 |
| | | Be-7 | 1.34E-01 | 5.05E-03 | 4.81E-03 |
| | | K-40 | 8.87E-03 | 2.10E-03 | 3.43E-03 |
| 289058 | 3/31/2014 - 4/7/2014 | Beta | 1.81E-02 | 1.37E-03 | 2.79E-03 |
| 289444 | 4/7/2014 - 4/14/2014 | Beta | 1.44E-02 | 1.33E-03 | 3.12E-03 |
| 289854 | 4/14/2014 - 4/21/2014 | Beta | 2.09E-02 | 1.49E-03 | 3.20E-03 |
| 291459 | 4/21/2014 - 4/28/2014 | Beta | 2.11E-02 | 1.43E-03 | 2.89E-03 |
| 292753 | 4/28/2014 - 5/5/2014 | Beta | 1.82E-02 | 1.37E-03 | 2.84E-03 |
| 293015 | 5/5/2014 - 5/12/2014 | Beta | 2.43E-02 | 1.60E-03 | 3.31E-03 |
| 294646 | 5/12/2014 - 5/19/2014 | Beta | 2.00E-02 | 1.44E-03 | 3.00E-03 |
| 295155 | 5/19/2014 - 5/27/2014 | Beta | 2.27E-02 | 1.34E-03 | 2.42E-03 |
| 295416 | 5/27/2014 - 6/2/2014 | Beta | 2.13E-02 | 1.61E-03 | 3.37E-03 |
| 295931 | 6/2/2014 - 6/9/2014 | Beta | 1.58E-02 | 1.37E-03 | 3.16E-03 |
| 296176 | 6/9/2014 - 6/16/2014 | Beta | 1.39E-02 | 1.33E-03 | 3.19E-03 |
| 296697 | 6/16/2014 - 6/23/2014 | Beta | 2.47E-02 | 1.49E-03 | 2.72E-03 |
| 296924 | 6/23/2014 - 6/30/2014 | Beta | 2.11E-02 | 1.45E-03 | 2.90E-03 |
| 297298 | 3/31/2014 - 6/30/2014 | Cs-134 | <1.40E-03 | 0.00E+00 | 1.40E-03 |
| | | Cs-137 | <4.82E-04 | 0.00E+00 | 4.82E-04 |
| | | Be-7 | 1.62E-01 | 4.64E-02 | 3.43E-02 |
| | | K-40 | <4.92E-02 | 0.00E+00 | 4.92E-02 |
| 297321 | 6/30/2014 - 7/7/2014 | Beta | 1.85E-02 | 2.74E-03 | 2.94E-03 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|-------------------------|---------|-----------|--------------------------|----------|
| 297609 | 7/7/2014 - 7/14/2014 | Beta | 2.11E-02 | 2.84E-03 | 2.94E-03 |
| 298145 | 7/14/2014 - 7/21/2014 | Beta | 1.70E-02 | 2.75E-03 | 3.24E-03 |
| 350500 | 7/21/2014 - 7/28/2014 | Beta | 1.87E-02 | 2.81E-03 | 3.04E-03 |
| 350971 | 7/28/2014 - 8/4/2014 | Beta | 1.62E-02 | 2.59E-03 | 2.87E-03 |
| 351192 | 8/4/2014 - 8/11/2014 | Beta | 3.34E-02 | 3.36E-03 | 2.94E-03 |
| 351598 | 8/11/2014 - 8/18/2014 | Beta | 2.16E-02 | 2.85E-03 | 2.94E-03 |
| 353412 | 8/18/2014 - 8/25/2014 | Beta | 2.09E-02 | 2.91E-03 | 3.09E-03 |
| 354032 | 8/25/2014 - 9/2/2014 | Beta | 1.93E-02 | 2.63E-03 | 2.87E-03 |
| 354429 | 9/2/2014 - 9/8/2014 | Beta | 1.27E-02 | 2.71E-03 | 3.38E-03 |
| 354750 | 9/8/2014 - 9/15/2014 | Beta | 1.41E-02 | 2.46E-03 | 2.87E-03 |
| 355130 | 9/15/2014 - 9/22/2014 | Beta | 3.56E-02 | 3.49E-03 | 3.05E-03 |
| 355614 | 9/22/2014 - 9/29/2014 | Beta | 1.13E-02 | 2.42E-03 | 3.05E-03 |
| 355621 | 6/30/2014 - 9/29/2014 | Cs-134 | <6.12E-04 | 0.00E+00 | 6.12E-04 |
| | | Cs-137 | <8.68E-04 | 0.00E+00 | 8.68E-04 |
| | | Be-7 | 1.35E-01 | 2.42E-02 | 1.46E-02 |
| | | K-40 | 9.68E-03 | 6.80E-03 | 7.79E-03 |
| 356475 | 9/29/2014 - 10/6/2014 | Beta | 2.80E-02 | 3.16E-03 | 3.04E-03 |
| 357025 | 10/6/2014 - 10/13/2014 | Beta | 2.22E-02 | 3.20E-03 | 3.81E-03 |
| 358033 | 10/13/2014 - 10/20/2014 | Beta | 1.71E-02 | 2.79E-03 | 3.21E-03 |
| 358643 | 10/20/2014 - 10/27/2014 | Beta | 1.88E-02 | 2.78E-03 | 3.06E-03 |
| 359308 | 10/27/2014 - 11/3/2014 | Beta | 2.28E-02 | 3.17E-03 | 3.62E-03 |
| 360012 | 11/3/2014 - 11/10/2014 | Beta | 2.63E-02 | 3.02E-03 | 2.83E-03 |
| 360697 | 11/10/2014 - 11/17/2014 | Beta | 2.28E-02 | 3.14E-03 | 3.50E-03 |
| 361561 | 11/17/2014 - 11/24/2014 | Beta | 2.10E-02 | 2.98E-03 | 3.32E-03 |
| 361941 | 11/24/2014 - 12/1/2014 | Beta | 1.67E-02 | 2.77E-03 | 3.29E-03 |
| 362765 | 12/1/2014 - 12/8/2014 | Beta | 2.01E-02 | 2.83E-03 | 3.08E-03 |
| 363508 | 12/8/2014 - 12/15/2014 | Beta | 1.84E-02 | 2.78E-03 | 3.03E-03 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|-------------------------|---------|-----------|--------------------------|----------|
| 363957 | 12/15/2014 - 12/22/2014 | Beta | 2.55E-02 | 3.09E-03 | 3.07E-03 |
| 364484 | 12/22/2014 - 12/29/2014 | Beta | 1.76E-02 | 2.61E-03 | 2.75E-03 |
| 364491 | 9/29/2014 - 12/29/2014 | Cs-134 | <4.74E-04 | 0.00E+00 | 4.74E-04 |
| | | Cs-137 | <4.45E-04 | 0.00E+00 | 4.45E-04 |
| | | Be-7 | 1.22E-01 | 1.84E-02 | 1.20E-02 |
| | | K-40 | 1.44E-02 | 7.25E-03 | 9.39E-03 |

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|------------------------|---------|-----------|--------------------------|----------|
| 280627 | 12/30/2013 - 1/6/2014 | Beta | 1.69E-02 | 1.33E-03 | 2.86E-03 |
| 280800 | 1/6/2014 - 1/13/2014 | Beta | 1.79E-02 | 1.38E-03 | 2.90E-03 |
| 281159 | 1/13/2014 - 1/20/2014 | Beta | 1.41E-02 | 1.30E-03 | 3.01E-03 |
| 281480 | 1/20/2014 - 1/27/2014 | Beta | 1.86E-02 | 1.42E-03 | 3.02E-03 |
| 282103 | 1/27/2014 - 2/3/2014 | Beta | 1.90E-02 | 1.42E-03 | 3.07E-03 |
| 282915 | 2/3/2014 - 2/10/2014 | Beta | 1.65E-02 | 1.36E-03 | 3.02E-03 |
| 283362 | 2/10/2014 - 2/17/2014 | Beta | 2.41E-02 | 1.55E-03 | 3.15E-03 |
| 284529 | 2/17/2014 - 2/24/2014 | Beta | 1.67E-02 | 1.39E-03 | 3.12E-03 |
| 285090 | 2/24/2014 - 3/3/2014 | Beta | 2.56E-02 | 1.56E-03 | 3.08E-03 |
| 285695 | 3/3/2014 - 3/10/2014 | Beta | 1.59E-02 | 1.43E-03 | 3.49E-03 |
| 286199 | 3/10/2014 - 3/17/2014 | Beta | 1.74E-02 | 1.39E-03 | 3.04E-03 |
| 287084 | 3/17/2014 - 3/24/2014 | Beta | 1.14E-02 | 1.30E-03 | 3.37E-03 |
| 288335 | 3/24/2014 - 3/31/2014 | Beta | 1.40E-02 | 1.29E-03 | 3.01E-03 |
| 289035 | 12/30/2013 - 3/31/2014 | Cs-134 | <2.30E-04 | 0.00E+00 | 2.30E-04 |
| | | Cs-137 | <3.14E-04 | 0.00E+00 | 3.14E-04 |
| | | Be-7 | 1.35E-01 | 6.47E-03 | 5.10E-03 |
| | | K-40 | 1.29E-02 | 2.48E-03 | 4.03E-03 |
| 289059 | 3/31/2014 - 4/7/2014 | Beta | 1.89E-02 | 1.37E-03 | 2.75E-03 |
| 289445 | 4/7/2014 - 4/14/2014 | Beta | 1.60E-02 | 1.37E-03 | 3.13E-03 |
| 289855 | 4/14/2014 - 4/21/2014 | Beta | 1.86E-02 | 1.44E-03 | 3.18E-03 |
| 291460 | 4/21/2014 - 4/28/2014 | Beta | 2.03E-02 | 1.43E-03 | 2.93E-03 |
| 292754 | 4/28/2014 - 5/5/2014 | Beta | 1.75E-02 | 1.34E-03 | 2.78E-03 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|-----------------------|---------|-----------|--------------------------|----------|
| 293016 | 5/5/2014 - 5/12/2014 | Beta | 2.60E-02 | 1.63E-03 | 3.32E-03 |
| 294647 | 5/12/2014 - 5/19/2014 | Beta | 1.93E-02 | 1.42E-03 | 3.00E-03 |
| 295156 | 5/19/2014 - 5/27/2014 | Beta | 2.36E-02 | 1.35E-03 | 2.41E-03 |
| 295417 | 5/27/2014 - 6/2/2014 | Beta | 2.35E-02 | 1.67E-03 | 3.38E-03 |
| 295932 | 6/2/2014 - 6/9/2014 | Beta | 1.42E-02 | 1.35E-03 | 3.23E-03 |
| 296177 | 6/9/2014 - 6/16/2014 | Beta | 1.44E-02 | 1.34E-03 | 3.19E-03 |
| 296698 | 6/16/2014 - 6/23/2014 | Beta | 2.30E-02 | 1.47E-03 | 2.78E-03 |
| 296925 | 6/23/2014 - 6/30/2014 | Beta | 1.89E-02 | 1.40E-03 | 2.86E-03 |
| 297299 | 3/31/2014 - 6/30/2014 | Cs-134 | <1.63E-03 | 0.00E+00 | 1.63E-03 |
| | | Cs-137 | <1.92E-03 | 0.00E+00 | 1.92E-03 |
| | | Be-7 | 1.80E-01 | 4.93E-02 | 3.72E-02 |
| | | K-40 | <4.69E-02 | 0.00E+00 | 4.69E-02 |
| 297322 | 6/30/2014 - 7/7/2014 | Beta | 1.55E-02 | 2.59E-03 | 2.93E-03 |
| 297610 | 7/7/2014 - 7/14/2014 | Beta | 1.75E-02 | 2.73E-03 | 3.02E-03 |
| 298146 | 7/14/2014 - 7/21/2014 | Beta | 1.83E-02 | 2.86E-03 | 3.33E-03 |
| 350501 | 7/21/2014 - 7/28/2014 | Beta | 1.87E-02 | 2.75E-03 | 2.95E-03 |
| 350972 | 7/28/2014 - 8/4/2014 | Beta | 1.70E-02 | 2.63E-03 | 2.87E-03 |
| 351193 | 8/4/2014 - 8/11/2014 | Beta | 2.87E-02 | 3.17E-03 | 2.93E-03 |
| 351599 | 8/11/2014 - 8/18/2014 | Beta | 2.08E-02 | 2.85E-03 | 2.99E-03 |
| 353413 | 8/18/2014 - 8/25/2014 | Beta | 2.14E-02 | 2.90E-03 | 3.04E-03 |
| 354034 | 8/25/2014 - 9/2/2014 | Beta | 1.81E-02 | 2.59E-03 | 2.88E-03 |
| 354430 | 9/2/2014 - 9/8/2014 | Beta | 1.21E-02 | 2.68E-03 | 3.38E-03 |
| 354751 | 9/8/2014 - 9/15/2014 | Beta | 1.14E-02 | 2.35E-03 | 2.92E-03 |
| 355132 | 9/15/2014 - 9/22/2014 | Beta | 3.00E-02 | 3.25E-03 | 3.01E-03 |
| 355615 | 9/22/2014 - 9/29/2014 | Beta | 1.35E-02 | 2.52E-03 | 3.04E-03 |
| 355622 | 6/30/2014 - 9/29/2014 | Cs-134 | <1.11E-03 | 0.00E+00 | 1.11E-03 |
| | | Cs-137 | <1.01E-03 | 0.00E+00 | 1.01E-03 |
| | | Be-7 | 1.45E-01 | 3.27E-02 | 2.56E-02 |
| | | K-40 | <2.79E-02 | 0.00E+00 | 2.79E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|-------------------------|---------|-----------|--------------------------|----------|
| 356476 | 9/29/2014 - 10/6/2014 | Beta | 2.53E-02 | 3.06E-03 | 3.06E-03 |
| 357026 | 10/6/2014 - 10/13/2014 | Beta | 1.96E-02 | 3.08E-03 | 3.78E-03 |
| 358034 | 10/13/2014 - 10/20/2014 | Beta | 1.57E-02 | 2.66E-03 | 3.12E-03 |
| 358644 | 10/20/2014 - 10/27/2014 | Beta | 1.59E-02 | 2.65E-03 | 3.07E-03 |
| 359310 | 10/27/2014 - 11/3/2014 | Beta | 2.17E-02 | 3.11E-03 | 3.60E-03 |
| 360013 | 11/3/2014 - 11/10/2014 | Beta | 2.17E-02 | 2.85E-03 | 2.88E-03 |
| 360698 | 11/10/2014 - 11/17/2014 | Beta | 2.32E-02 | 3.13E-03 | 3.44E-03 |
| 361562 | 11/17/2014 - 11/24/2014 | Beta | 2.55E-02 | 3.17E-03 | 3.32E-03 |
| 361942 | 11/24/2014 - 12/1/2014 | Beta | 1.80E-02 | 2.83E-03 | 3.29E-03 |
| 362766 | 12/1/2014 - 12/8/2014 | Beta | 1.89E-02 | 2.81E-03 | 3.14E-03 |
| 363509 | 12/8/2014 - 12/15/2014 | Beta | 2.21E-02 | 2.92E-03 | 2.98E-03 |
| 363958 | 12/15/2014 - 12/22/2014 | Beta | 2.55E-02 | 3.08E-03 | 3.06E-03 |
| 364485 | 12/22/2014 - 12/29/2014 | Beta | 1.49E-02 | 2.48E-03 | 2.76E-03 |
| 364492 | 9/29/2014 - 12/29/2014 | Cs-134 | <8.80E-04 | 0.00E+00 | 8.80E-04 |
| | | Cs-137 | <8.01E-04 | 0.00E+00 | 8.01E-04 |
| | | Be-7 | 1.01E-01 | 2.14E-02 | 1.78E-02 |
| | | K-40 | <2.10E-02 | 0.00E+00 | 2.10E-02 |

Sample Point 195 [INDICATOR - N @ 0.19 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|-----------------------|---------|----------|--------------------------|----------|
| 280629 | 12/30/2013 - 1/6/2014 | Beta | 1.71E-02 | 1.32E-03 | 2.80E-03 |
| 280802 | 1/6/2014 - 1/13/2014 | Beta | 1.89E-02 | 1.42E-03 | 2.96E-03 |
| 281161 | 1/13/2014 - 1/20/2014 | Beta | 1.44E-02 | 1.30E-03 | 3.01E-03 |
| 281482 | 1/20/2014 - 1/27/2014 | Beta | 2.22E-02 | 1.46E-03 | 2.87E-03 |
| 282105 | 1/27/2014 - 2/3/2014 | Beta | 2.06E-02 | 1.44E-03 | 3.00E-03 |
| 282917 | 2/3/2014 - 2/10/2014 | Beta | 1.79E-02 | 1.41E-03 | 3.10E-03 |
| 283364 | 2/10/2014 - 2/17/2014 | Beta | 2.51E-02 | 1.55E-03 | 3.07E-03 |
| 284531 | 2/17/2014 - 2/24/2014 | Beta | 1.83E-02 | 1.42E-03 | 3.12E-03 |
| 285092 | 2/24/2014 - 3/3/2014 | Beta | 2.72E-02 | 1.57E-03 | 3.01E-03 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 195 [INDICATOR - N @ 0.19 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|------------------------|---------|-----------|--------------------------|----------|
| 285697 | 3/3/2014 - 3/10/2014 | Beta | 1.42E-02 | 1.47E-03 | 3.75E-03 |
| 286201 | 3/10/2014 - 3/17/2014 | Beta | 1.71E-02 | 1.39E-03 | 3.03E-03 |
| 287086 | 3/17/2014 - 3/24/2014 | Beta | 1.18E-02 | 1.31E-03 | 3.37E-03 |
| 288337 | 3/24/2014 - 3/31/2014 | Beta | 1.68E-02 | 1.34E-03 | 2.96E-03 |
| 289036 | 12/30/2013 - 3/31/2014 | Cs-134 | <2.39E-04 | 0.00E+00 | 2.39E-04 |
| | | Cs-137 | <2.94E-04 | 0.00E+00 | 2.94E-04 |
| | | Be-7 | 1.30E-01 | 5.01E-03 | 4.10E-03 |
| | | K-40 | 2.06E-02 | 2.13E-03 | 2.52E-03 |
| 289061 | 3/31/2014 - 4/7/2014 | Beta | 1.67E-02 | 1.33E-03 | 2.80E-03 |
| 289447 | 4/7/2014 - 4/14/2014 | Beta | 1.86E-02 | 1.42E-03 | 3.08E-03 |
| 289857 | 4/14/2014 - 4/21/2014 | Beta | 2.17E-02 | 1.52E-03 | 3.22E-03 |
| 291462 | 4/21/2014 - 4/28/2014 | Beta | 1.86E-02 | 1.37E-03 | 2.87E-03 |
| 292756 | 4/28/2014 - 5/5/2014 | Beta | 1.74E-02 | 1.35E-03 | 2.83E-03 |
| 293018 | 5/5/2014 - 5/12/2014 | Beta | 2.84E-02 | 1.68E-03 | 3.31E-03 |
| 294649 | 5/12/2014 - 5/19/2014 | Beta | 2.19E-02 | 1.48E-03 | 3.00E-03 |
| 295158 | 5/19/2014 - 5/27/2014 | Beta | 2.29E-02 | 1.34E-03 | 2.42E-03 |
| 295419 | 5/27/2014 - 6/2/2014 | Beta | 2.72E-02 | 1.74E-03 | 3.36E-03 |
| 295934 | 6/2/2014 - 6/9/2014 | Beta | 1.62E-02 | 1.39E-03 | 3.17E-03 |
| 296179 | 6/9/2014 - 6/16/2014 | Beta | 1.64E-02 | 1.39E-03 | 3.19E-03 |
| 296700 | 6/16/2014 - 6/23/2014 | Beta | 2.20E-02 | 1.42E-03 | 2.72E-03 |
| 296927 | 6/23/2014 - 6/30/2014 | Beta | 1.97E-02 | 1.42E-03 | 2.91E-03 |
| 297300 | 3/31/2014 - 6/30/2014 | Cs-134 | <4.09E-04 | 0.00E+00 | 4.09E-04 |
| | | Cs-137 | <1.31E-03 | 0.00E+00 | 1.31E-03 |
| | | Be-7 | 1.91E-01 | 5.60E-02 | 5.59E-02 |
| | | K-40 | <4.43E-02 | 0.00E+00 | 4.43E-02 |
| 297324 | 6/30/2014 - 7/7/2014 | Beta | 2.01E-02 | 2.81E-03 | 2.94E-03 |
| 297612 | 7/7/2014 - 7/14/2014 | Beta | 2.26E-02 | 2.87E-03 | 2.87E-03 |
| 298148 | 7/14/2014 - 7/21/2014 | Beta | 2.03E-02 | 2.88E-03 | 3.23E-03 |
| 350502 | 7/21/2014 - 7/28/2014 | Beta | 2.14E-02 | 2.94E-03 | 3.04E-03 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 195 [INDICATOR - N @ 0.19 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|-------------------------|---------|-----------|--------------------------|----------|
| 350973 | 7/28/2014 - 8/4/2014 | Beta | 1.77E-02 | 2.66E-03 | 2.87E-03 |
| 351194 | 8/4/2014 - 8/11/2014 | Beta | 2.62E-02 | 3.07E-03 | 2.93E-03 |
| 351600 | 8/11/2014 - 8/18/2014 | Beta | 1.97E-02 | 2.76E-03 | 2.93E-03 |
| 353414 | 8/18/2014 - 8/25/2014 | Beta | 2.24E-02 | 2.99E-03 | 3.10E-03 |
| 354036 | 8/25/2014 - 9/2/2014 | Beta | 1.87E-02 | 2.61E-03 | 2.87E-03 |
| 354431 | 9/2/2014 - 9/8/2014 | Beta | 1.26E-02 | 2.71E-03 | 3.39E-03 |
| 354752 | 9/8/2014 - 9/15/2014 | Beta | 1.22E-02 | 2.36E-03 | 2.86E-03 |
| 355134 | 9/15/2014 - 9/22/2014 | Beta | 3.25E-02 | 3.37E-03 | 3.05E-03 |
| 355616 | 9/22/2014 - 9/29/2014 | Beta | 1.38E-02 | 2.53E-03 | 3.04E-03 |
| 355623 | 6/30/2014 - 9/29/2014 | Cs-134 | <6.24E-04 | 0.00E+00 | 6.24E-04 |
| | | Cs-137 | <7.52E-04 | 0.00E+00 | 7.52E-04 |
| | | Be-7 | 1.27E-01 | 2.33E-02 | 1.34E-02 |
| | | K-40 | 1.38E-02 | 1.01E-02 | 1.41E-02 |
| 356477 | 9/29/2014 - 10/6/2014 | Beta | 2.67E-02 | 3.10E-03 | 3.02E-03 |
| 357027 | 10/6/2014 - 10/13/2014 | Beta | 2.21E-02 | 3.21E-03 | 3.85E-03 |
| 358035 | 10/13/2014 - 10/20/2014 | Beta | 1.53E-02 | 2.71E-03 | 3.21E-03 |
| 358645 | 10/20/2014 - 10/27/2014 | Beta | 1.53E-02 | 2.61E-03 | 3.05E-03 |
| 359312 | 10/27/2014 - 11/3/2014 | Beta | 2.21E-02 | 3.13E-03 | 3.62E-03 |
| 360014 | 11/3/2014 - 11/10/2014 | Beta | 2.52E-02 | 2.96E-03 | 2.82E-03 |
| 360699 | 11/10/2014 - 11/17/2014 | Beta | 2.13E-02 | 3.10E-03 | 3.53E-03 |
| 361563 | 11/17/2014 - 11/24/2014 | Beta | 2.45E-02 | 3.13E-03 | 3.33E-03 |
| 361943 | 11/24/2014 - 12/1/2014 | Beta | 1.93E-02 | 2.89E-03 | 3.29E-03 |
| 362767 | 12/1/2014 - 12/8/2014 | Beta | 2.06E-02 | 2.84E-03 | 3.07E-03 |
| 363510 | 12/8/2014 - 12/15/2014 | Beta | 2.20E-02 | 2.96E-03 | 3.04E-03 |
| 363959 | 12/15/2014 - 12/22/2014 | Beta | 3.07E-02 | 3.30E-03 | 3.07E-03 |
| 364486 | 12/22/2014 - 12/29/2014 | Beta | 1.46E-02 | 2.46E-03 | 2.75E-03 |
| 364493 | 9/29/2014 - 12/29/2014 | Cs-134 | <9.28E-04 | 0.00E+00 | 9.28E-04 |
| | | Cs-137 | <6.27E-04 | 0.00E+00 | 6.27E-04 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 195 [INDICATOR - N @ 0.19 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|------------------------|---------|-----------|--------------------------|----------|
| 364493 | 9/29/2014 - 12/29/2014 | Be-7 | 1.12E-01 | 2.16E-02 | 1.44E-02 |
| | | K-40 | <1.83E-02 | 0.00E+00 | 1.83E-02 |

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 280630 | 12/30/2013 - 1/6/2014 | I-131 | <2.50E-02 | 0.00E+00 | 2.50E-02 |
| | | Cs-134 | <1.79E-02 | 0.00E+00 | 1.79E-02 |
| | | Cs-137 | <1.58E-02 | 0.00E+00 | 1.58E-02 |
| | | Be-7 | <1.52E-01 | 0.00E+00 | 1.52E-01 |
| | | K-40 | 2.11E-01 | 1.32E-01 | 3.14E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 280803 | 1/6/2014 - 1/13/2014 | I-131 | <2.25E-02 | 0.00E+00 | 2.25E-02 |
| | | Cs-134 | <1.80E-02 | 0.00E+00 | 1.80E-02 |
| | | Cs-137 | <2.31E-02 | 0.00E+00 | 2.31E-02 |
| | | Be-7 | <1.43E-01 | 0.00E+00 | 1.43E-01 |
| | | K-40 | 2.46E-01 | 1.15E-01 | 2.17E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 281162 | 1/13/2014 - 1/20/2014 | I-131 | <2.17E-02 | 0.00E+00 | 2.17E-02 |
| | | Cs-134 | <1.43E-02 | 0.00E+00 | 1.43E-02 |
| | | Cs-137 | <1.80E-02 | 0.00E+00 | 1.80E-02 |
| | | Be-7 | <1.15E-01 | 0.00E+00 | 1.15E-01 |
| | | K-40 | <5.18E-01 | 0.00E+00 | 5.18E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 281483 | 1/20/2014 - 1/27/2014 | I-131 | <1.36E-02 | 0.00E+00 | 1.36E-02 |
| | | Cs-134 | <1.36E-02 | 0.00E+00 | 1.36E-02 |
| | | Cs-137 | <1.61E-02 | 0.00E+00 | 1.61E-02 |
| | | Be-7 | <6.00E-02 | 0.00E+00 | 6.00E-02 |
| | | K-40 | 6.38E-01 | 1.41E-01 | 2.42E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 282106 | 1/27/2014 - 2/3/2014 | I-131 | <2.22E-02 | 0.00E+00 | 2.22E-02 |
| | | Cs-134 | <1.58E-02 | 0.00E+00 | 1.58E-02 |
| | | Cs-137 | <1.98E-02 | 0.00E+00 | 1.98E-02 |
| | | Be-7 | <1.65E-01 | 0.00E+00 | 1.65E-01 |
| | | K-40 | <6.43E-01 | 0.00E+00 | 6.43E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 282918 | 2/3/2014 - 2/10/2014 | I-131 | <9.21E-03 | 0.00E+00 | 9.21E-03 |
| | | Cs-134 | <7.69E-03 | 0.00E+00 | 7.69E-03 |
| | | Cs-137 | <8.55E-03 | 0.00E+00 | 8.55E-03 |
| | | Be-7 | <5.66E-02 | 0.00E+00 | 5.66E-02 |
| | | K-40 | 5.15E-01 | 7.85E-02 | 8.76E-02 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 283365 | 2/10/2014 - 2/17/2014 | I-131 | <2.31E-02 | 0.00E+00 | 2.31E-02 |
| | | Cs-134 | <1.52E-02 | 0.00E+00 | 1.52E-02 |
| | | Cs-137 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Be-7 | <1.35E-01 | 0.00E+00 | 1.35E-01 |
| | | K-40 | <5.89E-01 | 0.00E+00 | 5.89E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 284532 | 2/17/2014 - 2/24/2014 | I-131 | <2.03E-02 | 0.00E+00 | 2.03E-02 |
| | | Cs-134 | <1.88E-02 | 0.00E+00 | 1.88E-02 |
| | | Cs-137 | <2.07E-02 | 0.00E+00 | 2.07E-02 |
| | | Be-7 | <1.46E-01 | 0.00E+00 | 1.46E-01 |
| | | K-40 | <5.93E-01 | 0.00E+00 | 5.93E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 285093 | 2/24/2014 - 3/3/2014 | I-131 | <2.05E-02 | 0.00E+00 | 2.05E-02 |
| | | Cs-134 | <2.01E-02 | 0.00E+00 | 2.01E-02 |
| | | Cs-137 | <1.93E-02 | 0.00E+00 | 1.93E-02 |
| | | Be-7 | <1.08E-01 | 0.00E+00 | 1.08E-01 |
| | | K-40 | 2.07E-01 | 1.34E-01 | 3.19E-01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 285698 | 3/3/2014 - 3/10/2014 | I-131 | <2.28E-02 | 0.00E+00 | 2.28E-02 |
| | | Cs-134 | <2.06E-02 | 0.00E+00 | 2.06E-02 |
| | | Cs-137 | <1.66E-02 | 0.00E+00 | 1.66E-02 |
| | | Be-7 | <1.42E-01 | 0.00E+00 | 1.42E-01 |
| | | K-40 | <5.35E-01 | 0.00E+00 | 5.35E-01 |
| 286202 | 3/10/2014 - 3/17/2014 | I-131 | <1.88E-02 | 0.00E+00 | 1.88E-02 |
| | | Cs-134 | <1.72E-02 | 0.00E+00 | 1.72E-02 |
| | | Cs-137 | <2.22E-02 | 0.00E+00 | 2.22E-02 |
| | | Be-7 | <1.42E-01 | 0.00E+00 | 1.42E-01 |
| | | K-40 | 2.86E-01 | 1.34E-01 | 3.11E-01 |
| 287087 | 3/17/2014 - 3/24/2014 | I-131 | <1.21E-02 | 0.00E+00 | 1.21E-02 |
| | | Cs-134 | <7.18E-03 | 0.00E+00 | 7.18E-03 |
| | | Cs-137 | <2.98E-03 | 0.00E+00 | 2.98E-03 |
| | | Be-7 | <7.52E-02 | 0.00E+00 | 7.52E-02 |
| | | K-40 | 3.78E-01 | 1.11E-01 | 1.81E-01 |
| 288338 | 3/24/2014 - 3/31/2014 | I-131 | <2.94E-02 | 0.00E+00 | 2.94E-02 |
| | | Cs-134 | <1.44E-02 | 0.00E+00 | 1.44E-02 |
| | | Cs-137 | <2.30E-02 | 0.00E+00 | 2.30E-02 |
| | | Be-7 | <1.25E-01 | 0.00E+00 | 1.25E-01 |
| | | K-40 | 6.88E-01 | 1.40E-01 | 7.74E-02 |
| 289062 | 3/31/2014 - 4/7/2014 | I-131 | <2.31E-02 | 0.00E+00 | 2.31E-02 |
| | | Cs-134 | <1.66E-02 | 0.00E+00 | 1.66E-02 |
| | | Cs-137 | <1.66E-02 | 0.00E+00 | 1.66E-02 |
| | | Be-7 | <1.54E-01 | 0.00E+00 | 1.54E-01 |
| | | K-40 | <5.17E-01 | 0.00E+00 | 5.17E-01 |
| 289448 | 4/7/2014 - 4/14/2014 | I-131 | <2.14E-02 | 0.00E+00 | 2.14E-02 |
| | | Cs-134 | <1.71E-02 | 0.00E+00 | 1.71E-02 |
| | | Cs-137 | <1.22E-02 | 0.00E+00 | 1.22E-02 |
| | | Be-7 | <1.35E-01 | 0.00E+00 | 1.35E-01 |
| | | K-40 | 4.58E-01 | 1.14E-01 | 2.06E-01 |
| 289858 | 4/14/2014 - 4/21/2014 | I-131 | <2.32E-02 | 0.00E+00 | 2.32E-02 |
| | | Cs-134 | <2.08E-02 | 0.00E+00 | 2.08E-02 |
| | | Cs-137 | <1.99E-02 | 0.00E+00 | 1.99E-02 |
| | | Be-7 | <1.78E-01 | 0.00E+00 | 1.78E-01 |
| | | K-40 | <6.38E-01 | 0.00E+00 | 6.38E-01 |
| 291463 | 4/21/2014 - 4/28/2014 | I-131 | <2.35E-02 | 0.00E+00 | 2.35E-02 |
| | | Cs-134 | <1.88E-02 | 0.00E+00 | 1.88E-02 |
| | | Cs-137 | <2.00E-02 | 0.00E+00 | 2.00E-02 |
| | | Be-7 | <1.71E-01 | 0.00E+00 | 1.71E-01 |
| | | K-40 | 3.44E-01 | 1.25E-01 | 2.16E-01 |
| 292757 | 4/28/2014 - 5/5/2014 | I-131 | <2.32E-02 | 0.00E+00 | 2.32E-02 |
| | | Cs-134 | <1.75E-02 | 0.00E+00 | 1.75E-02 |
| | | Cs-137 | <4.46E-03 | 0.00E+00 | 4.46E-03 |
| | | Be-7 | <1.37E-01 | 0.00E+00 | 1.37E-01 |
| | | K-40 | 3.23E-01 | 1.28E-01 | 2.12E-01 |
| 293019 | 5/5/2014 - 5/12/2014 | I-131 | <1.32E-02 | 0.00E+00 | 1.32E-02 |
| | | Cs-134 | <1.26E-02 | 0.00E+00 | 1.26E-02 |
| | | Cs-137 | <1.34E-02 | 0.00E+00 | 1.34E-02 |
| | | Be-7 | <8.15E-02 | 0.00E+00 | 8.15E-02 |
| | | K-40 | 2.88E-01 | 9.23E-02 | 1.84E-01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 294650 | 5/12/2014 - 5/19/2014 | I-131 | <1.64E-02 | 0.00E+00 | 1.64E-02 |
| | | Cs-134 | <1.41E-02 | 0.00E+00 | 1.41E-02 |
| | | Cs-137 | <2.33E-02 | 0.00E+00 | 2.33E-02 |
| | | Be-7 | <1.62E-01 | 0.00E+00 | 1.62E-01 |
| | | K-40 | <4.74E-01 | 0.00E+00 | 4.74E-01 |
| 295159 | 5/19/2014 - 5/27/2014 | I-131 | <1.97E-02 | 0.00E+00 | 1.97E-02 |
| | | Cs-134 | <1.75E-02 | 0.00E+00 | 1.75E-02 |
| | | Cs-137 | <1.95E-02 | 0.00E+00 | 1.95E-02 |
| | | Be-7 | <1.29E-01 | 0.00E+00 | 1.29E-01 |
| | | K-40 | 5.74E-01 | 1.20E-01 | 1.88E-01 |
| 295420 | 5/27/2014 - 6/2/2014 | I-131 | <2.63E-02 | 0.00E+00 | 2.63E-02 |
| | | Cs-134 | <1.91E-02 | 0.00E+00 | 1.91E-02 |
| | | Cs-137 | <2.54E-02 | 0.00E+00 | 2.54E-02 |
| | | Be-7 | <1.89E-01 | 0.00E+00 | 1.89E-01 |
| | | K-40 | 6.65E-01 | 1.49E-01 | 3.01E-01 |
| 295935 | 6/2/2014 - 6/9/2014 | I-131 | <2.44E-02 | 0.00E+00 | 2.44E-02 |
| | | Cs-134 | <1.75E-02 | 0.00E+00 | 1.75E-02 |
| | | Cs-137 | <2.33E-02 | 0.00E+00 | 2.33E-02 |
| | | Be-7 | <1.59E-01 | 0.00E+00 | 1.59E-01 |
| | | K-40 | 6.89E-01 | 1.41E-01 | 7.76E-02 |
| 296180 | 6/9/2014 - 6/16/2014 | I-131 | <1.86E-02 | 0.00E+00 | 1.86E-02 |
| | | Cs-134 | <1.49E-02 | 0.00E+00 | 1.49E-02 |
| | | Cs-137 | <4.48E-03 | 0.00E+00 | 4.48E-03 |
| | | Be-7 | <1.32E-01 | 0.00E+00 | 1.32E-01 |
| | | K-40 | <5.40E-01 | 0.00E+00 | 5.40E-01 |
| 296701 | 6/16/2014 - 6/23/2014 | I-131 | <2.13E-02 | 0.00E+00 | 2.13E-02 |
| | | Cs-134 | <1.43E-02 | 0.00E+00 | 1.43E-02 |
| | | Cs-137 | <2.99E-02 | 0.00E+00 | 2.99E-02 |
| | | Be-7 | <1.63E-01 | 0.00E+00 | 1.63E-01 |
| | | K-40 | 6.85E-01 | 1.40E-01 | 2.60E-01 |
| 296928 | 6/23/2014 - 6/30/2014 | I-131 | <2.13E-02 | 0.00E+00 | 2.13E-02 |
| | | Cs-134 | <2.07E-02 | 0.00E+00 | 2.07E-02 |
| | | Cs-137 | <1.47E-02 | 0.00E+00 | 1.47E-02 |
| | | Be-7 | <1.80E-01 | 0.00E+00 | 1.80E-01 |
| | | K-40 | <6.29E-01 | 0.00E+00 | 6.29E-01 |
| 297325 | 6/30/2014 - 7/7/2014 | I-131 | <2.54E-02 | 0.00E+00 | 2.54E-02 |
| | | Cs-134 | <1.73E-02 | 0.00E+00 | 1.73E-02 |
| | | Cs-137 | <1.80E-02 | 0.00E+00 | 1.80E-02 |
| | | Be-7 | <1.46E-01 | 0.00E+00 | 1.46E-01 |
| | | K-40 | 3.47E-01 | 1.22E-01 | 7.74E-02 |
| 297613 | 7/7/2014 - 7/14/2014 | I-131 | <3.32E-02 | 0.00E+00 | 3.32E-02 |
| | | Cs-134 | <1.66E-02 | 0.00E+00 | 1.66E-02 |
| | | Cs-137 | <1.94E-02 | 0.00E+00 | 1.94E-02 |
| | | Be-7 | <1.15E-01 | 0.00E+00 | 1.15E-01 |
| | | K-40 | 3.47E-01 | 2.13E-01 | 2.37E-01 |
| 298149 | 7/14/2014 - 7/21/2014 | I-131 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Cs-134 | <1.85E-02 | 0.00E+00 | 1.85E-02 |
| | | Cs-137 | <4.77E-03 | 0.00E+00 | 4.77E-03 |
| | | Be-7 | <1.38E-01 | 0.00E+00 | 1.38E-01 |
| | | K-40 | 3.97E-01 | 2.54E-01 | 2.90E-01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 350503 | 7/21/2014 - 7/28/2014 | I-131 | <2.09E-02 | 0.00E+00 | 2.09E-02 |
| | | Cs-134 | <1.70E-02 | 0.00E+00 | 1.70E-02 |
| | | Cs-137 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Be-7 | <1.05E-01 | 0.00E+00 | 1.05E-01 |
| | | K-40 | <6.34E-01 | 0.00E+00 | 6.34E-01 |
| 350974 | 7/28/2014 - 8/4/2014 | I-131 | <2.27E-02 | 0.00E+00 | 2.27E-02 |
| | | Cs-134 | <1.52E-02 | 0.00E+00 | 1.52E-02 |
| | | Cs-137 | <1.64E-02 | 0.00E+00 | 1.64E-02 |
| | | Be-7 | <1.33E-01 | 0.00E+00 | 1.33E-01 |
| | | K-40 | <5.82E-01 | 0.00E+00 | 5.82E-01 |
| 351195 | 8/4/2014 - 8/11/2014 | I-131 | <1.03E-02 | 0.00E+00 | 1.03E-02 |
| | | Cs-134 | <1.95E-02 | 0.00E+00 | 1.95E-02 |
| | | Cs-137 | <1.63E-02 | 0.00E+00 | 1.63E-02 |
| | | Be-7 | <1.01E-01 | 0.00E+00 | 1.01E-01 |
| | | K-40 | 5.82E-01 | 2.99E-01 | 3.03E-01 |
| 351601 | 8/11/2014 - 8/18/2014 | I-131 | <2.11E-02 | 0.00E+00 | 2.11E-02 |
| | | Cs-134 | <1.31E-02 | 0.00E+00 | 1.31E-02 |
| | | Cs-137 | <2.31E-02 | 0.00E+00 | 2.31E-02 |
| | | Be-7 | <1.19E-01 | 0.00E+00 | 1.19E-01 |
| | | K-40 | 5.05E-01 | 2.49E-01 | 8.05E-02 |
| 353415 | 8/18/2014 - 8/25/2014 | I-131 | <2.10E-02 | 0.00E+00 | 2.10E-02 |
| | | Cs-134 | <2.77E-02 | 0.00E+00 | 2.77E-02 |
| | | Cs-137 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Be-7 | <1.43E-01 | 0.00E+00 | 1.43E-01 |
| | | K-40 | 5.65E-01 | 2.64E-01 | 8.06E-02 |
| 354038 | 8/25/2014 - 9/2/2014 | I-131 | <1.56E-02 | 0.00E+00 | 1.56E-02 |
| | | Cs-134 | <1.99E-02 | 0.00E+00 | 1.99E-02 |
| | | Cs-137 | <1.43E-02 | 0.00E+00 | 1.43E-02 |
| | | Be-7 | <1.44E-01 | 0.00E+00 | 1.44E-01 |
| | | K-40 | 3.77E-01 | 2.26E-01 | 2.40E-01 |
| 354432 | 9/2/2014 - 9/8/2014 | I-131 | <2.21E-02 | 0.00E+00 | 2.21E-02 |
| | | Cs-134 | <2.64E-02 | 0.00E+00 | 2.64E-02 |
| | | Cs-137 | <1.51E-02 | 0.00E+00 | 1.51E-02 |
| | | Be-7 | <1.65E-01 | 0.00E+00 | 1.65E-01 |
| | | K-40 | 4.81E-01 | 2.82E-01 | 2.70E-01 |
| 354753 | 9/8/2014 - 9/15/2014 | I-131 | <1.61E-02 | 0.00E+00 | 1.61E-02 |
| | | Cs-134 | <1.56E-02 | 0.00E+00 | 1.56E-02 |
| | | Cs-137 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Be-7 | <1.02E-01 | 0.00E+00 | 1.02E-01 |
| | | K-40 | <6.53E-01 | 0.00E+00 | 6.53E-01 |
| 355137 | 9/15/2014 - 9/22/2014 | I-131 | <3.94E-03 | 0.00E+00 | 3.94E-03 |
| | | Cs-134 | <1.94E-02 | 0.00E+00 | 1.94E-02 |
| | | Cs-137 | <1.59E-02 | 0.00E+00 | 1.59E-02 |
| | | Be-7 | <1.29E-01 | 0.00E+00 | 1.29E-01 |
| | | K-40 | 4.31E-01 | 2.84E-01 | 3.61E-01 |
| 355624 | 9/22/2014 - 9/29/2014 | I-131 | <2.25E-02 | 0.00E+00 | 2.25E-02 |
| | | Cs-134 | <1.31E-02 | 0.00E+00 | 1.31E-02 |
| | | Cs-137 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Be-7 | <8.11E-02 | 0.00E+00 | 8.11E-02 |
| | | K-40 | <6.69E-01 | 0.00E+00 | 6.69E-01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 356478 | 9/29/2014 - 10/6/2014 | I-131 | <2.10E-02 | 0.00E+00 | 2.10E-02 |
| | | Cs-134 | <1.31E-02 | 0.00E+00 | 1.31E-02 |
| | | Cs-137 | <2.30E-02 | 0.00E+00 | 2.30E-02 |
| | | Be-7 | <1.32E-01 | 0.00E+00 | 1.32E-01 |
| | | K-40 | 6.70E-01 | 3.08E-01 | 2.63E-01 |
| 357028 | 10/6/2014 - 10/13/2014 | I-131 | <1.83E-02 | 0.00E+00 | 1.83E-02 |
| | | Cs-134 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Cs-137 | <1.90E-02 | 0.00E+00 | 1.90E-02 |
| | | Be-7 | <1.19E-01 | 0.00E+00 | 1.19E-01 |
| | | K-40 | 6.54E-01 | 2.84E-01 | 8.05E-02 |
| 358036 | 10/13/2014 - 10/20/2014 | I-131 | <2.53E-02 | 0.00E+00 | 2.53E-02 |
| | | Cs-134 | <1.52E-02 | 0.00E+00 | 1.52E-02 |
| | | Cs-137 | <1.63E-02 | 0.00E+00 | 1.63E-02 |
| | | Be-7 | <1.01E-01 | 0.00E+00 | 1.01E-01 |
| | | K-40 | <5.79E-01 | 0.00E+00 | 5.79E-01 |
| 358646 | 10/20/2014 - 10/27/2014 | I-131 | <1.85E-02 | 0.00E+00 | 1.85E-02 |
| | | Cs-134 | <1.04E-02 | 0.00E+00 | 1.04E-02 |
| | | Cs-137 | <1.30E-02 | 0.00E+00 | 1.30E-02 |
| | | Be-7 | <1.54E-01 | 0.00E+00 | 1.54E-01 |
| | | K-40 | 3.01E-01 | 2.07E-01 | 2.12E-01 |
| 359314 | 10/27/2014 - 11/3/2014 | I-131 | <1.78E-02 | 0.00E+00 | 1.78E-02 |
| | | Cs-134 | <1.30E-02 | 0.00E+00 | 1.30E-02 |
| | | Cs-137 | <1.63E-02 | 0.00E+00 | 1.63E-02 |
| | | Be-7 | <1.18E-01 | 0.00E+00 | 1.18E-01 |
| | | K-40 | <5.57E-01 | 0.00E+00 | 5.57E-01 |
| 360015 | 11/3/2014 - 11/10/2014 | I-131 | <3.26E-02 | 0.00E+00 | 3.26E-02 |
| | | Cs-134 | <1.53E-02 | 0.00E+00 | 1.53E-02 |
| | | Cs-137 | <2.13E-02 | 0.00E+00 | 2.13E-02 |
| | | Be-7 | <1.60E-01 | 0.00E+00 | 1.60E-01 |
| | | K-40 | 5.77E-01 | 3.06E-01 | 3.26E-01 |
| 360700 | 11/10/2014 - 11/17/2014 | I-131 | <1.52E-02 | 0.00E+00 | 1.52E-02 |
| | | Cs-134 | <1.70E-02 | 0.00E+00 | 1.70E-02 |
| | | Cs-137 | <1.90E-02 | 0.00E+00 | 1.90E-02 |
| | | Be-7 | <1.31E-01 | 0.00E+00 | 1.31E-01 |
| | | K-40 | 5.72E-01 | 2.97E-01 | 3.01E-01 |
| 361564 | 11/17/2014 - 11/24/2014 | I-131 | <1.97E-02 | 0.00E+00 | 1.97E-02 |
| | | Cs-134 | <1.31E-02 | 0.00E+00 | 1.31E-02 |
| | | Cs-137 | <1.30E-02 | 0.00E+00 | 1.30E-02 |
| | | Be-7 | <1.43E-01 | 0.00E+00 | 1.43E-01 |
| | | K-40 | <6.00E-01 | 0.00E+00 | 5.99E-01 |
| 361944 | 11/24/2014 - 12/1/2014 | I-131 | <3.20E-02 | 0.00E+00 | 3.20E-02 |
| | | Cs-134 | <1.19E-02 | 0.00E+00 | 1.19E-02 |
| | | Cs-137 | <1.28E-02 | 0.00E+00 | 1.28E-02 |
| | | Be-7 | <1.22E-01 | 0.00E+00 | 1.22E-01 |
| | | K-40 | 4.81E-01 | 2.53E-01 | 2.73E-01 |
| 362768 | 12/1/2014 - 12/8/2014 | I-131 | <1.52E-02 | 0.00E+00 | 1.52E-02 |
| | | Cs-134 | <8.57E-03 | 0.00E+00 | 8.57E-03 |
| | | Cs-137 | <9.32E-03 | 0.00E+00 | 9.32E-03 |
| | | Be-7 | <8.40E-02 | 0.00E+00 | 8.40E-02 |
| | | K-40 | 4.06E-01 | 1.46E-01 | 3.34E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|------------------------|---------|-----------|--------------------------|----------|
| 363511 | 12/8/2014 - 12/15/2014 | I-131 | <9.15E-03 | 0.00E+00 | 9.15E-03 |
| | | Cs-134 | <8.28E-03 | 0.00E+00 | 8.28E-03 |
| | | Cs-137 | <1.43E-02 | 0.00E+00 | 1.43E-02 |
| | | Be-7 | <7.16E-02 | 0.00E+00 | 7.16E-02 |
| | | K-40 | 4.98E-01 | 1.88E-01 | 1.58E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 363960 | 12/15/2014 - 12/22/2014 | I-131 | <1.08E-02 | 0.00E+00 | 1.08E-02 |
| | | Cs-134 | <1.20E-02 | 0.00E+00 | 1.20E-02 |
| | | Cs-137 | <1.36E-02 | 0.00E+00 | 1.36E-02 |
| | | Be-7 | <7.08E-02 | 0.00E+00 | 7.08E-02 |
| | | K-40 | 2.94E-01 | 1.97E-01 | 2.80E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 364494 | 12/22/2014 - 12/29/2014 | I-131 | <3.14E-02 | 0.00E+00 | 3.14E-02 |
| | | Cs-134 | <1.26E-02 | 0.00E+00 | 1.26E-02 |
| | | Cs-137 | <1.32E-02 | 0.00E+00 | 1.32E-02 |
| | | Be-7 | <1.23E-01 | 0.00E+00 | 1.23E-01 |
| | | K-40 | 6.37E-01 | 2.36E-01 | 1.92E-01 |

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 280631 | 12/30/2013 - 1/6/2014 | I-131 | <2.87E-02 | 0.00E+00 | 2.87E-02 |
| | | Cs-134 | <1.96E-02 | 0.00E+00 | 1.96E-02 |
| | | Cs-137 | <1.64E-02 | 0.00E+00 | 1.64E-02 |
| | | Be-7 | <1.84E-01 | 0.00E+00 | 1.84E-01 |
| | | K-40 | <5.86E-01 | 0.00E+00 | 5.86E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 280804 | 1/6/2014 - 1/13/2014 | I-131 | <1.85E-02 | 0.00E+00 | 1.85E-02 |
| | | Cs-134 | <1.45E-02 | 0.00E+00 | 1.45E-02 |
| | | Cs-137 | <2.00E-02 | 0.00E+00 | 2.00E-02 |
| | | Be-7 | <1.61E-01 | 0.00E+00 | 1.61E-01 |
| | | K-40 | 3.86E-01 | 1.37E-01 | 3.23E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 281163 | 1/13/2014 - 1/20/2014 | I-131 | <2.56E-02 | 0.00E+00 | 2.56E-02 |
| | | Cs-134 | <1.87E-02 | 0.00E+00 | 1.87E-02 |
| | | Cs-137 | <1.89E-02 | 0.00E+00 | 1.89E-02 |
| | | Be-7 | <1.64E-01 | 0.00E+00 | 1.64E-01 |
| | | K-40 | 4.58E-01 | 1.14E-01 | 3.01E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 281484 | 1/20/2014 - 1/27/2014 | I-131 | <1.18E-02 | 0.00E+00 | 1.18E-02 |
| | | Cs-134 | <9.33E-03 | 0.00E+00 | 9.33E-03 |
| | | Cs-137 | <9.71E-03 | 0.00E+00 | 9.71E-03 |
| | | Be-7 | <5.90E-02 | 0.00E+00 | 5.90E-02 |
| | | K-40 | 4.87E-01 | 8.33E-02 | 1.00E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 282107 | 1/27/2014 - 2/3/2014 | I-131 | <2.74E-02 | 0.00E+00 | 2.74E-02 |
| | | Cs-134 | <2.08E-02 | 0.00E+00 | 2.08E-02 |
| | | Cs-137 | <2.39E-02 | 0.00E+00 | 2.39E-02 |
| | | Be-7 | <9.54E-02 | 0.00E+00 | 9.54E-02 |
| | | K-40 | <5.32E-01 | 0.00E+00 | 5.32E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 282919 | 2/3/2014 - 2/10/2014 | I-131 | <9.72E-03 | 0.00E+00 | 9.72E-03 |
| | | Cs-134 | <1.26E-02 | 0.00E+00 | 1.26E-02 |
| | | Cs-137 | <1.23E-02 | 0.00E+00 | 1.23E-02 |
| | | Be-7 | <8.38E-02 | 0.00E+00 | 8.38E-02 |
| | | K-40 | <4.64E-01 | 0.00E+00 | 4.64E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 283366 | 2/10/2014 - 2/17/2014 | I-131 | <1.02E-02 | 0.00E+00 | 1.02E-02 |
| | | Cs-134 | <7.97E-03 | 0.00E+00 | 7.97E-03 |
| | | Cs-137 | <8.97E-03 | 0.00E+00 | 8.97E-03 |
| | | Be-7 | <6.90E-02 | 0.00E+00 | 6.90E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 283366 | 2/10/2014 - 2/17/2014 | K-40 | 6.54E-01 | 8.82E-02 | 3.21E-02 |
| 284533 | 2/17/2014 - 2/24/2014 | I-131 | <2.50E-02 | 0.00E+00 | 2.50E-02 |
| | | Cs-134 | <1.75E-02 | 0.00E+00 | 1.75E-02 |
| | | Cs-137 | <2.37E-02 | 0.00E+00 | 2.37E-02 |
| | | Be-7 | <1.20E-01 | 0.00E+00 | 1.20E-01 |
| | | K-40 | 5.73E-01 | 1.28E-01 | 2.73E-01 |
| 285094 | 2/24/2014 - 3/3/2014 | I-131 | <1.96E-02 | 0.00E+00 | 1.96E-02 |
| | | Cs-134 | <1.74E-02 | 0.00E+00 | 1.74E-02 |
| | | Cs-137 | <2.39E-02 | 0.00E+00 | 2.39E-02 |
| | | Be-7 | <1.10E-01 | 0.00E+00 | 1.10E-01 |
| | | K-40 | 2.50E-01 | 1.13E-01 | 2.70E-01 |
| 285699 | 3/3/2014 - 3/10/2014 | I-131 | <1.07E-02 | 0.00E+00 | 1.07E-02 |
| | | Cs-134 | <8.62E-03 | 0.00E+00 | 8.62E-03 |
| | | Cs-137 | <6.91E-03 | 0.00E+00 | 6.91E-03 |
| | | Be-7 | <5.86E-02 | 0.00E+00 | 5.86E-02 |
| | | K-40 | 5.44E-01 | 8.86E-02 | 1.08E-01 |
| 286203 | 3/10/2014 - 3/17/2014 | I-131 | <1.78E-02 | 0.00E+00 | 1.78E-02 |
| | | Cs-134 | <1.65E-02 | 0.00E+00 | 1.65E-02 |
| | | Cs-137 | <2.05E-02 | 0.00E+00 | 2.05E-02 |
| | | Be-7 | <1.49E-01 | 0.00E+00 | 1.49E-01 |
| | | K-40 | <6.07E-01 | 0.00E+00 | 6.07E-01 |
| 287088 | 3/17/2014 - 3/24/2014 | I-131 | <7.44E-03 | 0.00E+00 | 7.44E-03 |
| | | Cs-134 | <9.98E-03 | 0.00E+00 | 9.98E-03 |
| | | Cs-137 | <1.01E-02 | 0.00E+00 | 1.01E-02 |
| | | Be-7 | <7.13E-02 | 0.00E+00 | 7.13E-02 |
| | | K-40 | 5.24E-01 | 8.51E-02 | 1.25E-01 |
| 288339 | 3/24/2014 - 3/31/2014 | I-131 | <1.49E-02 | 0.00E+00 | 1.49E-02 |
| | | Cs-134 | <2.38E-02 | 0.00E+00 | 2.38E-02 |
| | | Cs-137 | <1.77E-02 | 0.00E+00 | 1.77E-02 |
| | | Be-7 | <1.47E-01 | 0.00E+00 | 1.47E-01 |
| | | K-40 | 4.29E-01 | 1.43E-01 | 2.48E-01 |
| 289063 | 3/31/2014 - 4/7/2014 | I-131 | <1.53E-02 | 0.00E+00 | 1.53E-02 |
| | | Cs-134 | <1.44E-02 | 0.00E+00 | 1.44E-02 |
| | | Cs-137 | <1.81E-02 | 0.00E+00 | 1.81E-02 |
| | | Be-7 | <1.19E-01 | 0.00E+00 | 1.19E-01 |
| | | K-40 | 4.84E-01 | 1.08E-01 | 6.54E-02 |
| 289449 | 4/7/2014 - 4/14/2014 | I-131 | <1.31E-02 | 0.00E+00 | 1.31E-02 |
| | | Cs-134 | <1.88E-02 | 0.00E+00 | 1.88E-02 |
| | | Cs-137 | <1.23E-02 | 0.00E+00 | 1.23E-02 |
| | | Be-7 | <1.47E-01 | 0.00E+00 | 1.47E-01 |
| | | K-40 | 3.44E-01 | 9.92E-02 | 3.00E-01 |
| 289859 | 4/14/2014 - 4/21/2014 | I-131 | <2.36E-02 | 0.00E+00 | 2.36E-02 |
| | | Cs-134 | <2.27E-02 | 0.00E+00 | 2.27E-02 |
| | | Cs-137 | <2.73E-02 | 0.00E+00 | 2.73E-02 |
| | | Be-7 | <1.65E-01 | 0.00E+00 | 1.65E-01 |
| | | K-40 | 5.40E-01 | 1.24E-01 | 3.02E-01 |
| 291464 | 4/21/2014 - 4/28/2014 | I-131 | <1.95E-02 | 0.00E+00 | 1.95E-02 |
| | | Cs-134 | <1.71E-02 | 0.00E+00 | 1.71E-02 |
| | | Cs-137 | <2.76E-02 | 0.00E+00 | 2.76E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 291464 | 4/21/2014 - 4/28/2014 | Be-7 | <1.53E-01 | 0.00E+00 | 1.53E-01 |
| | | K-40 | 5.10E-01 | 1.20E-01 | 7.66E-02 |
| 292758 | 4/28/2014 - 5/5/2014 | I-131 | <1.09E-02 | 0.00E+00 | 1.09E-02 |
| | | Cs-134 | <8.73E-03 | 0.00E+00 | 8.73E-03 |
| | | Cs-137 | <9.52E-03 | 0.00E+00 | 9.52E-03 |
| | | Be-7 | <5.64E-02 | 0.00E+00 | 5.64E-02 |
| | | K-40 | 4.58E-01 | 8.21E-02 | 1.07E-01 |
| 293020 | 5/5/2014 - 5/12/2014 | I-131 | <1.46E-02 | 0.00E+00 | 1.46E-02 |
| | | Cs-134 | <7.14E-03 | 0.00E+00 | 7.14E-03 |
| | | Cs-137 | <1.04E-02 | 0.00E+00 | 1.04E-02 |
| | | Be-7 | <9.60E-02 | 0.00E+00 | 9.60E-02 |
| | | K-40 | <4.65E-01 | 0.00E+00 | 4.65E-01 |
| 294651 | 5/12/2014 - 5/19/2014 | I-131 | <1.62E-02 | 0.00E+00 | 1.62E-02 |
| | | Cs-134 | <1.85E-02 | 0.00E+00 | 1.85E-02 |
| | | Cs-137 | <1.57E-02 | 0.00E+00 | 1.57E-02 |
| | | Be-7 | <7.53E-02 | 0.00E+00 | 7.53E-02 |
| | | K-40 | 4.35E-01 | 1.40E-01 | 7.69E-02 |
| 295160 | 5/19/2014 - 5/27/2014 | I-131 | <2.05E-02 | 0.00E+00 | 2.05E-02 |
| | | Cs-134 | <1.75E-02 | 0.00E+00 | 1.75E-02 |
| | | Cs-137 | <1.34E-02 | 0.00E+00 | 1.34E-02 |
| | | Be-7 | <8.77E-02 | 0.00E+00 | 8.77E-02 |
| | | K-40 | 4.20E-01 | 1.02E-01 | 1.86E-01 |
| 295421 | 5/27/2014 - 6/2/2014 | I-131 | <2.53E-02 | 0.00E+00 | 2.53E-02 |
| | | Cs-134 | <2.05E-02 | 0.00E+00 | 2.05E-02 |
| | | Cs-137 | <2.47E-02 | 0.00E+00 | 2.47E-02 |
| | | Be-7 | <1.89E-01 | 0.00E+00 | 1.89E-01 |
| | | K-40 | <6.96E-01 | 0.00E+00 | 6.96E-01 |
| 295936 | 6/2/2014 - 6/9/2014 | I-131 | <1.69E-02 | 0.00E+00 | 1.69E-02 |
| | | Cs-134 | <9.84E-03 | 0.00E+00 | 9.84E-03 |
| | | Cs-137 | <2.01E-02 | 0.00E+00 | 2.01E-02 |
| | | Be-7 | <1.20E-01 | 0.00E+00 | 1.20E-01 |
| | | K-40 | <5.41E-01 | 0.00E+00 | 5.41E-01 |
| 296181 | 6/9/2014 - 6/16/2014 | I-131 | <2.45E-02 | 0.00E+00 | 2.45E-02 |
| | | Cs-134 | <1.45E-02 | 0.00E+00 | 1.45E-02 |
| | | Cs-137 | <1.67E-02 | 0.00E+00 | 1.67E-02 |
| | | Be-7 | <1.54E-01 | 0.00E+00 | 1.54E-01 |
| | | K-40 | 2.99E-01 | 1.21E-01 | 3.52E-01 |
| 296702 | 6/16/2014 - 6/23/2014 | I-131 | <2.06E-02 | 0.00E+00 | 2.06E-02 |
| | | Cs-134 | <1.58E-02 | 0.00E+00 | 1.58E-02 |
| | | Cs-137 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Be-7 | <1.25E-01 | 0.00E+00 | 1.25E-01 |
| | | K-40 | 2.86E-01 | 1.38E-01 | 7.62E-02 |
| 296929 | 6/23/2014 - 6/30/2014 | I-131 | <1.66E-02 | 0.00E+00 | 1.66E-02 |
| | | Cs-134 | <1.18E-02 | 0.00E+00 | 1.18E-02 |
| | | Cs-137 | <1.30E-02 | 0.00E+00 | 1.30E-02 |
| | | Be-7 | <1.14E-01 | 0.00E+00 | 1.14E-01 |
| | | K-40 | 3.75E-01 | 1.14E-01 | 6.43E-02 |
| 297326 | 6/30/2014 - 7/7/2014 | I-131 | <2.00E-02 | 0.00E+00 | 2.00E-02 |
| | | Cs-134 | <1.40E-02 | 0.00E+00 | 1.40E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 297326 | 6/30/2014 - 7/7/2014 | Cs-137 | <2.18E-02 | 0.00E+00 | 2.18E-02 |
| | | Be-7 | <1.78E-01 | 0.00E+00 | 1.78E-01 |
| | | K-40 | 5.14E-01 | 1.21E-01 | 2.59E-01 |
| | | | | | |
| 297614 | 7/7/2014 - 7/14/2014 | I-131 | <2.54E-02 | 0.00E+00 | 2.54E-02 |
| | | Cs-134 | <9.78E-03 | 0.00E+00 | 9.78E-03 |
| | | Cs-137 | <1.29E-02 | 0.00E+00 | 1.29E-02 |
| | | Be-7 | <1.16E-01 | 0.00E+00 | 1.16E-01 |
| | | K-40 | 3.98E-01 | 1.54E-01 | 3.85E-02 |
| 298150 | 7/14/2014 - 7/21/2014 | I-131 | <2.75E-02 | 0.00E+00 | 2.75E-02 |
| | | Cs-134 | <1.84E-02 | 0.00E+00 | 1.84E-02 |
| | | Cs-137 | <1.62E-02 | 0.00E+00 | 1.62E-02 |
| | | Be-7 | <1.36E-01 | 0.00E+00 | 1.36E-01 |
| | | K-40 | 2.94E-01 | 1.88E-01 | 7.97E-02 |
| 350504 | 7/21/2014 - 7/28/2014 | I-131 | <2.47E-02 | 0.00E+00 | 2.47E-02 |
| | | Cs-134 | <1.54E-02 | 0.00E+00 | 1.54E-02 |
| | | Cs-137 | <1.31E-02 | 0.00E+00 | 1.31E-02 |
| | | Be-7 | <1.22E-01 | 0.00E+00 | 1.22E-01 |
| | | K-40 | 2.64E-01 | 2.07E-01 | 2.50E-01 |
| 350975 | 7/28/2014 - 8/4/2014 | I-131 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Cs-134 | <1.70E-02 | 0.00E+00 | 1.70E-02 |
| | | Cs-137 | <1.90E-02 | 0.00E+00 | 1.90E-02 |
| | | Be-7 | <8.11E-02 | 0.00E+00 | 8.11E-02 |
| | | K-40 | 4.69E-01 | 2.99E-01 | 3.76E-01 |
| 351196 | 8/4/2014 - 8/11/2014 | I-131 | <1.17E-02 | 0.00E+00 | 1.17E-02 |
| | | Cs-134 | <9.57E-03 | 0.00E+00 | 9.57E-03 |
| | | Cs-137 | <1.20E-02 | 0.00E+00 | 1.20E-02 |
| | | Be-7 | <5.15E-02 | 0.00E+00 | 5.15E-02 |
| | | K-40 | 5.21E-01 | 1.75E-01 | 1.28E-01 |
| 351602 | 8/11/2014 - 8/18/2014 | I-131 | <2.34E-02 | 0.00E+00 | 2.34E-02 |
| | | Cs-134 | <1.51E-02 | 0.00E+00 | 1.51E-02 |
| | | Cs-137 | <1.62E-02 | 0.00E+00 | 1.62E-02 |
| | | Be-7 | <1.18E-01 | 0.00E+00 | 1.18E-01 |
| | | K-40 | 3.62E-01 | 3.07E-01 | 4.51E-01 |
| 353416 | 8/18/2014 - 8/25/2014 | I-131 | <2.23E-02 | 0.00E+00 | 2.23E-02 |
| | | Cs-134 | <2.79E-02 | 0.00E+00 | 2.79E-02 |
| | | Cs-137 | <2.14E-02 | 0.00E+00 | 2.14E-02 |
| | | Be-7 | <1.55E-01 | 0.00E+00 | 1.55E-01 |
| | | K-40 | 3.90E-01 | 2.75E-01 | 3.55E-01 |
| 354040 | 8/25/2014 - 9/2/2014 | I-131 | <1.39E-02 | 0.00E+00 | 1.39E-02 |
| | | Cs-134 | <1.71E-02 | 0.00E+00 | 1.71E-02 |
| | | Cs-137 | <1.43E-02 | 0.00E+00 | 1.43E-02 |
| | | Be-7 | <1.15E-01 | 0.00E+00 | 1.15E-01 |
| | | K-40 | 3.78E-01 | 2.24E-01 | 2.34E-01 |
| 354433 | 9/2/2014 - 9/8/2014 | I-131 | <2.21E-02 | 0.00E+00 | 2.21E-02 |
| | | Cs-134 | <1.81E-02 | 0.00E+00 | 1.81E-02 |
| | | Cs-137 | <1.91E-02 | 0.00E+00 | 1.91E-02 |
| | | Be-7 | <1.36E-01 | 0.00E+00 | 1.36E-01 |
| | | K-40 | 8.09E-01 | 3.72E-01 | 3.37E-01 |
| 354754 | 9/8/2014 - 9/15/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
| | | I-131 | <2.68E-02 | 0.00E+00 | 2.68E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 354754 | 9/8/2014 - 9/15/2014 | Cs-134 | <2.25E-02 | 0.00E+00 | 2.25E-02 |
| | | Cs-137 | <1.88E-02 | 0.00E+00 | 1.88E-02 |
| | | Be-7 | <1.31E-01 | 0.00E+00 | 1.31E-01 |
| | | K-40 | <7.09E-01 | 0.00E+00 | 7.09E-01 |
| | | | | | |
| 355139 | 9/15/2014 - 9/22/2014 | I-131 | <2.25E-02 | 0.00E+00 | 2.25E-02 |
| | | Cs-134 | <2.00E-02 | 0.00E+00 | 2.00E-02 |
| | | Cs-137 | <1.91E-02 | 0.00E+00 | 1.91E-02 |
| | | Be-7 | <8.15E-02 | 0.00E+00 | 8.15E-02 |
| | | K-40 | 4.06E-01 | 2.52E-01 | 2.73E-01 |
| 355625 | 9/22/2014 - 9/29/2014 | I-131 | <2.49E-02 | 0.00E+00 | 2.49E-02 |
| | | Cs-134 | <1.70E-02 | 0.00E+00 | 1.70E-02 |
| | | Cs-137 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Be-7 | <1.18E-01 | 0.00E+00 | 1.18E-01 |
| | | K-40 | 5.72E-01 | 2.97E-01 | 3.00E-01 |
| 356479 | 9/29/2014 - 10/6/2014 | I-131 | <2.23E-02 | 0.00E+00 | 2.23E-02 |
| | | Cs-134 | <1.85E-02 | 0.00E+00 | 1.85E-02 |
| | | Cs-137 | <2.31E-02 | 0.00E+00 | 2.31E-02 |
| | | Be-7 | <1.32E-01 | 0.00E+00 | 1.32E-01 |
| | | K-40 | <4.71E-01 | 0.00E+00 | 4.71E-01 |
| 357029 | 10/6/2014 - 10/13/2014 | I-131 | <2.38E-02 | 0.00E+00 | 2.38E-02 |
| | | Cs-134 | <1.83E-02 | 0.00E+00 | 1.83E-02 |
| | | Cs-137 | <2.28E-02 | 0.00E+00 | 2.28E-02 |
| | | Be-7 | <1.43E-01 | 0.00E+00 | 1.43E-01 |
| | | K-40 | 4.72E-01 | 2.53E-01 | 2.16E-01 |
| 358037 | 10/13/2014 - 10/20/2014 | I-131 | <1.99E-02 | 0.00E+00 | 1.99E-02 |
| | | Cs-134 | <1.33E-02 | 0.00E+00 | 1.33E-02 |
| | | Cs-137 | <1.66E-02 | 0.00E+00 | 1.66E-02 |
| | | Be-7 | <1.92E-01 | 0.00E+00 | 1.92E-01 |
| | | K-40 | 3.62E-01 | 2.11E-01 | 8.17E-02 |
| 358647 | 10/20/2014 - 10/27/2014 | I-131 | <1.85E-02 | 0.00E+00 | 1.85E-02 |
| | | Cs-134 | <1.69E-02 | 0.00E+00 | 1.69E-02 |
| | | Cs-137 | <1.64E-02 | 0.00E+00 | 1.64E-02 |
| | | Be-7 | <1.01E-01 | 0.00E+00 | 1.01E-01 |
| | | K-40 | <5.18E-01 | 0.00E+00 | 5.18E-01 |
| 359316 | 10/27/2014 - 11/3/2014 | I-131 | <1.59E-02 | 0.00E+00 | 1.59E-02 |
| | | Cs-134 | <1.68E-02 | 0.00E+00 | 1.68E-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 | 6.32E-01 | 3.83E-01 | 5.13E-01 |
| 360016 | 11/3/2014 - 11/10/2014 | I-131 | <4.28E-03 | 0.00E+00 | 4.28E-03 |
| | | Cs-134 | <3.00E-03 | 0.00E+00 | 3.00E-03 |
| | | Cs-137 | <3.58E-03 | 0.00E+00 | 3.58E-03 |
| | | Be-7 | <2.52E-02 | 0.00E+00 | 2.52E-02 |
| | | K-40 | 4.64E-01 | 7.70E-02 | 5.70E-02 |
| 360701 | 11/10/2014 - 11/17/2014 | I-131 | <2.26E-02 | 0.00E+00 | 2.26E-02 |
| | | Cs-134 | <3.86E-03 | 0.00E+00 | 3.86E-03 |
| | | Cs-137 | <1.92E-02 | 0.00E+00 | 1.92E-02 |
| | | Be-7 | <1.56E-01 | 0.00E+00 | 1.56E-01 |
| | | K-40 | 5.03E-01 | 2.71E-01 | 2.54E-01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 103 [INDICATOR - NE @ 4.2 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 361565 | 11/17/2014 - 11/24/2014 | I-131 | <1.50E-02 | 0.00E+00 | 1.50E-02 |
| | | Cs-134 | <1.31E-02 | 0.00E+00 | 1.31E-02 |
| | | Cs-137 | <2.32E-02 | 0.00E+00 | 2.32E-02 |
| | | Be-7 | <8.03E-02 | 0.00E+00 | 8.03E-02 |
| | | K-40 | 4.96E-01 | 2.86E-01 | 3.18E-01 |
| 361945 | 11/24/2014 - 12/1/2014 | I-131 | <3.19E-02 | 0.00E+00 | 3.19E-02 |
| | | Cs-134 | <1.19E-02 | 0.00E+00 | 1.19E-02 |
| | | Cs-137 | <1.65E-02 | 0.00E+00 | 1.65E-02 |
| | | Be-7 | <1.11E-01 | 0.00E+00 | 1.11E-01 |
| | | K-40 | <4.55E-01 | 0.00E+00 | 4.55E-01 |
| 362769 | 12/1/2014 - 12/8/2014 | I-131 | <1.91E-02 | 0.00E+00 | 1.91E-02 |
| | | Cs-134 | <8.03E-03 | 0.00E+00 | 8.03E-03 |
| | | Cs-137 | <1.27E-02 | 0.00E+00 | 1.27E-02 |
| | | Be-7 | <1.13E-01 | 0.00E+00 | 1.13E-01 |
| | | K-40 | 1.54E-01 | 1.92E-01 | 3.10E-01 |
| 363512 | 12/8/2014 - 12/15/2014 | I-131 | <1.01E-02 | 0.00E+00 | 1.01E-02 |
| | | Cs-134 | <6.48E-03 | 0.00E+00 | 6.48E-03 |
| | | Cs-137 | <1.30E-02 | 0.00E+00 | 1.30E-02 |
| | | Be-7 | <5.95E-02 | 0.00E+00 | 5.95E-02 |
| | | K-40 | 4.31E-01 | 2.22E-01 | 2.88E-01 |
| 363961 | 12/15/2014 - 12/22/2014 | I-131 | <1.93E-02 | 0.00E+00 | 1.93E-02 |
| | | Cs-134 | <1.33E-02 | 0.00E+00 | 1.33E-02 |
| | | Cs-137 | <2.04E-02 | 0.00E+00 | 2.04E-02 |
| | | Be-7 | <8.83E-02 | 0.00E+00 | 8.83E-02 |
| | | K-40 | 5.38E-01 | 2.45E-01 | 7.29E-02 |
| 364495 | 12/22/2014 - 12/29/2014 | I-131 | <1.40E-02 | 0.00E+00 | 1.40E-02 |
| | | Cs-134 | <9.01E-03 | 0.00E+00 | 9.01E-03 |
| | | Cs-137 | <1.12E-02 | 0.00E+00 | 1.12E-02 |
| | | Be-7 | <7.70E-02 | 0.00E+00 | 7.70E-02 |
| | | K-40 | 3.68E-01 | 1.70E-01 | 1.77E-01 |

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 280632 | 12/30/2013 - 1/6/2014 | I-131 | <1.96E-02 | 0.00E+00 | 1.96E-02 |
| | | Cs-134 | <2.04E-02 | 0.00E+00 | 2.04E-02 |
| | | Cs-137 | <2.00E-02 | 0.00E+00 | 2.00E-02 |
| | | Be-7 | <1.32E-01 | 0.00E+00 | 1.32E-01 |
| | | K-40 | <6.42E-01 | 0.00E+00 | 6.42E-01 |
| 280805 | 1/6/2014 - 1/13/2014 | I-131 | <1.92E-02 | 0.00E+00 | 1.92E-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 | <1.55E-01 | 0.00E+00 | 1.55E-01 |
| | | K-40 | <6.13E-01 | 0.00E+00 | 6.13E-01 |
| 281164 | 1/13/2014 - 1/20/2014 | I-131 | <2.04E-02 | 0.00E+00 | 2.04E-02 |
| | | Cs-134 | <1.93E-02 | 0.00E+00 | 1.93E-02 |
| | | Cs-137 | <1.80E-02 | 0.00E+00 | 1.80E-02 |
| | | Be-7 | <1.35E-01 | 0.00E+00 | 1.35E-01 |
| | | K-40 | 5.43E-01 | 1.25E-01 | 3.36E-01 |
| 281485 | 1/20/2014 - 1/27/2014 | I-131 | <1.13E-02 | 0.00E+00 | 1.13E-02 |
| | | Cs-134 | <1.23E-02 | 0.00E+00 | 1.23E-02 |
| | | Cs-137 | <1.07E-02 | 0.00E+00 | 1.07E-02 |
| | | Be-7 | <9.38E-02 | 0.00E+00 | 9.38E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 281485 | 1/20/2014 - 1/27/2014 | K-40 | 6.00E-01 | 1.13E-01 | 5.79E-02 |
| 282108 | 1/27/2014 - 2/3/2014 | I-131 | <1.90E-02 | 0.00E+00 | 1.90E-02 |
| | | Cs-134 | <1.59E-02 | 0.00E+00 | 1.59E-02 |
| | | Cs-137 | <2.40E-02 | 0.00E+00 | 2.40E-02 |
| | | Be-7 | <1.42E-01 | 0.00E+00 | 1.42E-01 |
| | | K-40 | 5.26E-01 | 1.21E-01 | 2.01E-01 |
| 282920 | 2/3/2014 - 2/10/2014 | I-131 | <1.69E-02 | 0.00E+00 | 1.69E-02 |
| | | Cs-134 | <1.54E-02 | 0.00E+00 | 1.54E-02 |
| | | Cs-137 | <3.65E-03 | 0.00E+00 | 3.65E-03 |
| | | Be-7 | <1.05E-01 | 0.00E+00 | 1.05E-01 |
| | | K-40 | 4.99E-01 | 1.12E-01 | 1.76E-01 |
| 283367 | 2/10/2014 - 2/17/2014 | I-131 | <1.62E-02 | 0.00E+00 | 1.62E-02 |
| | | Cs-134 | <1.67E-02 | 0.00E+00 | 1.67E-02 |
| | | Cs-137 | <2.06E-02 | 0.00E+00 | 2.06E-02 |
| | | Be-7 | <1.19E-01 | 0.00E+00 | 1.19E-01 |
| | | K-40 | 3.23E-01 | 1.33E-01 | 2.55E-01 |
| 284534 | 2/17/2014 - 2/24/2014 | I-131 | <1.08E-02 | 0.00E+00 | 1.08E-02 |
| | | Cs-134 | <1.02E-02 | 0.00E+00 | 1.02E-02 |
| | | Cs-137 | <1.48E-02 | 0.00E+00 | 1.48E-02 |
| | | Be-7 | <7.31E-02 | 0.00E+00 | 7.31E-02 |
| | | K-40 | 3.30E-01 | 9.82E-02 | 1.67E-01 |
| 285095 | 2/24/2014 - 3/3/2014 | I-131 | <1.94E-02 | 0.00E+00 | 1.94E-02 |
| | | Cs-134 | <1.70E-02 | 0.00E+00 | 1.70E-02 |
| | | Cs-137 | <1.99E-02 | 0.00E+00 | 1.99E-02 |
| | | Be-7 | <1.16E-01 | 0.00E+00 | 1.16E-01 |
| | | K-40 | 4.61E-01 | 1.35E-01 | 2.09E-01 |
| 285700 | 3/3/2014 - 3/10/2014 | I-131 | <1.27E-02 | 0.00E+00 | 1.27E-02 |
| | | Cs-134 | <8.83E-03 | 0.00E+00 | 8.83E-03 |
| | | Cs-137 | <1.13E-02 | 0.00E+00 | 1.13E-02 |
| | | Be-7 | <8.40E-02 | 0.00E+00 | 8.40E-02 |
| | | K-40 | <3.55E-01 | 0.00E+00 | 3.55E-01 |
| 286204 | 3/10/2014 - 3/17/2014 | I-131 | <2.00E-02 | 0.00E+00 | 2.00E-02 |
| | | Cs-134 | <1.64E-02 | 0.00E+00 | 1.64E-02 |
| | | Cs-137 | <2.44E-02 | 0.00E+00 | 2.44E-02 |
| | | Be-7 | <1.52E-01 | 0.00E+00 | 1.52E-01 |
| | | K-40 | 4.18E-01 | 1.34E-01 | 2.58E-01 |
| 287089 | 3/17/2014 - 3/24/2014 | I-131 | <1.01E-02 | 0.00E+00 | 1.01E-02 |
| | | Cs-134 | <1.38E-02 | 0.00E+00 | 1.38E-02 |
| | | Cs-137 | <1.32E-02 | 0.00E+00 | 1.32E-02 |
| | | Be-7 | <7.07E-02 | 0.00E+00 | 7.07E-02 |
| | | K-40 | 3.66E-01 | 8.88E-02 | 5.82E-02 |
| 288340 | 3/24/2014 - 3/31/2014 | I-131 | <1.45E-02 | 0.00E+00 | 1.45E-02 |
| | | Cs-134 | <1.64E-02 | 0.00E+00 | 1.64E-02 |
| | | Cs-137 | <2.08E-02 | 0.00E+00 | 2.08E-02 |
| | | Be-7 | <1.78E-01 | 0.00E+00 | 1.78E-01 |
| | | K-40 | 3.65E-01 | 1.44E-01 | 2.06E-01 |
| 289064 | 3/31/2014 - 4/7/2014 | I-131 | <1.92E-02 | 0.00E+00 | 1.92E-02 |
| | | Cs-134 | <1.71E-02 | 0.00E+00 | 1.71E-02 |
| | | Cs-137 | <2.84E-02 | 0.00E+00 | 2.84E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 289064 | 3/31/2014 - 4/7/2014 | Be-7 | <1.63E-01 | 0.00E+00 | 1.63E-01 |
| | | K-40 | <6.67E-01 | 0.00E+00 | 6.67E-01 |
| 289450 | 4/7/2014 - 4/14/2014 | I-131 | <2.35E-02 | 0.00E+00 | 2.35E-02 |
| | | Cs-134 | <1.73E-02 | 0.00E+00 | 1.73E-02 |
| | | Cs-137 | <1.66E-02 | 0.00E+00 | 1.66E-02 |
| | | Be-7 | <1.23E-01 | 0.00E+00 | 1.23E-01 |
| | | K-40 | 4.54E-01 | 1.13E-01 | 2.04E-01 |
| 289860 | 4/14/2014 - 4/21/2014 | I-131 | <8.99E-03 | 0.00E+00 | 8.99E-03 |
| | | Cs-134 | <9.06E-03 | 0.00E+00 | 9.06E-03 |
| | | Cs-137 | <1.02E-02 | 0.00E+00 | 1.02E-02 |
| | | Be-7 | <7.81E-02 | 0.00E+00 | 7.81E-02 |
| | | K-40 | 5.05E-01 | 7.80E-02 | 1.10E-01 |
| 291465 | 4/21/2014 - 4/28/2014 | I-131 | <2.32E-02 | 0.00E+00 | 2.32E-02 |
| | | Cs-134 | <1.39E-02 | 0.00E+00 | 1.39E-02 |
| | | Cs-137 | <1.49E-02 | 0.00E+00 | 1.49E-02 |
| | | Be-7 | <1.42E-01 | 0.00E+00 | 1.42E-01 |
| | | K-40 | 3.61E-01 | 1.00E-01 | 2.65E-01 |
| 292759 | 4/28/2014 - 5/5/2014 | I-131 | <1.39E-02 | 0.00E+00 | 1.39E-02 |
| | | Cs-134 | <1.31E-02 | 0.00E+00 | 1.31E-02 |
| | | Cs-137 | <1.48E-02 | 0.00E+00 | 1.48E-02 |
| | | Be-7 | <8.99E-02 | 0.00E+00 | 8.99E-02 |
| | | K-40 | 4.10E-01 | 1.33E-01 | 1.79E-01 |
| 293021 | 5/5/2014 - 5/12/2014 | I-131 | <2.18E-02 | 0.00E+00 | 2.18E-02 |
| | | Cs-134 | <1.93E-02 | 0.00E+00 | 1.93E-02 |
| | | Cs-137 | <2.40E-02 | 0.00E+00 | 2.40E-02 |
| | | Be-7 | <1.82E-01 | 0.00E+00 | 1.82E-01 |
| | | K-40 | 7.34E-01 | 1.73E-01 | 3.30E-01 |
| 294652 | 5/12/2014 - 5/19/2014 | I-131 | <2.50E-02 | 0.00E+00 | 2.50E-02 |
| | | Cs-134 | <1.23E-02 | 0.00E+00 | 1.23E-02 |
| | | Cs-137 | <2.23E-02 | 0.00E+00 | 2.23E-02 |
| | | Be-7 | <1.47E-01 | 0.00E+00 | 1.47E-01 |
| | | K-40 | 6.18E-01 | 1.57E-01 | 2.11E-01 |
| 295161 | 5/19/2014 - 5/27/2014 | I-131 | <1.02E-02 | 0.00E+00 | 1.02E-02 |
| | | Cs-134 | <1.07E-02 | 0.00E+00 | 1.07E-02 |
| | | Cs-137 | <1.38E-02 | 0.00E+00 | 1.38E-02 |
| | | Be-7 | <1.46E-01 | 0.00E+00 | 1.46E-01 |
| | | K-40 | <4.65E-01 | 0.00E+00 | 4.65E-01 |
| 295422 | 5/27/2014 - 6/2/2014 | I-131 | <2.94E-02 | 0.00E+00 | 2.94E-02 |
| | | Cs-134 | <2.04E-02 | 0.00E+00 | 2.04E-02 |
| | | Cs-137 | <1.80E-02 | 0.00E+00 | 1.80E-02 |
| | | Be-7 | <2.10E-01 | 0.00E+00 | 2.10E-01 |
| | | K-40 | 5.68E-01 | 1.38E-01 | 3.50E-01 |
| 295937 | 6/2/2014 - 6/9/2014 | I-131 | <2.23E-02 | 0.00E+00 | 2.23E-02 |
| | | Cs-134 | <1.93E-02 | 0.00E+00 | 1.93E-02 |
| | | Cs-137 | <2.26E-02 | 0.00E+00 | 2.26E-02 |
| | | Be-7 | <1.44E-01 | 0.00E+00 | 1.44E-01 |
| | | K-40 | <5.42E-01 | 0.00E+00 | 5.42E-01 |
| 296182 | 6/9/2014 - 6/16/2014 | I-131 | <2.34E-02 | 0.00E+00 | 2.34E-02 |
| | | Cs-134 | <1.64E-02 | 0.00E+00 | 1.64E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 296182 | 6/9/2014 - 6/16/2014 | Cs-137 | <2.22E-02 | 0.00E+00 | 2.22E-02 |
| | | Be-7 | <1.46E-01 | 0.00E+00 | 1.46E-01 |
| | | K-40 | 6.15E-01 | 1.34E-01 | 2.20E-01 |
| | | | | | |
| 296703 | 6/16/2014 - 6/23/2014 | I-131 | <2.37E-02 | 0.00E+00 | 2.37E-02 |
| | | Cs-134 | <1.19E-02 | 0.00E+00 | 1.19E-02 |
| | | Cs-137 | <1.69E-02 | 0.00E+00 | 1.69E-02 |
| | | Be-7 | <1.08E-01 | 0.00E+00 | 1.08E-01 |
| | | K-40 | <4.81E-01 | 0.00E+00 | 4.81E-01 |
| 296930 | 6/23/2014 - 6/30/2014 | I-131 | <1.15E-02 | 0.00E+00 | 1.15E-02 |
| | | Cs-134 | <7.19E-03 | 0.00E+00 | 7.19E-03 |
| | | Cs-137 | <1.22E-02 | 0.00E+00 | 1.22E-02 |
| | | Be-7 | <7.47E-02 | 0.00E+00 | 7.47E-02 |
| | | K-40 | <4.08E-01 | 0.00E+00 | 4.08E-01 |
| 297327 | 6/30/2014 - 7/7/2014 | I-131 | <2.36E-02 | 0.00E+00 | 2.36E-02 |
| | | Cs-134 | <1.96E-02 | 0.00E+00 | 1.96E-02 |
| | | Cs-137 | <2.77E-02 | 0.00E+00 | 2.77E-02 |
| | | Be-7 | <9.59E-02 | 0.00E+00 | 9.59E-02 |
| | | K-40 | 2.61E-01 | 1.15E-01 | 2.60E-01 |
| 297615 | 7/7/2014 - 7/14/2014 | I-131 | <2.38E-02 | 0.00E+00 | 2.38E-02 |
| | | Cs-134 | <1.21E-02 | 0.00E+00 | 1.21E-02 |
| | | Cs-137 | <1.03E-02 | 0.00E+00 | 1.03E-02 |
| | | Be-7 | <1.02E-01 | 0.00E+00 | 1.02E-01 |
| | | K-40 | 4.53E-01 | 1.95E-01 | 2.09E-01 |
| 298151 | 7/14/2014 - 7/21/2014 | I-131 | <2.45E-02 | 0.00E+00 | 2.45E-02 |
| | | Cs-134 | <1.63E-02 | 0.00E+00 | 1.63E-02 |
| | | Cs-137 | <1.57E-02 | 0.00E+00 | 1.57E-02 |
| | | Be-7 | <1.02E-01 | 0.00E+00 | 1.02E-01 |
| | | K-40 | 3.71E-01 | 2.60E-01 | 3.35E-01 |
| 350505 | 7/21/2014 - 7/28/2014 | I-131 | <2.33E-02 | 0.00E+00 | 2.33E-02 |
| | | Cs-134 | <1.93E-02 | 0.00E+00 | 1.93E-02 |
| | | Cs-137 | <2.20E-02 | 0.00E+00 | 2.20E-02 |
| | | Be-7 | <1.40E-01 | 0.00E+00 | 1.40E-01 |
| | | K-40 | 5.21E-01 | 2.77E-01 | 2.49E-01 |
| 350976 | 7/28/2014 - 8/4/2014 | I-131 | <2.10E-02 | 0.00E+00 | 2.10E-02 |
| | | Cs-134 | <1.31E-02 | 0.00E+00 | 1.31E-02 |
| | | Cs-137 | <1.29E-02 | 0.00E+00 | 1.29E-02 |
| | | Be-7 | <1.44E-01 | 0.00E+00 | 1.44E-01 |
| | | K-40 | 3.70E-01 | 2.42E-01 | 2.74E-01 |
| 351197 | 8/4/2014 - 8/11/2014 | I-131 | <2.54E-02 | 0.00E+00 | 2.54E-02 |
| | | Cs-134 | <1.04E-02 | 0.00E+00 | 1.04E-02 |
| | | Cs-137 | <1.30E-02 | 0.00E+00 | 1.30E-02 |
| | | Be-7 | <1.73E-01 | 0.00E+00 | 1.73E-01 |
| | | K-40 | 7.45E-01 | 3.05E-01 | 8.08E-02 |
| 351603 | 8/11/2014 - 8/18/2014 | I-131 | <2.27E-02 | 0.00E+00 | 2.27E-02 |
| | | Cs-134 | <1.93E-02 | 0.00E+00 | 1.93E-02 |
| | | Cs-137 | <2.06E-02 | 0.00E+00 | 2.06E-02 |
| | | Be-7 | <1.40E-01 | 0.00E+00 | 1.40E-01 |
| | | K-40 | 4.62E-01 | 2.34E-01 | 7.82E-02 |
| 353417 | 8/18/2014 - 8/25/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
| | | I-131 | <1.71E-02 | 0.00E+00 | 1.71E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 353417 | 8/18/2014 - 8/25/2014 | Cs-134 | <2.85E-02 | 0.00E+00 | 2.85E-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 | 5.21E-01 | 2.56E-01 | 8.30E-02 |
| | | | | | |
| 354042 | 8/25/2014 - 9/2/2014 | I-131 | <9.43E-03 | 0.00E+00 | 9.43E-03 |
| | | Cs-134 | <1.35E-02 | 0.00E+00 | 1.35E-02 |
| | | Cs-137 | <2.31E-02 | 0.00E+00 | 2.31E-02 |
| | | Be-7 | <1.15E-01 | 0.00E+00 | 1.15E-01 |
| | | K-40 | 4.92E-01 | 2.30E-01 | 7.02E-02 |
| 354434 | 9/2/2014 - 9/8/2014 | I-131 | <1.88E-02 | 0.00E+00 | 1.88E-02 |
| | | Cs-134 | <2.28E-02 | 0.00E+00 | 2.28E-02 |
| | | Cs-137 | <2.22E-02 | 0.00E+00 | 2.22E-02 |
| | | Be-7 | <1.52E-01 | 0.00E+00 | 1.52E-01 |
| | | K-40 | 5.39E-01 | 3.09E-01 | 3.19E-01 |
| 354755 | 9/8/2014 - 9/15/2014 | I-131 | <1.54E-02 | 0.00E+00 | 1.54E-02 |
| | | Cs-134 | <2.46E-02 | 0.00E+00 | 2.46E-02 |
| | | Cs-137 | <1.59E-02 | 0.00E+00 | 1.59E-02 |
| | | Be-7 | <7.86E-02 | 0.00E+00 | 7.86E-02 |
| | | K-40 | 1.78E-01 | 2.00E-01 | 3.08E-01 |
| 355140 | 9/15/2014 - 9/22/2014 | I-131 | <1.39E-02 | 0.00E+00 | 1.39E-02 |
| | | Cs-134 | <1.72E-02 | 0.00E+00 | 1.72E-02 |
| | | Cs-137 | <1.32E-02 | 0.00E+00 | 1.32E-02 |
| | | Be-7 | <1.20E-01 | 0.00E+00 | 1.20E-01 |
| | | K-40 | 5.14E-01 | 2.53E-01 | 8.19E-02 |
| 355626 | 9/22/2014 - 9/29/2014 | I-131 | <2.57E-02 | 0.00E+00 | 2.57E-02 |
| | | Cs-134 | <1.52E-02 | 0.00E+00 | 1.52E-02 |
| | | Cs-137 | <1.90E-02 | 0.00E+00 | 1.90E-02 |
| | | Be-7 | <1.44E-01 | 0.00E+00 | 1.44E-01 |
| | | K-40 | 4.87E-01 | 2.89E-01 | 3.34E-01 |
| 356480 | 9/29/2014 - 10/6/2014 | I-131 | <1.90E-02 | 0.00E+00 | 1.90E-02 |
| | | Cs-134 | <3.77E-03 | 0.00E+00 | 3.77E-03 |
| | | Cs-137 | <1.28E-02 | 0.00E+00 | 1.28E-02 |
| | | Be-7 | <1.01E-01 | 0.00E+00 | 1.01E-01 |
| | | K-40 | 4.40E-01 | 2.30E-01 | 7.95E-02 |
| 357030 | 10/6/2014 - 10/13/2014 | I-131 | <2.31E-02 | 0.00E+00 | 2.31E-02 |
| | | Cs-134 | <1.29E-02 | 0.00E+00 | 1.29E-02 |
| | | Cs-137 | <4.68E-03 | 0.00E+00 | 4.68E-03 |
| | | Be-7 | <1.16E-01 | 0.00E+00 | 1.16E-01 |
| | | K-40 | 2.68E-01 | 2.73E-01 | 4.20E-01 |
| 358038 | 10/13/2014 - 10/20/2014 | I-131 | <2.10E-02 | 0.00E+00 | 2.10E-02 |
| | | Cs-134 | <1.73E-02 | 0.00E+00 | 1.73E-02 |
| | | Cs-137 | <1.67E-02 | 0.00E+00 | 1.67E-02 |
| | | Be-7 | <1.66E-01 | 0.00E+00 | 1.66E-01 |
| | | K-40 | 6.06E-01 | 2.76E-01 | 8.21E-02 |
| 358648 | 10/20/2014 - 10/27/2014 | I-131 | <2.06E-02 | 0.00E+00 | 2.06E-02 |
| | | Cs-134 | <1.37E-02 | 0.00E+00 | 1.37E-02 |
| | | Cs-137 | <1.98E-02 | 0.00E+00 | 1.98E-02 |
| | | Be-7 | <1.37E-01 | 0.00E+00 | 1.37E-01 |
| | | K-40 | 7.58E-01 | 3.39E-01 | 2.98E-01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 359318 | 10/27/2014 - 11/3/2014 | I-131 | <1.76E-02 | 0.00E+00 | 1.76E-02 |
| | | Cs-134 | <1.98E-02 | 0.00E+00 | 1.98E-02 |
| | | Cs-137 | <1.63E-02 | 0.00E+00 | 1.63E-02 |
| | | Be-7 | <1.18E-01 | 0.00E+00 | 1.18E-01 |
| | | K-40 | 3.75E-01 | 3.02E-01 | 4.32E-01 |
| 360017 | 11/3/2014 - 11/10/2014 | I-131 | <3.34E-02 | 0.00E+00 | 3.34E-02 |
| | | Cs-134 | <1.02E-02 | 0.00E+00 | 1.02E-02 |
| | | Cs-137 | <1.27E-02 | 0.00E+00 | 1.27E-02 |
| | | Be-7 | <1.55E-01 | 0.00E+00 | 1.55E-01 |
| | | K-40 | 4.00E-01 | 2.75E-01 | 3.55E-01 |
| 360702 | 11/10/2014 - 11/17/2014 | I-131 | <1.73E-02 | 0.00E+00 | 1.73E-02 |
| | | Cs-134 | <1.75E-02 | 0.00E+00 | 1.75E-02 |
| | | Cs-137 | <2.74E-02 | 0.00E+00 | 2.74E-02 |
| | | Be-7 | <1.69E-01 | 0.00E+00 | 1.69E-01 |
| | | K-40 | 4.61E-01 | 2.41E-01 | 8.33E-02 |
| 361566 | 11/17/2014 - 11/24/2014 | I-131 | <1.83E-02 | 0.00E+00 | 1.83E-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 | <8.05E-02 | 0.00E+00 | 8.05E-02 |
| | | K-40 | 4.66E-01 | 2.63E-01 | 2.62E-01 |
| 361946 | 11/24/2014 - 12/1/2014 | I-131 | <3.38E-02 | 0.00E+00 | 3.38E-02 |
| | | Cs-134 | <1.75E-02 | 0.00E+00 | 1.75E-02 |
| | | Cs-137 | <2.18E-02 | 0.00E+00 | 2.18E-02 |
| | | Be-7 | <1.37E-01 | 0.00E+00 | 1.37E-01 |
| | | K-40 | <6.15E-01 | 0.00E+00 | 6.15E-01 |
| 362770 | 12/1/2014 - 12/8/2014 | I-131 | <1.58E-02 | 0.00E+00 | 1.58E-02 |
| | | Cs-134 | <8.74E-03 | 0.00E+00 | 8.74E-03 |
| | | Cs-137 | <1.09E-02 | 0.00E+00 | 1.09E-02 |
| | | Be-7 | <9.01E-02 | 0.00E+00 | 9.01E-02 |
| | | K-40 | <3.02E-01 | 0.00E+00 | 3.02E-01 |
| 363513 | 12/8/2014 - 12/15/2014 | I-131 | <1.23E-02 | 0.00E+00 | 1.23E-02 |
| | | Cs-134 | <6.30E-03 | 0.00E+00 | 6.30E-03 |
| | | Cs-137 | <1.59E-02 | 0.00E+00 | 1.59E-02 |
| | | Be-7 | <8.06E-02 | 0.00E+00 | 8.06E-02 |
| | | K-40 | 3.77E-01 | 1.66E-01 | 1.58E-01 |
| 363962 | 12/15/2014 - 12/22/2014 | I-131 | <1.70E-02 | 0.00E+00 | 1.70E-02 |
| | | Cs-134 | <1.03E-02 | 0.00E+00 | 1.03E-02 |
| | | Cs-137 | <2.08E-02 | 0.00E+00 | 2.08E-02 |
| | | Be-7 | <1.11E-01 | 0.00E+00 | 1.11E-01 |
| | | K-40 | 3.47E-01 | 2.29E-01 | 2.85E-01 |
| 364496 | 12/22/2014 - 12/29/2014 | I-131 | <3.72E-02 | 0.00E+00 | 3.72E-02 |
| | | Cs-134 | <1.26E-02 | 0.00E+00 | 1.26E-02 |
| | | Cs-137 | <1.44E-02 | 0.00E+00 | 1.44E-02 |
| | | Be-7 | <1.16E-01 | 0.00E+00 | 1.16E-01 |
| | | K-40 | 5.39E-01 | 2.47E-01 | 2.87E-01 |

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 280633 | 12/30/2013 - 1/6/2014 | I-131 | <1.98E-02 | 0.00E+00 | 1.98E-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 | <1.57E-01 | 0.00E+00 | 1.57E-01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 280633 | 12/30/2013 - 1/6/2014 | K-40 | 4.71E-01 | 1.14E-01 | 2.07E-01 |
| 280806 | 1/6/2014 - 1/13/2014 | I-131 | <2.38E-02 | 0.00E+00 | 2.38E-02 |
| | | Cs-134 | <1.65E-02 | 0.00E+00 | 1.65E-02 |
| | | Cs-137 | <2.37E-02 | 0.00E+00 | 2.37E-02 |
| | | Be-7 | <1.39E-01 | 0.00E+00 | 1.39E-01 |
| | | K-40 | <5.35E-01 | 0.00E+00 | 5.35E-01 |
| 281165 | 1/13/2014 - 1/20/2014 | I-131 | <2.28E-02 | 0.00E+00 | 2.28E-02 |
| | | Cs-134 | <1.67E-02 | 0.00E+00 | 1.67E-02 |
| | | Cs-137 | <2.01E-02 | 0.00E+00 | 2.01E-02 |
| | | Be-7 | <1.51E-01 | 0.00E+00 | 1.51E-01 |
| | | K-40 | 4.68E-01 | 1.44E-01 | 3.01E-01 |
| 281486 | 1/20/2014 - 1/27/2014 | I-131 | <1.75E-02 | 0.00E+00 | 1.75E-02 |
| | | Cs-134 | <1.37E-02 | 0.00E+00 | 1.37E-02 |
| | | Cs-137 | <1.25E-02 | 0.00E+00 | 1.25E-02 |
| | | Be-7 | <1.22E-01 | 0.00E+00 | 1.22E-01 |
| | | K-40 | 7.25E-01 | 1.35E-01 | 2.34E-01 |
| 282109 | 1/27/2014 - 2/3/2014 | I-131 | <1.64E-02 | 0.00E+00 | 1.64E-02 |
| | | Cs-134 | <1.98E-02 | 0.00E+00 | 1.98E-02 |
| | | Cs-137 | <2.17E-02 | 0.00E+00 | 2.17E-02 |
| | | Be-7 | <1.31E-01 | 0.00E+00 | 1.31E-01 |
| | | K-40 | 4.19E-01 | 1.08E-01 | 3.30E-01 |
| 282921 | 2/3/2014 - 2/10/2014 | I-131 | <2.18E-02 | 0.00E+00 | 2.18E-02 |
| | | Cs-134 | <2.20E-02 | 0.00E+00 | 2.20E-02 |
| | | Cs-137 | <2.19E-02 | 0.00E+00 | 2.19E-02 |
| | | Be-7 | <1.64E-01 | 0.00E+00 | 1.64E-01 |
| | | K-40 | 5.91E-01 | 1.53E-01 | 7.97E-02 |
| 283368 | 2/10/2014 - 2/17/2014 | I-131 | <1.44E-02 | 0.00E+00 | 1.44E-02 |
| | | Cs-134 | <1.87E-02 | 0.00E+00 | 1.87E-02 |
| | | Cs-137 | <9.21E-03 | 0.00E+00 | 9.21E-03 |
| | | Be-7 | <9.32E-02 | 0.00E+00 | 9.32E-02 |
| | | K-40 | 4.75E-01 | 1.37E-01 | 1.97E-01 |
| 284535 | 2/17/2014 - 2/24/2014 | I-131 | <2.03E-02 | 0.00E+00 | 2.03E-02 |
| | | Cs-134 | <1.76E-02 | 0.00E+00 | 1.76E-02 |
| | | Cs-137 | <1.90E-02 | 0.00E+00 | 1.90E-02 |
| | | Be-7 | <2.82E-02 | 0.00E+00 | 2.82E-02 |
| | | K-40 | 3.73E-01 | 1.04E-01 | 2.16E-01 |
| 285096 | 2/24/2014 - 3/3/2014 | I-131 | <1.96E-02 | 0.00E+00 | 1.96E-02 |
| | | Cs-134 | <1.93E-02 | 0.00E+00 | 1.93E-02 |
| | | Cs-137 | <1.78E-02 | 0.00E+00 | 1.78E-02 |
| | | Be-7 | <1.67E-01 | 0.00E+00 | 1.67E-01 |
| | | K-40 | 4.56E-01 | 1.54E-01 | 2.09E-01 |
| 285701 | 3/3/2014 - 3/10/2014 | I-131 | <1.07E-02 | 0.00E+00 | 1.07E-02 |
| | | Cs-134 | <1.08E-02 | 0.00E+00 | 1.08E-02 |
| | | Cs-137 | <1.18E-02 | 0.00E+00 | 1.18E-02 |
| | | Be-7 | <8.12E-02 | 0.00E+00 | 8.12E-02 |
| | | K-40 | 4.30E-01 | 7.72E-02 | 1.46E-01 |
| 286205 | 3/10/2014 - 3/17/2014 | I-131 | <1.88E-02 | 0.00E+00 | 1.88E-02 |
| | | Cs-134 | <2.26E-02 | 0.00E+00 | 2.26E-02 |
| | | Cs-137 | <2.05E-02 | 0.00E+00 | 2.05E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 286205 | 3/10/2014 - 3/17/2014 | Be-7 | <1.66E-01 | 0.00E+00 | 1.66E-01 |
| | | K-40 | 2.00E-01 | 1.19E-01 | 2.58E-01 |
| 287090 | 3/17/2014 - 3/24/2014 | I-131 | <1.28E-02 | 0.00E+00 | 1.28E-02 |
| | | Cs-134 | <1.78E-02 | 0.00E+00 | 1.78E-02 |
| | | Cs-137 | <1.49E-02 | 0.00E+00 | 1.49E-02 |
| | | Be-7 | <1.34E-01 | 0.00E+00 | 1.34E-01 |
| | | K-40 | 5.01E-01 | 1.09E-01 | 1.75E-01 |
| 288341 | 3/24/2014 - 3/31/2014 | I-131 | <2.37E-02 | 0.00E+00 | 2.37E-02 |
| | | Cs-134 | <1.86E-02 | 0.00E+00 | 1.86E-02 |
| | | Cs-137 | <1.84E-02 | 0.00E+00 | 1.84E-02 |
| | | Be-7 | <1.09E-01 | 0.00E+00 | 1.09E-01 |
| | | K-40 | 4.73E-01 | 1.15E-01 | 2.06E-01 |
| 289065 | 3/31/2014 - 4/7/2014 | I-131 | <1.85E-02 | 0.00E+00 | 1.85E-02 |
| | | Cs-134 | <1.43E-02 | 0.00E+00 | 1.43E-02 |
| | | Cs-137 | <1.98E-02 | 0.00E+00 | 1.98E-02 |
| | | Be-7 | <1.18E-01 | 0.00E+00 | 1.18E-01 |
| | | K-40 | 8.35E-01 | 1.43E-01 | 1.90E-01 |
| 289451 | 4/7/2014 - 4/14/2014 | I-131 | <2.37E-02 | 0.00E+00 | 2.37E-02 |
| | | Cs-134 | <1.87E-02 | 0.00E+00 | 1.87E-02 |
| | | Cs-137 | <2.08E-02 | 0.00E+00 | 2.08E-02 |
| | | Be-7 | <1.51E-01 | 0.00E+00 | 1.51E-01 |
| | | K-40 | 5.69E-01 | 1.27E-01 | 2.58E-01 |
| 289861 | 4/14/2014 - 4/21/2014 | 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 | <5.79E-02 | 0.00E+00 | 5.79E-02 |
| | | K-40 | 4.40E-01 | 9.16E-02 | 1.61E-01 |
| 291466 | 4/21/2014 - 4/28/2014 | I-131 | <2.13E-02 | 0.00E+00 | 2.13E-02 |
| | | Cs-134 | <1.93E-02 | 0.00E+00 | 1.93E-02 |
| | | Cs-137 | <2.28E-02 | 0.00E+00 | 2.28E-02 |
| | | Be-7 | <1.08E-01 | 0.00E+00 | 1.08E-01 |
| | | K-40 | 3.62E-01 | 1.00E-01 | 2.49E-01 |
| 292760 | 4/28/2014 - 5/5/2014 | I-131 | <9.32E-03 | 0.00E+00 | 9.32E-03 |
| | | Cs-134 | <2.42E-03 | 0.00E+00 | 2.42E-03 |
| | | Cs-137 | <1.35E-02 | 0.00E+00 | 1.35E-02 |
| | | Be-7 | <8.58E-02 | 0.00E+00 | 8.58E-02 |
| | | K-40 | <4.45E-01 | 0.00E+00 | 4.45E-01 |
| 293022 | 5/5/2014 - 5/12/2014 | I-131 | <8.04E-03 | 0.00E+00 | 8.04E-03 |
| | | Cs-134 | <7.98E-03 | 0.00E+00 | 7.98E-03 |
| | | Cs-137 | <1.20E-02 | 0.00E+00 | 1.20E-02 |
| | | Be-7 | <5.01E-02 | 0.00E+00 | 5.01E-02 |
| | | K-40 | <4.44E-01 | 0.00E+00 | 4.44E-01 |
| 294653 | 5/12/2014 - 5/19/2014 | I-131 | <2.10E-02 | 0.00E+00 | 2.10E-02 |
| | | Cs-134 | <1.23E-02 | 0.00E+00 | 1.23E-02 |
| | | Cs-137 | <1.77E-02 | 0.00E+00 | 1.77E-02 |
| | | Be-7 | <1.68E-01 | 0.00E+00 | 1.68E-01 |
| | | K-40 | <5.38E-01 | 0.00E+00 | 5.38E-01 |
| 295162 | 5/19/2014 - 5/27/2014 | I-131 | <1.69E-02 | 0.00E+00 | 1.69E-02 |
| | | Cs-134 | <1.61E-02 | 0.00E+00 | 1.61E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 295162 | 5/19/2014 - 5/27/2014 | Cs-137 | <1.56E-02 | 0.00E+00 | 1.56E-02 |
| | | Be-7 | <1.49E-01 | 0.00E+00 | 1.49E-01 |
| | | K-40 | 3.15E-01 | 1.13E-01 | 2.82E-01 |
| | | | | | |
| 295423 | 5/27/2014 - 6/2/2014 | I-131 | <3.13E-02 | 0.00E+00 | 3.13E-02 |
| | | Cs-134 | <2.50E-02 | 0.00E+00 | 2.50E-02 |
| | | Cs-137 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Be-7 | <2.12E-01 | 0.00E+00 | 2.12E-01 |
| | | K-40 | <7.58E-01 | 0.00E+00 | 7.58E-01 |
| 295938 | 6/2/2014 - 6/9/2014 | I-131 | <2.01E-02 | 0.00E+00 | 2.01E-02 |
| | | Cs-134 | <1.44E-02 | 0.00E+00 | 1.44E-02 |
| | | Cs-137 | <2.61E-02 | 0.00E+00 | 2.61E-02 |
| | | Be-7 | <1.56E-01 | 0.00E+00 | 1.56E-01 |
| | | K-40 | <5.44E-01 | 0.00E+00 | 5.44E-01 |
| 296183 | 6/9/2014 - 6/16/2014 | I-131 | <2.24E-02 | 0.00E+00 | 2.24E-02 |
| | | Cs-134 | <1.65E-02 | 0.00E+00 | 1.65E-02 |
| | | Cs-137 | <2.16E-02 | 0.00E+00 | 2.16E-02 |
| | | Be-7 | <1.23E-01 | 0.00E+00 | 1.23E-01 |
| | | K-40 | <6.39E-01 | 0.00E+00 | 6.39E-01 |
| 296704 | 6/16/2014 - 6/23/2014 | I-131 | <2.29E-02 | 0.00E+00 | 2.29E-02 |
| | | Cs-134 | <1.39E-02 | 0.00E+00 | 1.39E-02 |
| | | Cs-137 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Be-7 | <1.28E-01 | 0.00E+00 | 1.28E-01 |
| | | K-40 | 2.48E-01 | 1.50E-01 | 3.60E-01 |
| 296931 | 6/23/2014 - 6/30/2014 | I-131 | <2.57E-02 | 0.00E+00 | 2.57E-02 |
| | | Cs-134 | <2.16E-02 | 0.00E+00 | 2.16E-02 |
| | | Cs-137 | <1.77E-02 | 0.00E+00 | 1.77E-02 |
| | | Be-7 | <1.46E-01 | 0.00E+00 | 1.46E-01 |
| | | K-40 | <6.05E-01 | 0.00E+00 | 6.05E-01 |
| 297328 | 6/30/2014 - 7/7/2014 | I-131 | <1.80E-02 | 0.00E+00 | 1.80E-02 |
| | | Cs-134 | <1.55E-02 | 0.00E+00 | 1.55E-02 |
| | | Cs-137 | <1.99E-02 | 0.00E+00 | 1.99E-02 |
| | | Be-7 | <1.36E-01 | 0.00E+00 | 1.36E-01 |
| | | K-40 | <5.41E-01 | 0.00E+00 | 5.41E-01 |
| 297616 | 7/7/2014 - 7/14/2014 | I-131 | <3.68E-02 | 0.00E+00 | 3.68E-02 |
| | | Cs-134 | <1.22E-02 | 0.00E+00 | 1.22E-02 |
| | | Cs-137 | <1.07E-02 | 0.00E+00 | 1.07E-02 |
| | | Be-7 | <7.41E-02 | 0.00E+00 | 7.41E-02 |
| | | K-40 | <4.23E-01 | 0.00E+00 | 4.23E-01 |
| 298152 | 7/14/2014 - 7/21/2014 | I-131 | <2.46E-02 | 0.00E+00 | 2.46E-02 |
| | | Cs-134 | <2.05E-02 | 0.00E+00 | 2.05E-02 |
| | | Cs-137 | <1.25E-02 | 0.00E+00 | 1.25E-02 |
| | | Be-7 | <1.33E-01 | 0.00E+00 | 1.33E-01 |
| | | K-40 | 4.48E-01 | 2.52E-01 | 2.47E-01 |
| 350506 | 7/21/2014 - 7/28/2014 | I-131 | <2.34E-02 | 0.00E+00 | 2.34E-02 |
| | | Cs-134 | <1.58E-02 | 0.00E+00 | 1.58E-02 |
| | | Cs-137 | <1.70E-02 | 0.00E+00 | 1.70E-02 |
| | | Be-7 | <1.26E-01 | 0.00E+00 | 1.26E-01 |
| | | K-40 | 4.27E-01 | 2.55E-01 | 2.55E-01 |
| 350977 | 7/28/2014 - 8/4/2014 | I-131 | <1.61E-02 | 0.00E+00 | 1.61E-02 |
| | | | | | |

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MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

| Sample ID | Sample Dates | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|-----------------------|---------|-----------|--------------------------|----------|
| 350977 | 7/28/2014 - 8/4/2014 | Cs-134 | <1.85E-02 | 0.00E+00 | 1.85E-02 |
| | | Cs-137 | <1.29E-02 | 0.00E+00 | 1.29E-02 |
| | | Be-7 | <1.02E-01 | 0.00E+00 | 1.02E-01 |
| | | K-40 | <5.79E-01 | 0.00E+00 | 5.79E-01 |
| | | | | | |
| 351198 | 8/4/2014 - 8/11/2014 | I-131 | <1.98E-02 | 0.00E+00 | 1.98E-02 |
| | | Cs-134 | <3.82E-03 | 0.00E+00 | 3.82E-03 |
| | | Cs-137 | <4.78E-03 | 0.00E+00 | 4.78E-03 |
| | | Be-7 | <1.54E-01 | 0.00E+00 | 1.54E-01 |
| | | K-40 | 5.81E-01 | 2.93E-01 | 2.76E-01 |
| 351604 | 8/11/2014 - 8/18/2014 | I-131 | <1.73E-02 | 0.00E+00 | 1.73E-02 |
| | | Cs-134 | <1.28E-02 | 0.00E+00 | 1.28E-02 |
| | | Cs-137 | <1.60E-02 | 0.00E+00 | 1.60E-02 |
| | | Be-7 | <1.15E-01 | 0.00E+00 | 1.15E-01 |
| | | K-40 | 5.55E-01 | 2.91E-01 | 3.01E-01 |
| 353418 | 8/18/2014 - 8/25/2014 | I-131 | <1.32E-02 | 0.00E+00 | 1.32E-02 |
| | | Cs-134 | <2.84E-02 | 0.00E+00 | 2.84E-02 |
| | | Cs-137 | <2.37E-02 | 0.00E+00 | 2.37E-02 |
| | | Be-7 | <1.20E-01 | 0.00E+00 | 1.20E-01 |
| | | K-40 | <5.96E-01 | 0.00E+00 | 5.96E-01 |
| 354044 | 8/25/2014 - 9/2/2014 | I-131 | <1.81E-02 | 0.00E+00 | 1.81E-02 |
| | | Cs-134 | <1.71E-02 | 0.00E+00 | 1.71E-02 |
| | | Cs-137 | <1.66E-02 | 0.00E+00 | 1.66E-02 |
| | | Be-7 | <1.26E-01 | 0.00E+00 | 1.26E-01 |
| | | K-40 | 3.77E-01 | 2.39E-01 | 2.86E-01 |
| 354435 | 9/2/2014 - 9/8/2014 | I-131 | <2.48E-02 | 0.00E+00 | 2.48E-02 |
| | | Cs-134 | <2.28E-02 | 0.00E+00 | 2.28E-02 |
| | | Cs-137 | <1.91E-02 | 0.00E+00 | 1.91E-02 |
| | | Be-7 | <1.52E-01 | 0.00E+00 | 1.52E-01 |
| | | K-40 | 4.27E-01 | 3.01E-01 | 3.80E-01 |
| 354756 | 9/8/2014 - 9/15/2014 | I-131 | <2.28E-02 | 0.00E+00 | 2.28E-02 |
| | | Cs-134 | <2.69E-02 | 0.00E+00 | 2.69E-02 |
| | | Cs-137 | <2.06E-02 | 0.00E+00 | 2.06E-02 |
| | | Be-7 | <9.94E-02 | 0.00E+00 | 9.94E-02 |
| | | K-40 | <5.83E-01 | 0.00E+00 | 5.83E-01 |
| 355142 | 9/15/2014 - 9/22/2014 | I-131 | <1.96E-02 | 0.00E+00 | 1.96E-02 |
| | | Cs-134 | <1.33E-02 | 0.00E+00 | 1.33E-02 |
| | | Cs-137 | <1.32E-02 | 0.00E+00 | 1.32E-02 |
| | | Be-7 | <1.34E-01 | 0.00E+00 | 1.34E-01 |
| | | K-40 | 6.12E-01 | 3.20E-01 | 3.45E-01 |
| 355627 | 9/22/2014 - 9/29/2014 | I-131 | <1.78E-02 | 0.00E+00 | 1.78E-02 |
| | | Cs-134 | <1.69E-02 | 0.00E+00 | 1.69E-02 |
| | | Cs-137 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Be-7 | <1.02E-01 | 0.00E+00 | 1.02E-01 |
| | | K-40 | 4.45E-01 | 2.33E-01 | 8.05E-02 |
| 356482 | 9/29/2014 - 10/6/2014 | I-131 | <2.06E-02 | 0.00E+00 | 2.06E-02 |
| | | Cs-134 | <1.68E-02 | 0.00E+00 | 1.68E-02 |
| | | Cs-137 | <1.62E-02 | 0.00E+00 | 1.62E-02 |
| | | Be-7 | <8.00E-02 | 0.00E+00 | 8.00E-02 |
| | | K-40 | 5.88E-01 | 2.68E-01 | 7.97E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 357031 | 10/6/2014 - 10/13/2014 | I-131 | <2.43E-02 | 0.00E+00 | 2.43E-02 |
| | | Cs-134 | <1.02E-02 | 0.00E+00 | 1.02E-02 |
| | | Cs-137 | <1.85E-02 | 0.00E+00 | 1.85E-02 |
| | | Be-7 | <1.29E-01 | 0.00E+00 | 1.29E-01 |
| | | K-40 | <6.37E-01 | 0.00E+00 | 6.37E-01 |
| 358039 | 10/13/2014 - 10/20/2014 | I-131 | <1.06E-02 | 0.00E+00 | 1.06E-02 |
| | | Cs-134 | <1.59E-02 | 0.00E+00 | 1.59E-02 |
| | | Cs-137 | <4.98E-03 | 0.00E+00 | 4.98E-03 |
| | | Be-7 | <1.80E-01 | 0.00E+00 | 1.80E-01 |
| | | K-40 | 2.85E-01 | 2.85E-01 | 4.34E-01 |
| 358649 | 10/20/2014 - 10/27/2014 | I-131 | <1.50E-02 | 0.00E+00 | 1.50E-02 |
| | | Cs-134 | <1.98E-02 | 0.00E+00 | 1.98E-02 |
| | | Cs-137 | <1.29E-02 | 0.00E+00 | 1.29E-02 |
| | | Be-7 | <1.42E-01 | 0.00E+00 | 1.42E-01 |
| | | K-40 | 5.91E-01 | 2.69E-01 | 8.00E-02 |
| 359320 | 10/27/2014 - 11/3/2014 | I-131 | <2.46E-02 | 0.00E+00 | 2.46E-02 |
| | | Cs-134 | <1.51E-02 | 0.00E+00 | 1.51E-02 |
| | | Cs-137 | <1.29E-02 | 0.00E+00 | 1.29E-02 |
| | | Be-7 | <1.44E-01 | 0.00E+00 | 1.44E-01 |
| | | K-40 | 4.02E-01 | 2.48E-01 | 2.66E-01 |
| 360018 | 11/3/2014 - 11/10/2014 | I-131 | <2.75E-02 | 0.00E+00 | 2.75E-02 |
| | | Cs-134 | <1.82E-02 | 0.00E+00 | 1.82E-02 |
| | | Cs-137 | <2.60E-02 | 0.00E+00 | 2.60E-02 |
| | | Be-7 | <1.33E-01 | 0.00E+00 | 1.33E-01 |
| | | K-40 | <4.12E-01 | 0.00E+00 | 4.12E-01 |
| 360703 | 11/10/2014 - 11/17/2014 | I-131 | <2.51E-02 | 0.00E+00 | 2.51E-02 |
| | | Cs-134 | <3.93E-03 | 0.00E+00 | 3.93E-03 |
| | | Cs-137 | <4.91E-03 | 0.00E+00 | 4.91E-03 |
| | | Be-7 | <1.58E-01 | 0.00E+00 | 1.58E-01 |
| | | K-40 | 2.93E-01 | 2.79E-01 | 4.18E-01 |
| 361567 | 11/17/2014 - 11/24/2014 | I-131 | <1.59E-02 | 0.00E+00 | 1.59E-02 |
| | | Cs-134 | <1.12E-02 | 0.00E+00 | 1.12E-02 |
| | | Cs-137 | <1.47E-02 | 0.00E+00 | 1.47E-02 |
| | | Be-7 | <6.64E-02 | 0.00E+00 | 6.64E-02 |
| | | K-40 | 5.82E-01 | 1.93E-01 | 4.04E-02 |
| 361947 | 11/24/2014 - 12/1/2014 | I-131 | <2.98E-02 | 0.00E+00 | 2.98E-02 |
| | | Cs-134 | <1.02E-02 | 0.00E+00 | 1.02E-02 |
| | | Cs-137 | <1.94E-02 | 0.00E+00 | 1.94E-02 |
| | | Be-7 | <6.82E-02 | 0.00E+00 | 6.82E-02 |
| | | K-40 | 3.16E-01 | 2.22E-01 | 2.86E-01 |
| 362771 | 12/1/2014 - 12/8/2014 | I-131 | <1.26E-02 | 0.00E+00 | 1.26E-02 |
| | | Cs-134 | <8.26E-03 | 0.00E+00 | 8.26E-03 |
| | | Cs-137 | <9.70E-03 | 0.00E+00 | 9.70E-03 |
| | | Be-7 | <5.11E-02 | 0.00E+00 | 5.11E-02 |
| | | K-40 | 3.73E-01 | 1.49E-01 | 1.45E-01 |
| 363514 | 12/8/2014 - 12/15/2014 | I-131 | <8.36E-03 | 0.00E+00 | 8.36E-03 |
| | | Cs-134 | <8.53E-03 | 0.00E+00 | 8.53E-03 |
| | | Cs-137 | <1.40E-02 | 0.00E+00 | 1.40E-02 |
| | | Be-7 | <8.44E-02 | 0.00E+00 | 8.44E-02 |
| | | K-40 | 3.27E-01 | 1.56E-01 | 1.49E-01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 121 [INDICATOR - NE @ 0.47 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 363963 | 12/15/2014 - 12/22/2014 | I-131 | <1.31E-02 | 0.00E+00 | 1.31E-02 |
| | | Cs-134 | <1.34E-02 | 0.00E+00 | 1.34E-02 |
| | | Cs-137 | <1.15E-02 | 0.00E+00 | 1.15E-02 |
| | | Be-7 | <1.15E-01 | 0.00E+00 | 1.15E-01 |
| | | K-40 | 6.21E-01 | 2.64E-01 | 7.32E-02 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 364497 | 12/22/2014 - 12/29/2014 | I-131 | <2.84E-02 | 0.00E+00 | 2.84E-02 |
| | | Cs-134 | <1.49E-02 | 0.00E+00 | 1.49E-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 | 4.74E-01 | 2.29E-01 | 2.64E-01 |

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 280634 | 12/30/2013 - 1/6/2014 | I-131 | <2.76E-02 | 0.00E+00 | 2.76E-02 |
| | | Cs-134 | <1.98E-02 | 0.00E+00 | 1.98E-02 |
| | | Cs-137 | <1.42E-02 | 0.00E+00 | 1.42E-02 |
| | | Be-7 | <1.02E-01 | 0.00E+00 | 1.02E-01 |
| | | K-40 | 2.50E-01 | 1.28E-01 | 7.52E-02 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 280807 | 1/6/2014 - 1/13/2014 | I-131 | <2.36E-02 | 0.00E+00 | 2.36E-02 |
| | | Cs-134 | <1.90E-02 | 0.00E+00 | 1.90E-02 |
| | | Cs-137 | <1.98E-02 | 0.00E+00 | 1.98E-02 |
| | | Be-7 | <2.45E-01 | 0.00E+00 | 2.45E-01 |
| | | K-40 | 6.58E-01 | 1.60E-01 | 2.93E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 281166 | 1/13/2014 - 1/20/2014 | I-131 | <1.88E-02 | 0.00E+00 | 1.88E-02 |
| | | Cs-134 | <1.89E-02 | 0.00E+00 | 1.89E-02 |
| | | Cs-137 | <1.60E-02 | 0.00E+00 | 1.60E-02 |
| | | Be-7 | <1.34E-01 | 0.00E+00 | 1.34E-01 |
| | | K-40 | <5.04E-01 | 0.00E+00 | 5.04E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 281487 | 1/20/2014 - 1/27/2014 | I-131 | <1.06E-02 | 0.00E+00 | 1.06E-02 |
| | | Cs-134 | <9.36E-03 | 0.00E+00 | 9.36E-03 |
| | | Cs-137 | <7.16E-03 | 0.00E+00 | 7.16E-03 |
| | | Be-7 | <7.46E-02 | 0.00E+00 | 7.46E-02 |
| | | K-40 | 5.81E-01 | 9.75E-02 | 1.60E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 282110 | 1/27/2014 - 2/3/2014 | I-131 | <2.26E-02 | 0.00E+00 | 2.26E-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 | <1.84E-01 | 0.00E+00 | 1.84E-01 |
| | | K-40 | 4.93E-01 | 1.40E-01 | 2.56E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 282922 | 2/3/2014 - 2/10/2014 | I-131 | <9.36E-03 | 0.00E+00 | 9.36E-03 |
| | | Cs-134 | <1.04E-02 | 0.00E+00 | 1.04E-02 |
| | | Cs-137 | <8.18E-03 | 0.00E+00 | 8.18E-03 |
| | | Be-7 | <5.08E-02 | 0.00E+00 | 5.08E-02 |
| | | K-40 | 2.54E-01 | 9.24E-02 | 2.17E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 283369 | 2/10/2014 - 2/17/2014 | I-131 | <8.43E-03 | 0.00E+00 | 8.43E-03 |
| | | Cs-134 | <7.46E-03 | 0.00E+00 | 7.46E-03 |
| | | Cs-137 | <5.97E-03 | 0.00E+00 | 5.97E-03 |
| | | Be-7 | <8.12E-02 | 0.00E+00 | 8.12E-02 |
| | | K-40 | 3.21E-01 | 1.01E-01 | 2.44E-01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 284536 | 2/17/2014 - 2/24/2014 | I-131 | <2.14E-02 | 0.00E+00 | 2.14E-02 |
| | | Cs-134 | <2.00E-02 | 0.00E+00 | 2.00E-02 |
| | | Cs-137 | <1.70E-02 | 0.00E+00 | 1.70E-02 |
| | | Be-7 | <9.07E-02 | 0.00E+00 | 9.07E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 284536 | 2/17/2014 - 2/24/2014 | K-40 | 2.38E-01 | 1.04E-01 | 2.16E-01 |
| 285097 | 2/24/2014 - 3/3/2014 | I-131 | <1.87E-02 | 0.00E+00 | 1.87E-02 |
| | | Cs-134 | <1.70E-02 | 0.00E+00 | 1.70E-02 |
| | | Cs-137 | <1.41E-02 | 0.00E+00 | 1.41E-02 |
| | | Be-7 | <1.04E-01 | 0.00E+00 | 1.04E-01 |
| | | K-40 | <5.21E-01 | 0.00E+00 | 5.21E-01 |
| 285702 | 3/3/2014 - 3/10/2014 | I-131 | <1.11E-02 | 0.00E+00 | 1.11E-02 |
| | | Cs-134 | <7.19E-03 | 0.00E+00 | 7.19E-03 |
| | | Cs-137 | <5.44E-03 | 0.00E+00 | 5.44E-03 |
| | | Be-7 | <9.55E-02 | 0.00E+00 | 9.55E-02 |
| | | K-40 | 4.06E-01 | 6.97E-02 | 1.10E-01 |
| 286206 | 3/10/2014 - 3/17/2014 | I-131 | <1.61E-02 | 0.00E+00 | 1.61E-02 |
| | | Cs-134 | <2.03E-02 | 0.00E+00 | 2.03E-02 |
| | | Cs-137 | <2.24E-02 | 0.00E+00 | 2.24E-02 |
| | | Be-7 | <1.42E-01 | 0.00E+00 | 1.42E-01 |
| | | K-40 | 4.10E-01 | 1.10E-01 | 2.18E-01 |
| 287091 | 3/17/2014 - 3/24/2014 | I-131 | <1.22E-02 | 0.00E+00 | 1.22E-02 |
| | | Cs-134 | <1.93E-02 | 0.00E+00 | 1.93E-02 |
| | | Cs-137 | <2.05E-02 | 0.00E+00 | 2.05E-02 |
| | | Be-7 | <1.10E-01 | 0.00E+00 | 1.10E-01 |
| | | K-40 | 5.98E-01 | 1.31E-01 | 7.70E-02 |
| 288342 | 3/24/2014 - 3/31/2014 | I-131 | <1.64E-02 | 0.00E+00 | 1.64E-02 |
| | | Cs-134 | <1.94E-02 | 0.00E+00 | 1.94E-02 |
| | | Cs-137 | <1.62E-02 | 0.00E+00 | 1.62E-02 |
| | | Be-7 | <1.37E-01 | 0.00E+00 | 1.37E-01 |
| | | K-40 | 5.29E-01 | 1.22E-01 | 2.45E-01 |
| 289066 | 3/31/2014 - 4/7/2014 | I-131 | <2.22E-02 | 0.00E+00 | 2.22E-02 |
| | | Cs-134 | <1.47E-02 | 0.00E+00 | 1.47E-02 |
| | | Cs-137 | <2.84E-02 | 0.00E+00 | 2.84E-02 |
| | | Be-7 | <1.67E-01 | 0.00E+00 | 1.67E-01 |
| | | K-40 | <5.52E-01 | 0.00E+00 | 5.52E-01 |
| 289452 | 4/7/2014 - 4/14/2014 | I-131 | <1.69E-02 | 0.00E+00 | 1.69E-02 |
| | | Cs-134 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Cs-137 | <1.58E-02 | 0.00E+00 | 1.58E-02 |
| | | Be-7 | <1.11E-01 | 0.00E+00 | 1.11E-01 |
| | | K-40 | <6.55E-01 | 0.00E+00 | 6.55E-01 |
| 289862 | 4/14/2014 - 4/21/2014 | I-131 | <1.15E-02 | 0.00E+00 | 1.15E-02 |
| | | Cs-134 | <1.08E-02 | 0.00E+00 | 1.08E-02 |
| | | Cs-137 | <1.23E-02 | 0.00E+00 | 1.23E-02 |
| | | Be-7 | <5.64E-02 | 0.00E+00 | 5.64E-02 |
| | | K-40 | <3.09E-01 | 0.00E+00 | 3.09E-01 |
| 291467 | 4/21/2014 - 4/28/2014 | I-131 | <1.98E-02 | 0.00E+00 | 1.98E-02 |
| | | Cs-134 | <2.24E-02 | 0.00E+00 | 2.24E-02 |
| | | Cs-137 | <1.94E-02 | 0.00E+00 | 1.94E-02 |
| | | Be-7 | <1.52E-01 | 0.00E+00 | 1.52E-01 |
| | | K-40 | 2.78E-01 | 8.80E-02 | 7.52E-02 |
| 292761 | 4/28/2014 - 5/5/2014 | I-131 | <1.25E-02 | 0.00E+00 | 1.25E-02 |
| | | Cs-134 | <1.04E-02 | 0.00E+00 | 1.04E-02 |
| | | Cs-137 | <1.08E-02 | 0.00E+00 | 1.08E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 292761 | 4/28/2014 - 5/5/2014 | Be-7 | <6.28E-02 | 0.00E+00 | 6.28E-02 |
| | | K-40 | 2.76E-01 | 7.49E-02 | 1.06E-01 |
| 293023 | 5/5/2014 - 5/12/2014 | I-131 | <1.88E-02 | 0.00E+00 | 1.88E-02 |
| | | Cs-134 | <2.21E-02 | 0.00E+00 | 2.21E-02 |
| | | Cs-137 | <2.22E-02 | 0.00E+00 | 2.22E-02 |
| | | Be-7 | <1.38E-01 | 0.00E+00 | 1.38E-01 |
| | | K-40 | 4.09E-01 | 1.29E-01 | 2.72E-01 |
| 294654 | 5/12/2014 - 5/19/2014 | I-131 | <1.58E-02 | 0.00E+00 | 1.58E-02 |
| | | Cs-134 | <9.74E-03 | 0.00E+00 | 9.74E-03 |
| | | Cs-137 | <1.77E-02 | 0.00E+00 | 1.77E-02 |
| | | Be-7 | <1.40E-01 | 0.00E+00 | 1.40E-01 |
| | | K-40 | 5.12E-01 | 1.21E-01 | 2.11E-01 |
| 295163 | 5/19/2014 - 5/27/2014 | I-131 | <1.96E-02 | 0.00E+00 | 1.96E-02 |
| | | Cs-134 | <1.27E-02 | 0.00E+00 | 1.27E-02 |
| | | Cs-137 | <1.38E-02 | 0.00E+00 | 1.38E-02 |
| | | Be-7 | <1.00E-01 | 0.00E+00 | 1.00E-01 |
| | | K-40 | <4.12E-01 | 0.00E+00 | 4.12E-01 |
| 295424 | 5/27/2014 - 6/2/2014 | I-131 | <2.08E-02 | 0.00E+00 | 2.08E-02 |
| | | Cs-134 | <2.13E-02 | 0.00E+00 | 2.13E-02 |
| | | Cs-137 | <2.20E-02 | 0.00E+00 | 2.20E-02 |
| | | Be-7 | <1.44E-01 | 0.00E+00 | 1.44E-01 |
| | | K-40 | 5.69E-01 | 1.38E-01 | 3.51E-01 |
| 295939 | 6/2/2014 - 6/9/2014 | I-131 | <1.76E-02 | 0.00E+00 | 1.76E-02 |
| | | Cs-134 | <2.15E-02 | 0.00E+00 | 2.15E-02 |
| | | Cs-137 | <2.20E-02 | 0.00E+00 | 2.20E-02 |
| | | Be-7 | <1.43E-01 | 0.00E+00 | 1.43E-01 |
| | | K-40 | <5.98E-01 | 0.00E+00 | 5.98E-01 |
| 296184 | 6/9/2014 - 6/16/2014 | I-131 | <2.11E-02 | 0.00E+00 | 2.11E-02 |
| | | Cs-134 | <1.85E-02 | 0.00E+00 | 1.85E-02 |
| | | Cs-137 | <1.99E-02 | 0.00E+00 | 1.99E-02 |
| | | Be-7 | <1.53E-01 | 0.00E+00 | 1.53E-01 |
| | | K-40 | <5.90E-01 | 0.00E+00 | 5.90E-01 |
| 296705 | 6/16/2014 - 6/23/2014 | I-131 | <2.14E-02 | 0.00E+00 | 2.14E-02 |
| | | Cs-134 | <1.69E-02 | 0.00E+00 | 1.69E-02 |
| | | Cs-137 | <1.74E-02 | 0.00E+00 | 1.74E-02 |
| | | Be-7 | <1.69E-01 | 0.00E+00 | 1.69E-01 |
| | | K-40 | <5.40E-01 | 0.00E+00 | 5.40E-01 |
| 296932 | 6/23/2014 - 6/30/2014 | I-131 | <1.52E-02 | 0.00E+00 | 1.52E-02 |
| | | Cs-134 | <1.33E-02 | 0.00E+00 | 1.33E-02 |
| | | Cs-137 | <1.80E-02 | 0.00E+00 | 1.80E-02 |
| | | Be-7 | <9.73E-02 | 0.00E+00 | 9.73E-02 |
| | | K-40 | 6.50E-01 | 1.25E-01 | 6.50E-02 |
| 297329 | 6/30/2014 - 7/7/2014 | I-131 | <2.35E-02 | 0.00E+00 | 2.35E-02 |
| | | Cs-134 | <9.84E-03 | 0.00E+00 | 9.84E-03 |
| | | Cs-137 | <1.51E-02 | 0.00E+00 | 1.51E-02 |
| | | Be-7 | <1.50E-01 | 0.00E+00 | 1.50E-01 |
| | | K-40 | 4.31E-01 | 1.11E-01 | 2.07E-01 |
| 297617 | 7/7/2014 - 7/14/2014 | I-131 | <3.79E-02 | 0.00E+00 | 3.79E-02 |
| | | Cs-134 | <1.03E-02 | 0.00E+00 | 1.03E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 297617 | 7/7/2014 - 7/14/2014 | Cs-137 | <1.02E-02 | 0.00E+00 | 1.02E-02 |
| | | Be-7 | <1.15E-01 | 0.00E+00 | 1.15E-01 |
| | | K-40 | <4.88E-01 | 0.00E+00 | 4.88E-01 |
| | | | | | |
| 298153 | 7/14/2014 - 7/21/2014 | I-131 | <1.12E-02 | 0.00E+00 | 1.12E-02 |
| | | Cs-134 | <1.03E-02 | 0.00E+00 | 1.03E-02 |
| | | Cs-137 | <7.88E-03 | 0.00E+00 | 7.88E-03 |
| | | Be-7 | <7.23E-02 | 0.00E+00 | 7.23E-02 |
| | | K-40 | 2.87E-01 | 1.32E-01 | 1.41E-01 |
| 350507 | 7/21/2014 - 7/28/2014 | I-131 | <2.34E-02 | 0.00E+00 | 2.34E-02 |
| | | Cs-134 | <1.92E-02 | 0.00E+00 | 1.92E-02 |
| | | Cs-137 | <2.40E-02 | 0.00E+00 | 2.40E-02 |
| | | Be-7 | <1.08E-01 | 0.00E+00 | 1.08E-01 |
| | | K-40 | 6.48E-01 | 2.88E-01 | 8.36E-02 |
| 350978 | 7/28/2014 - 8/4/2014 | I-131 | <1.39E-02 | 0.00E+00 | 1.39E-02 |
| | | Cs-134 | <1.52E-02 | 0.00E+00 | 1.52E-02 |
| | | Cs-137 | <2.11E-02 | 0.00E+00 | 2.11E-02 |
| | | Be-7 | <1.44E-01 | 0.00E+00 | 1.44E-01 |
| | | K-40 | 3.63E-01 | 2.44E-01 | 2.85E-01 |
| 351199 | 8/4/2014 - 8/11/2014 | I-131 | <2.34E-02 | 0.00E+00 | 2.34E-02 |
| | | Cs-134 | <1.52E-02 | 0.00E+00 | 1.52E-02 |
| | | Cs-137 | <1.90E-02 | 0.00E+00 | 1.90E-02 |
| | | Be-7 | <1.17E-01 | 0.00E+00 | 1.17E-01 |
| | | K-40 | 6.30E-01 | 3.11E-01 | 3.07E-01 |
| 351605 | 8/11/2014 - 8/18/2014 | I-131 | <1.07E-02 | 0.00E+00 | 1.07E-02 |
| | | Cs-134 | <2.47E-02 | 0.00E+00 | 2.47E-02 |
| | | Cs-137 | <1.85E-02 | 0.00E+00 | 1.85E-02 |
| | | Be-7 | <1.16E-01 | 0.00E+00 | 1.16E-01 |
| | | K-40 | 3.38E-01 | 2.40E-01 | 2.97E-01 |
| 353419 | 8/18/2014 - 8/25/2014 | I-131 | <2.01E-02 | 0.00E+00 | 2.01E-02 |
| | | Cs-134 | <2.01E-02 | 0.00E+00 | 2.01E-02 |
| | | Cs-137 | <2.17E-02 | 0.00E+00 | 2.17E-02 |
| | | Be-7 | <1.20E-01 | 0.00E+00 | 1.20E-01 |
| | | K-40 | 3.91E-01 | 2.43E-01 | 2.49E-01 |
| 354046 | 8/25/2014 - 9/2/2014 | I-131 | <2.05E-02 | 0.00E+00 | 2.05E-02 |
| | | Cs-134 | <4.99E-03 | 0.00E+00 | 4.99E-03 |
| | | Cs-137 | <1.13E-02 | 0.00E+00 | 1.13E-02 |
| | | Be-7 | <1.03E-01 | 0.00E+00 | 1.03E-01 |
| | | K-40 | 2.86E-01 | 1.74E-01 | 7.04E-02 |
| 354436 | 9/2/2014 - 9/8/2014 | I-131 | <1.88E-02 | 0.00E+00 | 1.88E-02 |
| | | Cs-134 | <1.97E-02 | 0.00E+00 | 1.97E-02 |
| | | Cs-137 | <1.51E-02 | 0.00E+00 | 1.51E-02 |
| | | Be-7 | <1.52E-01 | 0.00E+00 | 1.52E-01 |
| | | K-40 | 3.15E-01 | 3.18E-01 | 4.87E-01 |
| 354757 | 9/8/2014 - 9/15/2014 | I-131 | <1.89E-02 | 0.00E+00 | 1.89E-02 |
| | | Cs-134 | <1.91E-02 | 0.00E+00 | 1.91E-02 |
| | | Cs-137 | <4.65E-03 | 0.00E+00 | 4.65E-03 |
| | | Be-7 | <9.96E-02 | 0.00E+00 | 9.96E-02 |
| | | K-40 | <6.01E-01 | 0.00E+00 | 6.01E-01 |
| 355144 | 9/15/2014 - 9/22/2014 | I-131 | <1.97E-02 | 0.00E+00 | 1.97E-02 |
| | | | | | |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 355144 | 9/15/2014 - 9/22/2014 | Cs-134 | <1.72E-02 | 0.00E+00 | 1.72E-02 |
| | | Cs-137 | <1.66E-02 | 0.00E+00 | 1.66E-02 |
| | | Be-7 | <1.20E-01 | 0.00E+00 | 1.20E-01 |
| | | K-40 | <5.90E-01 | 0.00E+00 | 5.90E-01 |
| | | | | | |
| 355628 | 9/22/2014 - 9/29/2014 | I-131 | <2.24E-02 | 0.00E+00 | 2.24E-02 |
| | | Cs-134 | <1.31E-02 | 0.00E+00 | 1.31E-02 |
| | | Cs-137 | <1.30E-02 | 0.00E+00 | 1.30E-02 |
| | | Be-7 | <1.02E-01 | 0.00E+00 | 1.02E-01 |
| | | K-40 | 3.87E-01 | 2.17E-01 | 8.08E-02 |
| 356484 | 9/29/2014 - 10/6/2014 | I-131 | <1.77E-02 | 0.00E+00 | 1.77E-02 |
| | | Cs-134 | <1.98E-02 | 0.00E+00 | 1.98E-02 |
| | | Cs-137 | <2.10E-02 | 0.00E+00 | 2.10E-02 |
| | | Be-7 | <1.43E-01 | 0.00E+00 | 1.43E-01 |
| | | K-40 | 2.28E-01 | 1.95E-01 | 2.50E-01 |
| 357032 | 10/6/2014 - 10/13/2014 | I-131 | <2.70E-02 | 0.00E+00 | 2.70E-02 |
| | | Cs-134 | <3.71E-03 | 0.00E+00 | 3.71E-03 |
| | | Cs-137 | <4.63E-03 | 0.00E+00 | 4.63E-03 |
| | | Be-7 | <1.30E-01 | 0.00E+00 | 1.30E-01 |
| | | K-40 | 3.97E-01 | 2.39E-01 | 2.46E-01 |
| 358040 | 10/13/2014 - 10/20/2014 | I-131 | <1.73E-02 | 0.00E+00 | 1.73E-02 |
| | | Cs-134 | <1.77E-02 | 0.00E+00 | 1.77E-02 |
| | | Cs-137 | <4.98E-03 | 0.00E+00 | 4.98E-03 |
| | | Be-7 | <1.36E-01 | 0.00E+00 | 1.36E-01 |
| | | K-40 | 5.95E-01 | 3.11E-01 | 3.17E-01 |
| 358650 | 10/20/2014 - 10/27/2014 | I-131 | <1.84E-02 | 0.00E+00 | 1.84E-02 |
| | | Cs-134 | <2.23E-02 | 0.00E+00 | 2.23E-02 |
| | | Cs-137 | <1.89E-02 | 0.00E+00 | 1.89E-02 |
| | | Be-7 | <2.94E-02 | 0.00E+00 | 2.94E-02 |
| | | K-40 | 2.53E-01 | 2.26E-01 | 3.17E-01 |
| 359321 | 10/27/2014 - 11/3/2014 | I-131 | <1.94E-02 | 0.00E+00 | 1.94E-02 |
| | | Cs-134 | <1.51E-02 | 0.00E+00 | 1.51E-02 |
| | | Cs-137 | <4.75E-03 | 0.00E+00 | 4.75E-03 |
| | | Be-7 | <1.91E-01 | 0.00E+00 | 1.91E-01 |
| | | K-40 | 3.85E-01 | 2.16E-01 | 8.03E-02 |
| 360019 | 11/3/2014 - 11/10/2014 | I-131 | <2.28E-02 | 0.00E+00 | 2.28E-02 |
| | | Cs-134 | <1.29E-02 | 0.00E+00 | 1.29E-02 |
| | | Cs-137 | <1.60E-02 | 0.00E+00 | 1.60E-02 |
| | | Be-7 | <1.19E-01 | 0.00E+00 | 1.19E-01 |
| | | K-40 | <4.63E-01 | 0.00E+00 | 4.63E-01 |
| 360704 | 11/10/2014 - 11/17/2014 | I-131 | <2.29E-02 | 0.00E+00 | 2.29E-02 |
| | | Cs-134 | <1.74E-02 | 0.00E+00 | 1.74E-02 |
| | | Cs-137 | <2.38E-02 | 0.00E+00 | 2.38E-02 |
| | | Be-7 | <1.21E-01 | 0.00E+00 | 1.21E-01 |
| | | K-40 | 4.92E-01 | 2.88E-01 | 3.23E-01 |
| 361568 | 11/17/2014 - 11/24/2014 | I-131 | <2.22E-02 | 0.00E+00 | 2.22E-02 |
| | | Cs-134 | <1.52E-02 | 0.00E+00 | 1.52E-02 |
| | | Cs-137 | <2.49E-02 | 0.00E+00 | 2.49E-02 |
| | | Be-7 | <1.02E-01 | 0.00E+00 | 1.02E-01 |
| | | K-40 | 5.07E-01 | 2.50E-01 | 8.08E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 361948 | 11/24/2014 - 12/1/2014 | I-131 | <3.62E-02 | 0.00E+00 | 3.62E-02 |
| | | Cs-134 | <1.75E-02 | 0.00E+00 | 1.75E-02 |
| | | Cs-137 | <2.58E-02 | 0.00E+00 | 2.58E-02 |
| | | Be-7 | <9.76E-02 | 0.00E+00 | 9.76E-02 |
| | | K-40 | 8.88E-01 | 3.75E-01 | 4.01E-01 |
| 362772 | 12/1/2014 - 12/8/2014 | I-131 | <1.42E-02 | 0.00E+00 | 1.42E-02 |
| | | Cs-134 | <9.25E-03 | 0.00E+00 | 9.25E-03 |
| | | Cs-137 | <6.42E-03 | 0.00E+00 | 6.42E-03 |
| | | Be-7 | <7.13E-02 | 0.00E+00 | 7.13E-02 |
| | | K-40 | 5.40E-01 | 1.77E-01 | 1.25E-01 |
| 363515 | 12/8/2014 - 12/15/2014 | I-131 | <1.30E-02 | 0.00E+00 | 1.30E-02 |
| | | Cs-134 | <1.24E-02 | 0.00E+00 | 1.24E-02 |
| | | Cs-137 | <1.25E-02 | 0.00E+00 | 1.25E-02 |
| | | Be-7 | <7.93E-02 | 0.00E+00 | 7.93E-02 |
| | | K-40 | <3.46E-01 | 0.00E+00 | 3.46E-01 |
| 363964 | 12/15/2014 - 12/22/2014 | I-131 | <1.14E-02 | 0.00E+00 | 1.14E-02 |
| | | Cs-134 | <9.04E-03 | 0.00E+00 | 9.04E-03 |
| | | Cs-137 | <1.36E-02 | 0.00E+00 | 1.36E-02 |
| | | Be-7 | <9.03E-02 | 0.00E+00 | 9.03E-02 |
| | | K-40 | 2.52E-01 | 1.32E-01 | 1.22E-01 |
| 364498 | 12/22/2014 - 12/29/2014 | I-131 | <3.10E-02 | 0.00E+00 | 3.10E-02 |
| | | Cs-134 | <1.17E-02 | 0.00E+00 | 1.17E-02 |
| | | Cs-137 | <8.07E-03 | 0.00E+00 | 8.07E-03 |
| | | Be-7 | <1.01E-01 | 0.00E+00 | 1.01E-01 |
| | | K-40 | 4.57E-01 | 2.56E-01 | 3.42E-01 |

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 280646 | 12/30/2013 - 1/6/2014 | I-131 | <2.40E-02 | 0.00E+00 | 2.40E-02 |
| | | Cs-134 | <1.23E-02 | 0.00E+00 | 1.23E-02 |
| | | Cs-137 | <2.05E-02 | 0.00E+00 | 2.05E-02 |
| | | Be-7 | <1.47E-01 | 0.00E+00 | 1.47E-01 |
| | | K-40 | 6.24E-01 | 1.33E-01 | 3.47E-01 |
| 280819 | 1/6/2014 - 1/13/2014 | I-131 | <2.38E-02 | 0.00E+00 | 2.38E-02 |
| | | Cs-134 | <1.62E-02 | 0.00E+00 | 1.62E-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 | 5.21E-01 | 1.23E-01 | 3.23E-01 |
| 281178 | 1/13/2014 - 1/20/2014 | I-131 | <2.40E-02 | 0.00E+00 | 2.40E-02 |
| | | Cs-134 | <1.68E-02 | 0.00E+00 | 1.68E-02 |
| | | Cs-137 | <1.72E-02 | 0.00E+00 | 1.72E-02 |
| | | Be-7 | <9.66E-02 | 0.00E+00 | 9.66E-02 |
| | | K-40 | 4.86E-01 | 1.18E-01 | 2.60E-01 |
| 281499 | 1/20/2014 - 1/27/2014 | I-131 | <1.24E-02 | 0.00E+00 | 1.24E-02 |
| | | Cs-134 | <1.52E-02 | 0.00E+00 | 1.52E-02 |
| | | Cs-137 | <1.72E-02 | 0.00E+00 | 1.72E-02 |
| | | Be-7 | <1.05E-01 | 0.00E+00 | 1.05E-01 |
| | | K-40 | 3.61E-01 | 9.02E-02 | 6.10E-02 |
| 282122 | 1/27/2014 - 2/3/2014 | I-131 | <1.96E-02 | 0.00E+00 | 1.96E-02 |
| | | Cs-134 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Cs-137 | <2.04E-02 | 0.00E+00 | 2.04E-02 |
| | | Be-7 | <1.57E-01 | 0.00E+00 | 1.57E-01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 282122 | 1/27/2014 - 2/3/2014 | K-40 | 6.73E-01 | 1.61E-01 | 3.92E-01 |
| 282934 | 2/3/2014 - 2/10/2014 | I-131 | <1.17E-02 | 0.00E+00 | 1.17E-02 |
| | | Cs-134 | <9.05E-03 | 0.00E+00 | 9.05E-03 |
| | | Cs-137 | <1.05E-02 | 0.00E+00 | 1.05E-02 |
| | | Be-7 | <8.40E-02 | 0.00E+00 | 8.40E-02 |
| | | K-40 | 5.94E-01 | 8.48E-02 | 1.12E-01 |
| 283381 | 2/10/2014 - 2/17/2014 | I-131 | <2.07E-02 | 0.00E+00 | 2.07E-02 |
| | | Cs-134 | <1.73E-02 | 0.00E+00 | 1.73E-02 |
| | | Cs-137 | <2.58E-02 | 0.00E+00 | 2.58E-02 |
| | | Be-7 | <9.92E-02 | 0.00E+00 | 9.92E-02 |
| | | K-40 | <5.42E-01 | 0.00E+00 | 5.42E-01 |
| 284548 | 2/17/2014 - 2/24/2014 | I-131 | <1.21E-02 | 0.00E+00 | 1.21E-02 |
| | | Cs-134 | <9.20E-03 | 0.00E+00 | 9.20E-03 |
| | | Cs-137 | <7.83E-03 | 0.00E+00 | 7.83E-03 |
| | | Be-7 | <6.98E-02 | 0.00E+00 | 6.98E-02 |
| | | K-40 | 6.70E-01 | 8.96E-02 | 1.10E-01 |
| 285109 | 2/24/2014 - 3/3/2014 | I-131 | <2.31E-02 | 0.00E+00 | 2.31E-02 |
| | | Cs-134 | <9.64E-03 | 0.00E+00 | 9.64E-03 |
| | | Cs-137 | <1.75E-02 | 0.00E+00 | 1.75E-02 |
| | | Be-7 | <7.53E-02 | 0.00E+00 | 7.53E-02 |
| | | K-40 | 4.79E-01 | 1.16E-01 | 3.51E-01 |
| 285714 | 3/3/2014 - 3/10/2014 | I-131 | <1.36E-02 | 0.00E+00 | 1.36E-02 |
| | | Cs-134 | <1.04E-02 | 0.00E+00 | 1.04E-02 |
| | | Cs-137 | <1.25E-02 | 0.00E+00 | 1.25E-02 |
| | | Be-7 | <6.99E-02 | 0.00E+00 | 6.99E-02 |
| | | K-40 | <3.86E-01 | 0.00E+00 | 3.86E-01 |
| 286218 | 3/10/2014 - 3/17/2014 | I-131 | <1.96E-02 | 0.00E+00 | 1.96E-02 |
| | | Cs-134 | <1.93E-02 | 0.00E+00 | 1.93E-02 |
| | | Cs-137 | <2.57E-02 | 0.00E+00 | 2.57E-02 |
| | | Be-7 | <1.44E-01 | 0.00E+00 | 1.44E-01 |
| | | K-40 | <5.64E-01 | 0.00E+00 | 5.64E-01 |
| 287103 | 3/17/2014 - 3/24/2014 | I-131 | <1.18E-02 | 0.00E+00 | 1.18E-02 |
| | | Cs-134 | <7.18E-03 | 0.00E+00 | 7.18E-03 |
| | | Cs-137 | <9.51E-03 | 0.00E+00 | 9.51E-03 |
| | | Be-7 | <7.65E-02 | 0.00E+00 | 7.65E-02 |
| | | K-40 | 3.40E-01 | 1.20E-01 | 1.81E-01 |
| 288354 | 3/24/2014 - 3/31/2014 | I-131 | <1.68E-02 | 0.00E+00 | 1.68E-02 |
| | | Cs-134 | <1.70E-02 | 0.00E+00 | 1.70E-02 |
| | | Cs-137 | <2.48E-02 | 0.00E+00 | 2.48E-02 |
| | | Be-7 | <1.27E-01 | 0.00E+00 | 1.27E-01 |
| | | K-40 | 6.77E-01 | 1.38E-01 | 7.62E-02 |
| 289078 | 3/31/2014 - 4/7/2014 | I-131 | <1.12E-02 | 0.00E+00 | 1.12E-02 |
| | | Cs-134 | <5.99E-03 | 0.00E+00 | 5.99E-03 |
| | | Cs-137 | <9.57E-03 | 0.00E+00 | 9.57E-03 |
| | | Be-7 | <6.63E-02 | 0.00E+00 | 6.63E-02 |
| | | K-40 | 6.04E-01 | 8.54E-02 | 1.12E-01 |
| 289464 | 4/7/2014 - 4/14/2014 | I-131 | <1.74E-02 | 0.00E+00 | 1.74E-02 |
| | | Cs-134 | <1.72E-02 | 0.00E+00 | 1.72E-02 |
| | | Cs-137 | <1.70E-02 | 0.00E+00 | 1.70E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 289464 | 4/7/2014 - 4/14/2014 | Be-7 | <1.45E-01 | 0.00E+00 | 1.45E-01 |
| | | K-40 | <6.88E-01 | 0.00E+00 | 6.88E-01 |
| 289874 | 4/14/2014 - 4/21/2014 | I-131 | <1.22E-02 | 0.00E+00 | 1.22E-02 |
| | | Cs-134 | <1.33E-02 | 0.00E+00 | 1.33E-02 |
| | | Cs-137 | <1.47E-02 | 0.00E+00 | 1.47E-02 |
| | | Be-7 | <1.01E-01 | 0.00E+00 | 1.01E-01 |
| | | K-40 | 2.79E-01 | 7.74E-02 | 1.78E-01 |
| 291479 | 4/21/2014 - 4/28/2014 | I-131 | <2.28E-02 | 0.00E+00 | 2.28E-02 |
| | | Cs-134 | <1.89E-02 | 0.00E+00 | 1.89E-02 |
| | | Cs-137 | <2.47E-02 | 0.00E+00 | 2.47E-02 |
| | | Be-7 | <1.11E-01 | 0.00E+00 | 1.11E-01 |
| | | K-40 | <4.49E-01 | 0.00E+00 | 4.49E-01 |
| 292773 | 4/28/2014 - 5/5/2014 | I-131 | <1.77E-02 | 0.00E+00 | 1.77E-02 |
| | | Cs-134 | <1.43E-02 | 0.00E+00 | 1.43E-02 |
| | | Cs-137 | <1.70E-02 | 0.00E+00 | 1.70E-02 |
| | | Be-7 | <1.20E-01 | 0.00E+00 | 1.20E-01 |
| | | K-40 | 5.66E-01 | 1.52E-01 | 2.53E-01 |
| 293035 | 5/5/2014 - 5/12/2014 | I-131 | <2.20E-02 | 0.00E+00 | 2.20E-02 |
| | | Cs-134 | <1.68E-02 | 0.00E+00 | 1.68E-02 |
| | | Cs-137 | <2.53E-02 | 0.00E+00 | 2.53E-02 |
| | | Be-7 | <1.53E-01 | 0.00E+00 | 1.53E-01 |
| | | K-40 | 2.90E-01 | 9.16E-02 | 2.11E-01 |
| 294666 | 5/12/2014 - 5/19/2014 | I-131 | <2.24E-02 | 0.00E+00 | 2.24E-02 |
| | | Cs-134 | <1.98E-02 | 0.00E+00 | 1.98E-02 |
| | | Cs-137 | <2.77E-02 | 0.00E+00 | 2.77E-02 |
| | | Be-7 | <1.61E-01 | 0.00E+00 | 1.61E-01 |
| | | K-40 | <4.76E-01 | 0.00E+00 | 4.76E-01 |
| 295175 | 5/19/2014 - 5/27/2014 | I-131 | <2.00E-02 | 0.00E+00 | 2.00E-02 |
| | | Cs-134 | <1.38E-02 | 0.00E+00 | 1.38E-02 |
| | | Cs-137 | <1.44E-02 | 0.00E+00 | 1.44E-02 |
| | | Be-7 | <1.34E-01 | 0.00E+00 | 1.34E-01 |
| | | K-40 | 5.69E-01 | 1.19E-01 | 2.84E-01 |
| 295436 | 5/27/2014 - 6/2/2014 | I-131 | <2.42E-02 | 0.00E+00 | 2.42E-02 |
| | | Cs-134 | <2.05E-02 | 0.00E+00 | 2.05E-02 |
| | | Cs-137 | <2.61E-02 | 0.00E+00 | 2.61E-02 |
| | | Be-7 | <1.58E-01 | 0.00E+00 | 1.58E-01 |
| | | K-40 | 4.37E-01 | 1.21E-01 | 9.08E-02 |
| 295951 | 6/2/2014 - 6/9/2014 | I-131 | <2.19E-02 | 0.00E+00 | 2.19E-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 | <1.32E-01 | 0.00E+00 | 1.32E-01 |
| | | K-40 | 4.47E-01 | 1.45E-01 | 7.98E-02 |
| 296196 | 6/9/2014 - 6/16/2014 | I-131 | <1.46E-02 | 0.00E+00 | 1.46E-02 |
| | | Cs-134 | <1.83E-02 | 0.00E+00 | 1.83E-02 |
| | | Cs-137 | <1.54E-02 | 0.00E+00 | 1.54E-02 |
| | | Be-7 | <1.51E-01 | 0.00E+00 | 1.51E-01 |
| | | K-40 | 3.83E-01 | 1.31E-01 | 2.72E-01 |
| 296717 | 6/16/2014 - 6/23/2014 | I-131 | <2.01E-02 | 0.00E+00 | 2.01E-02 |
| | | Cs-134 | <1.22E-02 | 0.00E+00 | 1.22E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 296717 | 6/16/2014 - 6/23/2014 | Cs-137 | <1.21E-02 | 0.00E+00 | 1.21E-02 |
| | | Be-7 | <1.13E-01 | 0.00E+00 | 1.13E-01 |
| | | K-40 | 4.79E-01 | 1.16E-01 | 2.04E-01 |
| 296944 | 6/23/2014 - 6/30/2014 | I-131 | <2.27E-02 | 0.00E+00 | 2.27E-02 |
| | | Cs-134 | <1.18E-02 | 0.00E+00 | 1.18E-02 |
| | | Cs-137 | <2.49E-02 | 0.00E+00 | 2.49E-02 |
| | | Be-7 | <1.22E-01 | 0.00E+00 | 1.22E-01 |
| | | K-40 | 4.31E-01 | 1.32E-01 | 3.17E-01 |
| 297341 | 6/30/2014 - 7/7/2014 | I-131 | <2.28E-02 | 0.00E+00 | 2.28E-02 |
| | | Cs-134 | <2.30E-02 | 0.00E+00 | 2.30E-02 |
| | | Cs-137 | <1.98E-02 | 0.00E+00 | 1.98E-02 |
| | | Be-7 | <1.01E-01 | 0.00E+00 | 1.01E-01 |
| | | K-40 | 4.87E-01 | 1.18E-01 | 2.46E-01 |
| 297629 | 7/7/2014 - 7/14/2014 | I-131 | <2.29E-02 | 0.00E+00 | 2.29E-02 |
| | | Cs-134 | <7.80E-03 | 0.00E+00 | 7.80E-03 |
| | | Cs-137 | <8.94E-03 | 0.00E+00 | 8.94E-03 |
| | | Be-7 | <5.32E-02 | 0.00E+00 | 5.32E-02 |
| | | K-40 | 3.34E-01 | 1.42E-01 | 1.34E-01 |
| 298165 | 7/14/2014 - 7/21/2014 | I-131 | <1.61E-02 | 0.00E+00 | 1.61E-02 |
| | | Cs-134 | <1.53E-03 | 0.00E+00 | 1.53E-03 |
| | | Cs-137 | <9.92E-03 | 0.00E+00 | 9.92E-03 |
| | | Be-7 | <6.10E-02 | 0.00E+00 | 6.10E-02 |
| | | K-40 | 5.26E-01 | 1.76E-01 | 1.26E-01 |
| 350508 | 7/21/2014 - 7/28/2014 | I-131 | <2.31E-02 | 0.00E+00 | 2.31E-02 |
| | | Cs-134 | <1.33E-02 | 0.00E+00 | 1.33E-02 |
| | | Cs-137 | <1.92E-02 | 0.00E+00 | 1.92E-02 |
| | | Be-7 | <8.38E-02 | 0.00E+00 | 8.38E-02 |
| | | K-40 | 4.80E-01 | 2.44E-01 | 8.13E-02 |
| 350979 | 7/28/2014 - 8/4/2014 | I-131 | <2.27E-02 | 0.00E+00 | 2.27E-02 |
| | | Cs-134 | <1.04E-02 | 0.00E+00 | 1.04E-02 |
| | | Cs-137 | <2.48E-02 | 0.00E+00 | 2.48E-02 |
| | | Be-7 | <1.55E-01 | 0.00E+00 | 1.55E-01 |
| | | K-40 | <6.67E-01 | 0.00E+00 | 6.67E-01 |
| 351200 | 8/4/2014 - 8/11/2014 | I-131 | <1.70E-02 | 0.00E+00 | 1.70E-02 |
| | | Cs-134 | <1.31E-02 | 0.00E+00 | 1.31E-02 |
| | | Cs-137 | <1.64E-02 | 0.00E+00 | 1.64E-02 |
| | | Be-7 | <1.31E-01 | 0.00E+00 | 1.31E-01 |
| | | K-40 | 4.19E-01 | 2.41E-01 | 2.19E-01 |
| 351606 | 8/11/2014 - 8/18/2014 | I-131 | <4.02E-03 | 0.00E+00 | 4.02E-03 |
| | | Cs-134 | <1.94E-02 | 0.00E+00 | 1.94E-02 |
| | | Cs-137 | <1.62E-02 | 0.00E+00 | 1.62E-02 |
| | | Be-7 | <1.01E-01 | 0.00E+00 | 1.01E-01 |
| | | K-40 | 4.62E-01 | 2.60E-01 | 2.57E-01 |
| 353420 | 8/18/2014 - 8/25/2014 | I-131 | <1.99E-02 | 0.00E+00 | 1.99E-02 |
| | | Cs-134 | <2.29E-02 | 0.00E+00 | 2.29E-02 |
| | | Cs-137 | <1.31E-02 | 0.00E+00 | 1.31E-02 |
| | | Be-7 | <1.18E-01 | 0.00E+00 | 1.18E-01 |
| | | K-40 | 5.57E-01 | 2.86E-01 | 2.68E-01 |
| 354048 | 8/25/2014 - 9/2/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
| | | I-131 | <1.21E-02 | 0.00E+00 | 1.21E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 354048 | 8/25/2014 - 9/2/2014 | Cs-134 | <2.42E-02 | 0.00E+00 | 2.42E-02 |
| | | Cs-137 | <1.43E-02 | 0.00E+00 | 1.43E-02 |
| | | Be-7 | <1.26E-01 | 0.00E+00 | 1.26E-01 |
| | | K-40 | 3.34E-01 | 2.08E-01 | 2.14E-01 |
| | | | | | |
| 354437 | 9/2/2014 - 9/8/2014 | I-131 | <2.50E-02 | 0.00E+00 | 2.50E-02 |
| | | Cs-134 | <2.28E-02 | 0.00E+00 | 2.28E-02 |
| | | Cs-137 | <2.46E-02 | 0.00E+00 | 2.46E-02 |
| | | Be-7 | <1.17E-01 | 0.00E+00 | 1.17E-01 |
| | | K-40 | 6.92E-01 | 3.15E-01 | 9.38E-02 |
| 354758 | 9/8/2014 - 9/15/2014 | I-131 | <2.36E-02 | 0.00E+00 | 2.36E-02 |
| | | Cs-134 | <1.95E-02 | 0.00E+00 | 1.95E-02 |
| | | Cs-137 | <1.63E-02 | 0.00E+00 | 1.63E-02 |
| | | Be-7 | <1.43E-01 | 0.00E+00 | 1.43E-01 |
| | | K-40 | <6.47E-01 | 0.00E+00 | 6.47E-01 |
| 355146 | 9/15/2014 - 9/22/2014 | I-131 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Cs-134 | <1.32E-02 | 0.00E+00 | 1.32E-02 |
| | | Cs-137 | <1.65E-02 | 0.00E+00 | 1.65E-02 |
| | | Be-7 | <8.15E-02 | 0.00E+00 | 8.15E-02 |
| | | K-40 | 3.04E-01 | 2.08E-01 | 2.10E-01 |
| 355629 | 9/22/2014 - 9/29/2014 | I-131 | <1.97E-02 | 0.00E+00 | 1.97E-02 |
| | | Cs-134 | <2.56E-02 | 0.00E+00 | 2.56E-02 |
| | | Cs-137 | <1.30E-02 | 0.00E+00 | 1.30E-02 |
| | | Be-7 | <1.55E-01 | 0.00E+00 | 1.55E-01 |
| | | K-40 | <5.99E-01 | 0.00E+00 | 5.99E-01 |
| 356485 | 9/29/2014 - 10/6/2014 | I-131 | <1.80E-02 | 0.00E+00 | 1.80E-02 |
| | | Cs-134 | <1.04E-02 | 0.00E+00 | 1.04E-02 |
| | | Cs-137 | <1.29E-02 | 0.00E+00 | 1.29E-02 |
| | | Be-7 | <1.32E-01 | 0.00E+00 | 1.32E-01 |
| | | K-40 | 5.21E-01 | 3.44E-01 | 4.65E-01 |
| 357033 | 10/6/2014 - 10/13/2014 | I-131 | <1.37E-02 | 0.00E+00 | 1.37E-02 |
| | | Cs-134 | <1.26E-02 | 0.00E+00 | 1.26E-02 |
| | | Cs-137 | <1.58E-02 | 0.00E+00 | 1.58E-02 |
| | | Be-7 | <1.60E-01 | 0.00E+00 | 1.60E-01 |
| | | K-40 | <5.00E-01 | 0.00E+00 | 5.00E-01 |
| 358041 | 10/13/2014 - 10/20/2014 | I-131 | <2.00E-02 | 0.00E+00 | 2.00E-02 |
| | | Cs-134 | <1.72E-02 | 0.00E+00 | 1.72E-02 |
| | | Cs-137 | <1.66E-02 | 0.00E+00 | 1.66E-02 |
| | | Be-7 | <1.19E-01 | 0.00E+00 | 1.19E-01 |
| | | K-40 | 4.22E-01 | 2.28E-01 | 8.16E-02 |
| 358651 | 10/20/2014 - 10/27/2014 | I-131 | <2.00E-02 | 0.00E+00 | 2.00E-02 |
| | | Cs-134 | <1.69E-02 | 0.00E+00 | 1.69E-02 |
| | | Cs-137 | <1.30E-02 | 0.00E+00 | 1.30E-02 |
| | | Be-7 | <1.01E-01 | 0.00E+00 | 1.01E-01 |
| | | K-40 | 3.62E-01 | 2.23E-01 | 2.06E-01 |
| 359323 | 10/27/2014 - 11/3/2014 | I-131 | <1.60E-02 | 0.00E+00 | 1.60E-02 |
| | | Cs-134 | <1.97E-02 | 0.00E+00 | 1.97E-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 | <5.35E-01 | 0.00E+00 | 5.35E-01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 133 [INDICATOR - ENE @ 6.23 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 360020 | 11/3/2014 - 11/10/2014 | I-131 | <2.34E-02 | 0.00E+00 | 2.34E-02 |
| | | Cs-134 | <1.99E-02 | 0.00E+00 | 1.99E-02 |
| | | Cs-137 | <2.11E-02 | 0.00E+00 | 2.11E-02 |
| | | Be-7 | <1.22E-01 | 0.00E+00 | 1.22E-01 |
| | | K-40 | <6.33E-01 | 0.00E+00 | 6.33E-01 |
| 360705 | 11/10/2014 - 11/17/2014 | I-131 | <2.39E-02 | 0.00E+00 | 2.39E-02 |
| | | Cs-134 | <1.54E-02 | 0.00E+00 | 1.54E-02 |
| | | Cs-137 | <1.31E-02 | 0.00E+00 | 1.31E-02 |
| | | Be-7 | <1.33E-01 | 0.00E+00 | 1.33E-01 |
| | | K-40 | 5.21E-01 | 3.19E-01 | 4.01E-01 |
| 361569 | 11/17/2014 - 11/24/2014 | I-131 | <2.23E-02 | 0.00E+00 | 2.23E-02 |
| | | Cs-134 | <1.70E-02 | 0.00E+00 | 1.70E-02 |
| | | Cs-137 | <1.64E-02 | 0.00E+00 | 1.64E-02 |
| | | Be-7 | <1.31E-01 | 0.00E+00 | 1.31E-01 |
| | | K-40 | <6.00E-01 | 0.00E+00 | 6.00E-01 |
| 361949 | 11/24/2014 - 12/1/2014 | I-131 | <2.79E-02 | 0.00E+00 | 2.79E-02 |
| | | Cs-134 | <1.19E-02 | 0.00E+00 | 1.19E-02 |
| | | Cs-137 | <1.48E-02 | 0.00E+00 | 1.48E-02 |
| | | Be-7 | <1.39E-01 | 0.00E+00 | 1.39E-01 |
| | | K-40 | 3.56E-01 | 2.06E-01 | 2.04E-01 |
| 362773 | 12/1/2014 - 12/8/2014 | I-131 | <2.52E-02 | 0.00E+00 | 2.52E-02 |
| | | Cs-134 | <1.31E-02 | 0.00E+00 | 1.31E-02 |
| | | Cs-137 | <1.64E-02 | 0.00E+00 | 1.64E-02 |
| | | Be-7 | <9.38E-02 | 0.00E+00 | 9.38E-02 |
| | | K-40 | 5.97E-01 | 2.84E-01 | 3.03E-01 |
| 363516 | 12/8/2014 - 12/15/2014 | I-131 | <1.35E-02 | 0.00E+00 | 1.35E-02 |
| | | Cs-134 | <1.11E-02 | 0.00E+00 | 1.11E-02 |
| | | Cs-137 | <1.04E-02 | 0.00E+00 | 1.04E-02 |
| | | Be-7 | <8.78E-02 | 0.00E+00 | 8.78E-02 |
| | | K-40 | 4.34E-01 | 1.77E-01 | 1.53E-01 |
| 363965 | 12/15/2014 - 12/22/2014 | I-131 | <1.29E-02 | 0.00E+00 | 1.29E-02 |
| | | Cs-134 | <1.32E-02 | 0.00E+00 | 1.32E-02 |
| | | Cs-137 | <1.28E-02 | 0.00E+00 | 1.28E-02 |
| | | Be-7 | <9.05E-02 | 0.00E+00 | 9.05E-02 |
| | | K-40 | 2.87E-01 | 2.22E-01 | 3.04E-01 |
| 364499 | 12/22/2014 - 12/29/2014 | I-131 | <3.11E-02 | 0.00E+00 | 3.11E-02 |
| | | Cs-134 | <1.49E-02 | 0.00E+00 | 1.49E-02 |
| | | Cs-137 | <1.44E-02 | 0.00E+00 | 1.44E-02 |
| | | Be-7 | <9.29E-02 | 0.00E+00 | 9.29E-02 |
| | | K-40 | 4.93E-01 | 2.13E-01 | 2.01E-01 |

Sample Point 195 [INDICATOR - N @ 0.19 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 280635 | 12/30/2013 - 1/6/2014 | I-131 | <2.25E-02 | 0.00E+00 | 2.25E-02 |
| | | Cs-134 | <2.30E-02 | 0.00E+00 | 2.30E-02 |
| | | Cs-137 | <2.10E-02 | 0.00E+00 | 2.10E-02 |
| | | Be-7 | <1.94E-01 | 0.00E+00 | 1.94E-01 |
| | | K-40 | 4.98E-01 | 1.17E-01 | 2.62E-01 |
| 280808 | 1/6/2014 - 1/13/2014 | I-131 | <2.06E-02 | 0.00E+00 | 2.06E-02 |
| | | Cs-134 | <1.76E-02 | 0.00E+00 | 1.76E-02 |
| | | Cs-137 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Be-7 | <1.53E-01 | 0.00E+00 | 1.53E-01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 195 [INDICATOR - N @ 0.19 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 280808 | 1/6/2014 - 1/13/2014 | K-40 | 6.80E-01 | 1.42E-01 | 2.84E-01 |
| 281167 | 1/13/2014 - 1/20/2014 | I-131 | <2.25E-02 | 0.00E+00 | 2.25E-02 |
| | | Cs-134 | <2.10E-02 | 0.00E+00 | 2.10E-02 |
| | | Cs-137 | <1.46E-02 | 0.00E+00 | 1.46E-02 |
| | | Be-7 | <1.49E-01 | 0.00E+00 | 1.49E-01 |
| | | K-40 | 6.29E-01 | 1.34E-01 | 3.01E-01 |
| 281488 | 1/20/2014 - 1/27/2014 | I-131 | <1.69E-02 | 0.00E+00 | 1.69E-02 |
| | | Cs-134 | <1.78E-02 | 0.00E+00 | 1.78E-02 |
| | | Cs-137 | <1.09E-02 | 0.00E+00 | 1.09E-02 |
| | | Be-7 | <1.16E-01 | 0.00E+00 | 1.16E-01 |
| | | K-40 | 6.91E-01 | 1.52E-01 | 1.76E-01 |
| 282111 | 1/27/2014 - 2/3/2014 | I-131 | <2.58E-02 | 0.00E+00 | 2.58E-02 |
| | | Cs-134 | <1.59E-02 | 0.00E+00 | 1.59E-02 |
| | | Cs-137 | <1.97E-02 | 0.00E+00 | 1.97E-02 |
| | | Be-7 | <1.52E-01 | 0.00E+00 | 1.52E-01 |
| | | K-40 | 3.23E-01 | 1.24E-01 | 2.01E-01 |
| 282923 | 2/3/2014 - 2/10/2014 | I-131 | <1.25E-02 | 0.00E+00 | 1.25E-02 |
| | | Cs-134 | <1.48E-02 | 0.00E+00 | 1.48E-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 | 4.98E-01 | 1.12E-01 | 6.74E-02 |
| 283370 | 2/10/2014 - 2/17/2014 | I-131 | <1.96E-02 | 0.00E+00 | 1.96E-02 |
| | | Cs-134 | <9.79E-03 | 0.00E+00 | 9.79E-03 |
| | | Cs-137 | <1.77E-02 | 0.00E+00 | 1.77E-02 |
| | | Be-7 | <1.07E-01 | 0.00E+00 | 1.07E-01 |
| | | K-40 | 7.73E-01 | 1.56E-01 | 1.69E-01 |
| 284537 | 2/17/2014 - 2/24/2014 | I-131 | <1.08E-02 | 0.00E+00 | 1.08E-02 |
| | | Cs-134 | <9.72E-03 | 0.00E+00 | 9.72E-03 |
| | | Cs-137 | <8.38E-03 | 0.00E+00 | 8.38E-03 |
| | | Be-7 | <8.15E-02 | 0.00E+00 | 8.15E-02 |
| | | K-40 | 6.24E-01 | 8.65E-02 | 1.26E-01 |
| 285098 | 2/24/2014 - 3/3/2014 | I-131 | <2.17E-02 | 0.00E+00 | 2.17E-02 |
| | | Cs-134 | <1.54E-02 | 0.00E+00 | 1.54E-02 |
| | | Cs-137 | <1.41E-02 | 0.00E+00 | 1.41E-02 |
| | | Be-7 | <1.72E-01 | 0.00E+00 | 1.72E-01 |
| | | K-40 | 4.41E-01 | 1.10E-01 | 2.09E-01 |
| 285703 | 3/3/2014 - 3/10/2014 | I-131 | <1.82E-02 | 0.00E+00 | 1.82E-02 |
| | | Cs-134 | <1.09E-02 | 0.00E+00 | 1.09E-02 |
| | | Cs-137 | <1.51E-02 | 0.00E+00 | 1.51E-02 |
| | | Be-7 | <1.12E-01 | 0.00E+00 | 1.12E-01 |
| | | K-40 | <6.72E-01 | 0.00E+00 | 6.72E-01 |
| 286207 | 3/10/2014 - 3/17/2014 | I-131 | <2.22E-02 | 0.00E+00 | 2.22E-02 |
| | | Cs-134 | <1.45E-02 | 0.00E+00 | 1.45E-02 |
| | | Cs-137 | <2.99E-02 | 0.00E+00 | 2.99E-02 |
| | | Be-7 | <1.13E-01 | 0.00E+00 | 1.13E-01 |
| | | K-40 | 5.28E-01 | 1.24E-01 | 3.88E-01 |
| 287092 | 3/17/2014 - 3/24/2014 | I-131 | <9.39E-03 | 0.00E+00 | 9.39E-03 |
| | | Cs-134 | <1.10E-02 | 0.00E+00 | 1.10E-02 |
| | | Cs-137 | <1.09E-02 | 0.00E+00 | 1.09E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 195 [INDICATOR - N @ 0.19 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 287092 | 3/17/2014 - 3/24/2014 | Be-7 | <6.26E-02 | 0.00E+00 | 6.26E-02 |
| | | K-40 | 4.06E-01 | 9.75E-02 | 1.45E-01 |
| 288343 | 3/24/2014 - 3/31/2014 | I-131 | <2.46E-02 | 0.00E+00 | 2.46E-02 |
| | | Cs-134 | <2.11E-02 | 0.00E+00 | 2.11E-02 |
| | | Cs-137 | <1.34E-02 | 0.00E+00 | 1.34E-02 |
| | | Be-7 | <1.69E-01 | 0.00E+00 | 1.69E-01 |
| | | K-40 | <5.56E-01 | 0.00E+00 | 5.56E-01 |
| 289067 | 3/31/2014 - 4/7/2014 | I-131 | <1.35E-02 | 0.00E+00 | 1.35E-02 |
| | | Cs-134 | <1.23E-02 | 0.00E+00 | 1.23E-02 |
| | | Cs-137 | <1.11E-02 | 0.00E+00 | 1.11E-02 |
| | | Be-7 | <6.84E-02 | 0.00E+00 | 6.84E-02 |
| | | K-40 | 2.70E-01 | 9.73E-02 | 1.43E-01 |
| 289453 | 4/7/2014 - 4/14/2014 | I-131 | <1.68E-02 | 0.00E+00 | 1.68E-02 |
| | | Cs-134 | <1.82E-02 | 0.00E+00 | 1.82E-02 |
| | | Cs-137 | <2.09E-02 | 0.00E+00 | 2.09E-02 |
| | | Be-7 | <1.20E-01 | 0.00E+00 | 1.20E-01 |
| | | K-40 | <5.70E-01 | 0.00E+00 | 5.70E-01 |
| 289863 | 4/14/2014 - 4/21/2014 | I-131 | <1.27E-02 | 0.00E+00 | 1.27E-02 |
| | | Cs-134 | <1.06E-02 | 0.00E+00 | 1.06E-02 |
| | | Cs-137 | <3.73E-03 | 0.00E+00 | 3.73E-03 |
| | | Be-7 | <1.01E-01 | 0.00E+00 | 1.01E-01 |
| | | K-40 | 5.08E-01 | 1.11E-01 | 1.77E-01 |
| 291468 | 4/21/2014 - 4/28/2014 | I-131 | <1.62E-02 | 0.00E+00 | 1.62E-02 |
| | | Cs-134 | <1.39E-02 | 0.00E+00 | 1.39E-02 |
| | | Cs-137 | <1.40E-02 | 0.00E+00 | 1.40E-02 |
| | | Be-7 | <8.78E-02 | 0.00E+00 | 8.78E-02 |
| | | K-40 | 4.19E-01 | 9.87E-02 | 1.65E-01 |
| 292762 | 4/28/2014 - 5/5/2014 | I-131 | <1.45E-02 | 0.00E+00 | 1.45E-02 |
| | | Cs-134 | <9.31E-03 | 0.00E+00 | 9.31E-03 |
| | | Cs-137 | <1.54E-02 | 0.00E+00 | 1.54E-02 |
| | | Be-7 | <7.18E-02 | 0.00E+00 | 7.18E-02 |
| | | K-40 | 4.30E-01 | 1.17E-01 | 1.57E-01 |
| 293024 | 5/5/2014 - 5/12/2014 | I-131 | <1.79E-02 | 0.00E+00 | 1.79E-02 |
| | | Cs-134 | <1.80E-02 | 0.00E+00 | 1.80E-02 |
| | | Cs-137 | <1.82E-02 | 0.00E+00 | 1.82E-02 |
| | | Be-7 | <1.45E-01 | 0.00E+00 | 1.45E-01 |
| | | K-40 | 4.93E-01 | 1.20E-01 | 7.84E-02 |
| 294655 | 5/12/2014 - 5/19/2014 | I-131 | <1.80E-02 | 0.00E+00 | 1.80E-02 |
| | | Cs-134 | <2.62E-02 | 0.00E+00 | 2.62E-02 |
| | | Cs-137 | <2.37E-02 | 0.00E+00 | 2.37E-02 |
| | | Be-7 | <1.45E-01 | 0.00E+00 | 1.45E-01 |
| | | K-40 | 3.08E-01 | 1.29E-01 | 2.67E-01 |
| 295164 | 5/19/2014 - 5/27/2014 | I-131 | <2.01E-02 | 0.00E+00 | 2.01E-02 |
| | | Cs-134 | <1.07E-02 | 0.00E+00 | 1.07E-02 |
| | | Cs-137 | <1.89E-02 | 0.00E+00 | 1.89E-02 |
| | | Be-7 | <1.55E-01 | 0.00E+00 | 1.55E-01 |
| | | K-40 | 3.42E-01 | 1.14E-01 | 1.86E-01 |
| 295425 | 5/27/2014 - 6/2/2014 | I-131 | <3.02E-02 | 0.00E+00 | 3.02E-02 |
| | | Cs-134 | <1.47E-02 | 0.00E+00 | 1.47E-02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 195 [INDICATOR - N @ 0.19 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 295425 | 5/27/2014 - 6/2/2014 | Cs-137 | <2.19E-02 | 0.00E+00 | 2.19E-02 |
| | | Be-7 | <1.29E-01 | 0.00E+00 | 1.29E-01 |
| | | K-40 | <7.41E-01 | 0.00E+00 | 7.41E-01 |
| | | | | | |
| 295940 | 6/2/2014 - 6/9/2014 | I-131 | <2.16E-02 | 0.00E+00 | 2.16E-02 |
| | | Cs-134 | <1.79E-02 | 0.00E+00 | 1.79E-02 |
| | | Cs-137 | <1.56E-02 | 0.00E+00 | 1.56E-02 |
| | | Be-7 | <1.07E-01 | 0.00E+00 | 1.07E-01 |
| | | K-40 | 5.54E-01 | 1.44E-01 | 2.15E-01 |
| 296185 | 6/9/2014 - 6/16/2014 | I-131 | <1.87E-02 | 0.00E+00 | 1.87E-02 |
| | | Cs-134 | <1.99E-02 | 0.00E+00 | 1.99E-02 |
| | | Cs-137 | <1.67E-02 | 0.00E+00 | 1.67E-02 |
| | | Be-7 | <1.42E-01 | 0.00E+00 | 1.42E-01 |
| | | K-40 | 2.97E-01 | 1.40E-01 | 3.28E-01 |
| 296706 | 6/16/2014 - 6/23/2014 | I-131 | <2.12E-02 | 0.00E+00 | 2.12E-02 |
| | | Cs-134 | <1.53E-02 | 0.00E+00 | 1.53E-02 |
| | | Cs-137 | <2.41E-02 | 0.00E+00 | 2.41E-02 |
| | | Be-7 | <1.51E-01 | 0.00E+00 | 1.51E-01 |
| | | K-40 | 5.53E-01 | 1.24E-01 | 4.06E-01 |
| 296933 | 6/23/2014 - 6/30/2014 | I-131 | <2.23E-02 | 0.00E+00 | 2.23E-02 |
| | | Cs-134 | <1.69E-02 | 0.00E+00 | 1.69E-02 |
| | | Cs-137 | <2.20E-02 | 0.00E+00 | 2.20E-02 |
| | | Be-7 | <1.24E-01 | 0.00E+00 | 1.24E-01 |
| | | K-40 | 6.44E-01 | 1.37E-01 | 7.91E-02 |
| 297330 | 6/30/2014 - 7/7/2014 | I-131 | <2.54E-02 | 0.00E+00 | 2.54E-02 |
| | | Cs-134 | <1.44E-02 | 0.00E+00 | 1.44E-02 |
| | | Cs-137 | <1.23E-02 | 0.00E+00 | 1.23E-02 |
| | | Be-7 | <1.54E-01 | 0.00E+00 | 1.54E-01 |
| | | K-40 | 5.46E-01 | 1.25E-01 | 2.07E-01 |
| 297618 | 7/7/2014 - 7/14/2014 | I-131 | <3.88E-02 | 0.00E+00 | 3.88E-02 |
| | | Cs-134 | <1.67E-02 | 0.00E+00 | 1.67E-02 |
| | | Cs-137 | <1.60E-02 | 0.00E+00 | 1.60E-02 |
| | | Be-7 | <1.59E-01 | 0.00E+00 | 1.59E-01 |
| | | K-40 | <4.36E-01 | 0.00E+00 | 4.36E-01 |
| 298154 | 7/14/2014 - 7/21/2014 | I-131 | <1.25E-02 | 0.00E+00 | 1.25E-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 | <6.54E-02 | 0.00E+00 | 6.54E-02 |
| | | K-40 | 4.60E-01 | 1.92E-01 | 2.04E-01 |
| 350509 | 7/21/2014 - 7/28/2014 | I-131 | <2.85E-02 | 0.00E+00 | 2.85E-02 |
| | | Cs-134 | <1.93E-02 | 0.00E+00 | 1.93E-02 |
| | | Cs-137 | <1.98E-02 | 0.00E+00 | 1.98E-02 |
| | | Be-7 | <1.09E-01 | 0.00E+00 | 1.09E-01 |
| | | K-40 | <6.04E-01 | 0.00E+00 | 6.04E-01 |
| 350980 | 7/28/2014 - 8/4/2014 | I-131 | <1.81E-02 | 0.00E+00 | 1.81E-02 |
| | | Cs-134 | <3.81E-03 | 0.00E+00 | 3.81E-03 |
| | | Cs-137 | <2.11E-02 | 0.00E+00 | 2.11E-02 |
| | | Be-7 | <1.55E-01 | 0.00E+00 | 1.55E-01 |
| | | K-40 | 4.49E-01 | 2.85E-01 | 3.50E-01 |
| 351201 | 8/4/2014 - 8/11/2014 | I-131 | <1.52E-02 | 0.00E+00 | 1.52E-02 |
| | | | | | |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 195 [INDICATOR - N @ 0.19 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|------------------------|---------|-----------|--------------------------|----------|
| 351201 | 8/4/2014 - 8/11/2014 | Cs-134 | <1.31E-02 | 0.00E+00 | 1.31E-02 |
| | | Cs-137 | <1.30E-02 | 0.00E+00 | 1.30E-02 |
| | | Be-7 | <1.31E-01 | 0.00E+00 | 1.31E-01 |
| | | K-40 | 2.58E-01 | 2.39E-01 | 3.45E-01 |
| | | | | | |
| 351607 | 8/11/2014 - 8/18/2014 | I-131 | <2.17E-02 | 0.00E+00 | 2.17E-02 |
| | | Cs-134 | <2.21E-02 | 0.00E+00 | 2.21E-02 |
| | | Cs-137 | <1.84E-02 | 0.00E+00 | 1.84E-02 |
| | | Be-7 | <1.51E-01 | 0.00E+00 | 1.51E-01 |
| | | K-40 | <5.44E-01 | 0.00E+00 | 5.44E-01 |
| 353421 | 8/18/2014 - 8/25/2014 | I-131 | <2.15E-02 | 0.00E+00 | 2.15E-02 |
| | | Cs-134 | <1.60E-02 | 0.00E+00 | 1.60E-02 |
| | | Cs-137 | <1.34E-02 | 0.00E+00 | 1.34E-02 |
| | | Be-7 | <1.58E-01 | 0.00E+00 | 1.58E-01 |
| | | K-40 | 6.18E-01 | 3.14E-01 | 3.17E-01 |
| 354050 | 8/25/2014 - 9/2/2014 | I-131 | <1.82E-02 | 0.00E+00 | 1.82E-02 |
| | | Cs-134 | <1.98E-02 | 0.00E+00 | 1.98E-02 |
| | | Cs-137 | <1.43E-02 | 0.00E+00 | 1.43E-02 |
| | | Be-7 | <8.91E-02 | 0.00E+00 | 8.91E-02 |
| | | K-40 | <5.22E-01 | 0.00E+00 | 5.22E-01 |
| 354438 | 9/2/2014 - 9/8/2014 | I-131 | <2.50E-02 | 0.00E+00 | 2.50E-02 |
| | | Cs-134 | <2.65E-02 | 0.00E+00 | 2.65E-02 |
| | | Cs-137 | <1.51E-02 | 0.00E+00 | 1.51E-02 |
| | | Be-7 | <1.52E-01 | 0.00E+00 | 1.52E-01 |
| | | K-40 | <6.53E-01 | 0.00E+00 | 6.53E-01 |
| 354759 | 9/8/2014 - 9/15/2014 | I-131 | <1.73E-02 | 0.00E+00 | 1.73E-02 |
| | | Cs-134 | <1.51E-02 | 0.00E+00 | 1.51E-02 |
| | | Cs-137 | <2.06E-02 | 0.00E+00 | 2.06E-02 |
| | | Be-7 | <1.94E-01 | 0.00E+00 | 1.94E-01 |
| | | K-40 | 4.22E-01 | 2.49E-01 | 2.59E-01 |
| 355148 | 9/15/2014 - 9/22/2014 | I-131 | <1.97E-02 | 0.00E+00 | 1.97E-02 |
| | | Cs-134 | <2.03E-02 | 0.00E+00 | 2.03E-02 |
| | | Cs-137 | <2.15E-02 | 0.00E+00 | 2.15E-02 |
| | | Be-7 | <1.68E-01 | 0.00E+00 | 1.68E-01 |
| | | K-40 | 4.33E-01 | 2.67E-01 | 2.99E-01 |
| 355630 | 9/22/2014 - 9/29/2014 | I-131 | <1.95E-02 | 0.00E+00 | 1.95E-02 |
| | | Cs-134 | <1.85E-02 | 0.00E+00 | 1.85E-02 |
| | | Cs-137 | <1.64E-02 | 0.00E+00 | 1.64E-02 |
| | | Be-7 | <1.02E-01 | 0.00E+00 | 1.02E-01 |
| | | K-40 | <6.34E-01 | 0.00E+00 | 6.34E-01 |
| 356487 | 9/29/2014 - 10/6/2014 | I-131 | <2.06E-02 | 0.00E+00 | 2.06E-02 |
| | | Cs-134 | <1.03E-02 | 0.00E+00 | 1.03E-02 |
| | | Cs-137 | <1.62E-02 | 0.00E+00 | 1.62E-02 |
| | | Be-7 | <1.30E-01 | 0.00E+00 | 1.30E-01 |
| | | K-40 | <5.91E-01 | 0.00E+00 | 5.91E-01 |
| 357034 | 10/6/2014 - 10/13/2014 | I-131 | <1.45E-02 | 0.00E+00 | 1.45E-02 |
| | | Cs-134 | <1.49E-02 | 0.00E+00 | 1.49E-02 |
| | | Cs-137 | <2.07E-02 | 0.00E+00 | 2.07E-02 |
| | | Be-7 | <1.17E-01 | 0.00E+00 | 1.17E-01 |
| | | K-40 | 4.76E-01 | 2.70E-01 | 2.85E-01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 195 [INDICATOR - N @ 0.19 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 358042 | 10/13/2014 - 10/20/2014 | I-131 | <2.04E-02 | 0.00E+00 | 2.04E-02 |
| | | Cs-134 | <1.08E-02 | 0.00E+00 | 1.08E-02 |
| | | Cs-137 | <1.71E-02 | 0.00E+00 | 1.71E-02 |
| | | Be-7 | <1.71E-01 | 0.00E+00 | 1.71E-01 |
| | | K-40 | 4.97E-01 | 2.52E-01 | 8.41E-02 |
| 358652 | 10/20/2014 - 10/27/2014 | I-131 | <2.34E-02 | 0.00E+00 | 2.34E-02 |
| | | Cs-134 | <1.30E-02 | 0.00E+00 | 1.30E-02 |
| | | Cs-137 | <2.10E-02 | 0.00E+00 | 2.10E-02 |
| | | Be-7 | <2.94E-02 | 0.00E+00 | 2.94E-02 |
| | | K-40 | <6.64E-01 | 0.00E+00 | 6.64E-01 |
| 359325 | 10/27/2014 - 11/3/2014 | I-131 | <2.47E-02 | 0.00E+00 | 2.47E-02 |
| | | Cs-134 | <1.30E-02 | 0.00E+00 | 1.30E-02 |
| | | Cs-137 | <4.75E-03 | 0.00E+00 | 4.75E-03 |
| | | Be-7 | <1.02E-01 | 0.00E+00 | 1.02E-01 |
| | | K-40 | 3.85E-01 | 2.16E-01 | 8.02E-02 |
| 360021 | 11/3/2014 - 11/10/2014 | I-131 | <2.27E-02 | 0.00E+00 | 2.27E-02 |
| | | Cs-134 | <1.49E-02 | 0.00E+00 | 1.49E-02 |
| | | Cs-137 | <1.27E-02 | 0.00E+00 | 1.27E-02 |
| | | Be-7 | <2.98E-02 | 0.00E+00 | 2.98E-02 |
| | | K-40 | 5.80E-01 | 2.64E-01 | 7.85E-02 |
| 360706 | 11/10/2014 - 11/17/2014 | I-131 | <1.90E-02 | 0.00E+00 | 1.90E-02 |
| | | Cs-134 | <1.57E-02 | 0.00E+00 | 1.57E-02 |
| | | Cs-137 | <1.96E-02 | 0.00E+00 | 1.96E-02 |
| | | Be-7 | <1.36E-01 | 0.00E+00 | 1.36E-01 |
| | | K-40 | <6.57E-01 | 0.00E+00 | 6.57E-01 |
| 361570 | 11/17/2014 - 11/24/2014 | I-131 | <1.84E-02 | 0.00E+00 | 1.84E-02 |
| | | Cs-134 | <1.70E-02 | 0.00E+00 | 1.70E-02 |
| | | Cs-137 | <1.64E-02 | 0.00E+00 | 1.64E-02 |
| | | Be-7 | <1.02E-01 | 0.00E+00 | 1.02E-01 |
| | | K-40 | 3.48E-01 | 2.33E-01 | 2.59E-01 |
| 361950 | 11/24/2014 - 12/1/2014 | I-131 | <4.19E-02 | 0.00E+00 | 4.19E-02 |
| | | Cs-134 | <1.63E-02 | 0.00E+00 | 1.63E-02 |
| | | Cs-137 | <1.66E-02 | 0.00E+00 | 1.66E-02 |
| | | Be-7 | <1.13E-01 | 0.00E+00 | 1.13E-01 |
| | | K-40 | 4.64E-01 | 2.54E-01 | 2.62E-01 |
| 362774 | 12/1/2014 - 12/8/2014 | I-131 | <1.22E-02 | 0.00E+00 | 1.22E-02 |
| | | Cs-134 | <1.16E-02 | 0.00E+00 | 1.16E-02 |
| | | Cs-137 | <1.56E-02 | 0.00E+00 | 1.56E-02 |
| | | Be-7 | <7.16E-02 | 0.00E+00 | 7.16E-02 |
| | | K-40 | 3.85E-01 | 1.64E-01 | 1.50E-01 |
| 363517 | 12/8/2014 - 12/15/2014 | I-131 | <1.03E-02 | 0.00E+00 | 1.03E-02 |
| | | Cs-134 | <1.00E-02 | 0.00E+00 | 1.00E-02 |
| | | Cs-137 | <1.54E-02 | 0.00E+00 | 1.54E-02 |
| | | Be-7 | <7.40E-02 | 0.00E+00 | 7.40E-02 |
| | | K-40 | 3.15E-01 | 1.52E-01 | 1.41E-01 |
| 363966 | 12/15/2014 - 12/22/2014 | I-131 | <9.42E-03 | 0.00E+00 | 9.42E-03 |
| | | Cs-134 | <1.04E-02 | 0.00E+00 | 1.04E-02 |
| | | Cs-137 | <1.21E-02 | 0.00E+00 | 1.21E-02 |
| | | Be-7 | <9.04E-02 | 0.00E+00 | 9.04E-02 |
| | | K-40 | 5.63E-01 | 1.95E-01 | 1.37E-01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 195 [INDICATOR - N @ 0.19 miles]

| Sample ID: | 364500 | Sample Dates: | 12/22/2014 - 12/29/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|-------------------------|---------|-----------|--------------------------|----------|
| | | | | I-131 | <2.72E-02 | 0.00E+00 | 2.72E-02 |
| | | | | Cs-134 | <1.55E-02 | 0.00E+00 | 1.55E-02 |
| | | | | Cs-137 | <1.02E-02 | 0.00E+00 | 1.02E-02 |
| | | | | Be-7 | <9.28E-02 | 0.00E+00 | 9.28E-02 |
| | | | | K-40 | 4.25E-01 | 1.77E-01 | 4.80E-02 |

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

Sample Point 104 [INDICATOR - NNW @ 1.52 miles]

| Sample ID: | 279592 | Sample Dates: | 1/6/2014 - 1/6/2014 | MIXEDCROPS | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|---------------------|------------|---------|-----------|--------------------------|----------|
| | | | | | I-131 | <1.07E+01 | 0.00E+00 | 1.07E+01 |
| | | | | | Cs-134 | <8.26E+00 | 0.00E+00 | 8.26E+00 |
| | | | | | Cs-137 | <7.96E+00 | 0.00E+00 | 7.96E+00 |
| | | | | | Be-7 | 1.20E+02 | 3.52E+01 | 7.35E+01 |
| | | | | | K-40 | 2.89E+03 | 1.41E+02 | 7.92E+01 |

| Sample ID: | 281235 | Sample Dates: | 2/3/2014 - 2/3/2014 | MIXEDCROPS | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|---------------------|------------|---------|-----------|--------------------------|----------|
| | | | | | I-131 | <1.04E+01 | 0.00E+00 | 1.04E+01 |
| | | | | | Cs-134 | <9.85E+00 | 0.00E+00 | 9.85E+00 |
| | | | | | Cs-137 | <1.30E+01 | 0.00E+00 | 1.30E+01 |
| | | | | | Be-7 | 5.36E+01 | 2.15E+01 | 7.27E+01 |
| | | | | | K-40 | 2.12E+03 | 1.59E+02 | 1.34E+02 |

| Sample ID: | 284432 | Sample Dates: | 3/3/2014 - 3/3/2014 | MIXEDCROPS | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|---------------------|------------|---------|-----------|--------------------------|----------|
| | | | | | I-131 | <1.09E+01 | 0.00E+00 | 1.09E+01 |
| | | | | | Cs-134 | <1.32E+01 | 0.00E+00 | 1.32E+01 |
| | | | | | Cs-137 | <1.49E+01 | 0.00E+00 | 1.49E+01 |
| | | | | | Be-7 | <1.22E+02 | 0.00E+00 | 1.22E+02 |
| | | | | | K-40 | 3.00E+03 | 2.06E+02 | 1.39E+02 |

| Sample ID: | 294852 | Sample Dates: | 6/2/2014 - 6/2/2014 | MIXEDCROPS | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|---------------------|------------|---------|-----------|--------------------------|----------|
| | | | | | I-131 | <1.33E+01 | 0.00E+00 | 1.33E+01 |
| | | | | | Cs-134 | <1.31E+01 | 0.00E+00 | 1.31E+01 |
| | | | | | Cs-137 | <1.52E+01 | 0.00E+00 | 1.52E+01 |
| | | | | | Be-7 | <1.03E+02 | 0.00E+00 | 1.03E+02 |
| | | | | | K-40 | 2.52E+03 | 1.64E+02 | 1.18E+02 |

| Sample ID: | 296620 | Sample Dates: | 7/7/2014 - 7/7/2014 | MIXEDCROPS | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|---------------------|------------|---------|-----------|--------------------------|----------|
| | | | | | I-131 | <9.11E+00 | 0.00E+00 | 9.11E+00 |
| | | | | | Cs-134 | <1.35E+01 | 0.00E+00 | 1.35E+01 |
| | | | | | Cs-137 | <1.38E+01 | 0.00E+00 | 1.38E+01 |
| | | | | | Be-7 | <1.17E+02 | 0.00E+00 | 1.17E+02 |
| | | | | | K-40 | 2.08E+03 | 1.80E+02 | 1.89E+02 |

| Sample ID: | 298139 | Sample Dates: | 8/4/2014 - 8/4/2014 | MIXEDCROPS | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|---------------------|------------|---------|-----------|--------------------------|----------|
| | | | | | I-131 | <9.49E+00 | 0.00E+00 | 9.49E+00 |
| | | | | | Cs-134 | <1.05E+01 | 0.00E+00 | 1.05E+01 |
| | | | | | Cs-137 | <1.09E+01 | 0.00E+00 | 1.09E+01 |
| | | | | | Be-7 | 1.44E+02 | 8.09E+01 | 1.19E+02 |
| | | | | | K-40 | 2.40E+03 | 3.35E+02 | 9.43E+01 |

| Sample ID: | 354443 | Sample Dates: | 9/2/2014 - 9/2/2014 | MIXEDCROPS | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|---------------------|------------|---------|-----------|--------------------------|----------|
| | | | | | I-131 | <8.96E+00 | 0.00E+00 | 8.96E+00 |
| | | | | | Cs-134 | <1.12E+01 | 0.00E+00 | 1.12E+01 |
| | | | | | Cs-137 | <1.20E+01 | 0.00E+00 | 1.20E+01 |
| | | | | | Be-7 | 4.07E+01 | 5.17E+01 | 8.48E+01 |
| | | | | | K-40 | 2.61E+03 | 3.56E+02 | 1.34E+02 |

| Sample ID: | 357039 | Sample Dates: | 10/6/2014 - 10/6/2014 | MIXEDCROPS | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|-----------------------|------------|---------|-----------|--------------------------|----------|
| | | | | | I-131 | <7.08E+00 | 0.00E+00 | 7.08E+00 |
| | | | | | Cs-134 | <1.15E+01 | 0.00E+00 | 1.15E+01 |
| | | | | | Cs-137 | <1.15E+01 | 0.00E+00 | 1.15E+01 |
| | | | | | Be-7 | <1.10E+02 | 0.00E+00 | 1.10E+02 |
| | | | | | K-40 | 3.13E+03 | 4.07E+02 | 1.52E+02 |

| Sample ID: | 360026 | Sample Dates: | 11/3/2014 - 11/3/2014 | MIXEDCROPS | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|-----------------------|------------|---------|-----------|--------------------------|----------|
| | | | | | I-131 | <1.16E+01 | 0.00E+00 | 1.16E+01 |
| | | | | | Cs-134 | <1.28E+01 | 0.00E+00 | 1.28E+01 |
| | | | | | Cs-137 | <1.21E+01 | 0.00E+00 | 1.21E+01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 104 [INDICATOR - NNW @ 1.52 miles]

| Sample ID: | Sample Dates: | MIXEDCROPS | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|------------|---------|-----------|--------------------------|----------|
| 360026 | 11/3/2014 - 11/3/2014 | | Be-7 | 5.26E+01 | 6.75E+01 | 1.11E+02 |
| | | | K-40 | 3.19E+03 | 4.25E+02 | 9.81E+01 |
| 362779 | 12/1/2014 - 12/1/2014 | | I-131 | <2.04E+01 | 0.00E+00 | 2.04E+01 |
| | | | Cs-134 | <8.84E+00 | 0.00E+00 | 8.84E+00 |
| | | | Cs-137 | <9.32E+00 | 0.00E+00 | 9.32E+00 |
| | | | Be-7 | 4.88E+02 | 9.40E+01 | 1.08E+02 |
| | | | K-40 | 4.05E+03 | 4.12E+02 | 1.56E+02 |

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

Sample Point 101 [INDICATOR - E @ 3.31 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|----------|-----------|--------------------------|----------|
| 280875 | 12/9/2013 - 1/6/2014 | Beta | 1.76E+00 | 3.85E-01 | 1.17E+00 |
| | | Mn-54 | <4.06E+00 | 0.00E+00 | 4.06E+00 |
| | | Co-58 | <4.37E+00 | 0.00E+00 | 4.37E+00 |
| | | Fe-59 | <1.02E+01 | 0.00E+00 | 1.02E+01 |
| | | Co-60 | <5.16E+00 | 0.00E+00 | 5.16E+00 |
| | | Zn-65 | <1.09E+01 | 0.00E+00 | 1.09E+01 |
| | | Zr-95 | <8.94E+00 | 0.00E+00 | 8.94E+00 |
| | | Nb-95 | <5.53E+00 | 0.00E+00 | 5.53E+00 |
| | | I-131 | <1.39E+01 | 0.00E+00 | 1.39E+01 |
| | | Cs-134 | <4.19E+00 | 0.00E+00 | 4.19E+00 |
| | | Cs-137 | <4.22E+00 | 0.00E+00 | 4.22E+00 |
| | | BaLa-140 | <1.00E+01 | 0.00E+00 | 1.00E+01 |
| | | Be-7 | <4.13E+01 | 0.00E+00 | 4.13E+01 |
| | | K-40 | 2.20E+02 | 3.04E+01 | 4.64E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|-----------|--------------------------|----------|
| 282990 | 1/6/2014 - 2/3/2014 | Beta | 1.37E+00 | 4.15E-01 | 1.31E+00 |
| | | Mn-54 | <5.60E+00 | 0.00E+00 | 5.60E+00 |
| | | Co-58 | <4.92E+00 | 0.00E+00 | 4.92E+00 |
| | | Fe-59 | <9.59E+00 | 0.00E+00 | 9.59E+00 |
| | | Co-60 | <5.18E+00 | 0.00E+00 | 5.18E+00 |
| | | Zn-65 | <1.09E+01 | 0.00E+00 | 1.09E+01 |
| | | Zr-95 | <7.96E+00 | 0.00E+00 | 7.96E+00 |
| | | Nb-95 | <7.36E+00 | 0.00E+00 | 7.36E+00 |
| | | I-131 | <1.43E+01 | 0.00E+00 | 1.43E+01 |
| | | Cs-134 | <4.18E+00 | 0.00E+00 | 4.18E+00 |
| | | Cs-137 | <5.83E+00 | 0.00E+00 | 5.83E+00 |
| | | BaLa-140 | <1.19E+01 | 0.00E+00 | 1.19E+01 |
| | | Be-7 | <4.82E+01 | 0.00E+00 | 4.82E+01 |
| | | K-40 | 1.09E+02 | 2.18E+01 | 3.27E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|----------|--------------------------|----------|
| 284713 | 12/9/2013 - 3/3/2014 | H3DW | 7.93E+02 | 6.95E+01 | 1.89E+02 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|-----------|--------------------------|----------|
| 285770 | 2/3/2014 - 3/3/2014 | Beta | <5.41E-01 | 0.00E+00 | 1.27E+00 |
| | | Mn-54 | <3.52E+00 | 0.00E+00 | 3.52E+00 |
| | | Co-58 | <5.18E+00 | 0.00E+00 | 5.18E+00 |
| | | Fe-59 | <7.76E+00 | 0.00E+00 | 7.76E+00 |
| | | Co-60 | <5.28E+00 | 0.00E+00 | 5.28E+00 |
| | | Zn-65 | <8.31E+00 | 0.00E+00 | 8.31E+00 |
| | | Zr-95 | <6.83E+00 | 0.00E+00 | 6.83E+00 |
| | | Nb-95 | <5.60E+00 | 0.00E+00 | 5.60E+00 |
| | | I-131 | <1.44E+01 | 0.00E+00 | 1.44E+01 |
| | | Cs-134 | <4.38E+00 | 0.00E+00 | 4.38E+00 |
| | | Cs-137 | <4.56E+00 | 0.00E+00 | 4.56E+00 |
| | | BaLa-140 | <1.38E+01 | 0.00E+00 | 1.38E+01 |
| | | Be-7 | <4.45E+01 | 0.00E+00 | 4.45E+01 |
| | | K-40 | 1.36E+02 | 2.09E+01 | 2.30E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 289131 | 3/3/2014 - 3/31/2014 | Beta | 1.12E+00 | 3.93E-01 | 1.26E+00 |
| | | Mn-54 | <3.07E+00 | 0.00E+00 | 3.07E+00 |
| | | Co-58 | <3.41E+00 | 0.00E+00 | 3.41E+00 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 101 [INDICATOR - E @ 3.31 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|----------|-----------|--------------------------|----------|
| 289131 | 3/3/2014 - 3/31/2014 | Fe-59 | <7.06E+00 | 0.00E+00 | 7.06E+00 |
| | | Co-60 | <2.67E+00 | 0.00E+00 | 2.67E+00 |
| | | Zn-65 | <6.12E+00 | 0.00E+00 | 6.12E+00 |
| | | Zr-95 | <5.77E+00 | 0.00E+00 | 5.77E+00 |
| | | Nb-95 | <3.32E+00 | 0.00E+00 | 3.32E+00 |
| | | I-131 | <1.28E+01 | 0.00E+00 | 1.28E+01 |
| | | Cs-134 | <3.16E+00 | 0.00E+00 | 3.16E+00 |
| | | Cs-137 | <3.32E+00 | 0.00E+00 | 3.32E+00 |
| | | BaLa-140 | <8.49E+00 | 0.00E+00 | 8.49E+00 |
| | | Be-7 | <3.26E+01 | 0.00E+00 | 3.26E+01 |
| | | K-40 | 1.70E+02 | 2.48E+01 | 2.73E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------|--------------------------|----------|
| 292826 | 3/31/2014 - 4/28/2014 | Beta | 7.77E-01 | 3.80E-01 | 1.24E+00 |
| | | Mn-54 | <4.30E+00 | 0.00E+00 | 4.30E+00 |
| | | Co-58 | <4.50E+00 | 0.00E+00 | 4.50E+00 |
| | | Fe-59 | <9.32E+00 | 0.00E+00 | 9.32E+00 |
| | | Co-60 | <6.24E+00 | 0.00E+00 | 6.24E+00 |
| | | Zn-65 | <1.02E+01 | 0.00E+00 | 1.02E+01 |
| | | Zr-95 | <6.64E+00 | 0.00E+00 | 6.64E+00 |
| | | Nb-95 | <6.41E+00 | 0.00E+00 | 6.41E+00 |
| | | I-131 | <1.45E+01 | 0.00E+00 | 1.45E+01 |
| | | Cs-134 | <3.59E+00 | 0.00E+00 | 3.59E+00 |
| | | Cs-137 | <4.90E+00 | 0.00E+00 | 4.90E+00 |
| | | BaLa-140 | <8.70E+00 | 0.00E+00 | 8.70E+00 |
| | | Be-7 | <4.23E+01 | 0.00E+00 | 4.23E+01 |
| | | K-40 | <7.55E+01 | 0.00E+00 | 7.55E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|----------|--------------------------|----------|
| 295216 | 3/3/2014 - 5/27/2014 | H3DW | 1.05E+03 | 7.36E+01 | 1.89E+02 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------|--------------------------|----------|
| 295489 | 4/28/2014 - 5/27/2014 | Beta | 1.44E+00 | 3.94E-01 | 1.23E+00 |
| | | Mn-54 | <3.01E+00 | 0.00E+00 | 3.01E+00 |
| | | Co-58 | <3.73E+00 | 0.00E+00 | 3.73E+00 |
| | | Fe-59 | <9.65E+00 | 0.00E+00 | 9.65E+00 |
| | | Co-60 | <3.95E+00 | 0.00E+00 | 3.95E+00 |
| | | Zn-65 | <7.68E+00 | 0.00E+00 | 7.68E+00 |
| | | Zr-95 | <5.55E+00 | 0.00E+00 | 5.55E+00 |
| | | Nb-95 | <3.68E+00 | 0.00E+00 | 3.68E+00 |
| | | I-131 | <1.40E+01 | 0.00E+00 | 1.40E+01 |
| | | Cs-134 | <3.02E+00 | 0.00E+00 | 3.02E+00 |
| | | Cs-137 | <4.01E+00 | 0.00E+00 | 4.01E+00 |
| | | BaLa-140 | <1.02E+01 | 0.00E+00 | 1.02E+01 |
| | | Be-7 | <2.79E+01 | 0.00E+00 | 2.79E+01 |
| | | K-40 | 8.64E+01 | 1.76E+01 | 2.71E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------|--------------------------|----------|
| 296997 | 5/27/2014 - 6/23/2014 | Beta | 2.87E+00 | 8.25E-01 | 1.21E+00 |
| | | Mn-54 | <3.71E+00 | 0.00E+00 | 3.71E+00 |
| | | Co-58 | <2.64E+00 | 0.00E+00 | 2.64E+00 |
| | | Fe-59 | <8.40E+00 | 0.00E+00 | 8.40E+00 |
| | | Co-60 | <4.89E+00 | 0.00E+00 | 4.89E+00 |
| | | Zn-65 | <7.76E+00 | 0.00E+00 | 7.76E+00 |
| | | Zr-95 | <6.49E+00 | 0.00E+00 | 6.49E+00 |
| | | Nb-95 | <4.58E+00 | 0.00E+00 | 4.58E+00 |
| | | I-131 | <1.14E+01 | 0.00E+00 | 1.14E+01 |
| | | Cs-134 | <3.26E+00 | 0.00E+00 | 3.26E+00 |
| | | Cs-137 | <4.15E+00 | 0.00E+00 | 4.15E+00 |
| | | BaLa-140 | <8.54E+00 | 0.00E+00 | 8.54E+00 |
| | | Be-7 | <3.17E+01 | 0.00E+00 | 3.17E+01 |
| | | K-40 | 1.14E+02 | 1.93E+01 | 3.04E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 350539 | 6/23/2014 - 7/21/2014 | Beta | 2.57E+00 | 7.92E-01 | 1.17E+00 |
| | | Mn-54 | <2.33E+00 | 0.00E+00 | 2.33E+00 |
| | | Co-58 | <2.71E+00 | 0.00E+00 | 2.71E+00 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 101 [INDICATOR - E @ 3.31 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD | | |
|------------|-------------------------|----------|------------------------|--------------------------|-----------|----------|----------|
| 350539 | 6/23/2014 - 7/21/2014 | Fe-59 | <5.39E+00 | 0.00E+00 | 5.39E+00 | | |
| | | Co-60 | <2.53E+00 | 0.00E+00 | 2.53E+00 | | |
| | | Zn-65 | <4.98E+00 | 0.00E+00 | 4.98E+00 | | |
| | | Zr-95 | <4.42E+00 | 0.00E+00 | 4.42E+00 | | |
| | | Nb-95 | <3.19E+00 | 0.00E+00 | 3.19E+00 | | |
| | | I-131 | <9.70E+00 | 0.00E+00 | 9.70E+00 | | |
| | | Cs-134 | <1.92E+00 | 0.00E+00 | 1.92E+00 | | |
| | | Cs-137 | <2.36E+00 | 0.00E+00 | 2.36E+00 | | |
| | | BaLa-140 | <6.19E+00 | 0.00E+00 | 6.19E+00 | | |
| | | Be-7 | <2.23E+01 | 0.00E+00 | 2.23E+01 | | |
| | | K-40 | 7.74E+01 | 2.85E+01 | 3.98E+01 | | |
| | | 351608 | 7/21/2014 - 8/18/2014 | Beta | 1.80E+00 | 7.71E-01 | 1.20E+00 |
| | | | | Mn-54 | <2.80E+00 | 0.00E+00 | 2.80E+00 |
| Co-58 | <3.35E+00 | | | 0.00E+00 | 3.35E+00 | | |
| Fe-59 | <7.16E+00 | | | 0.00E+00 | 7.16E+00 | | |
| Co-60 | <3.82E+00 | | | 0.00E+00 | 3.82E+00 | | |
| Zn-65 | <5.23E+00 | | | 0.00E+00 | 5.23E+00 | | |
| Zr-95 | <6.51E+00 | | | 0.00E+00 | 6.51E+00 | | |
| Nb-95 | <5.62E+00 | | | 0.00E+00 | 5.62E+00 | | |
| I-131 | <1.09E+01 | | | 0.00E+00 | 1.09E+01 | | |
| Cs-134 | <3.65E+00 | | | 0.00E+00 | 3.65E+00 | | |
| Cs-137 | <3.13E+00 | | | 0.00E+00 | 3.13E+00 | | |
| BaLa-140 | <6.83E+00 | | | 0.00E+00 | 6.83E+00 | | |
| Be-7 | <2.80E+01 | | | 0.00E+00 | 2.80E+01 | | |
| K-40 | 1.03E+02 | | | 3.71E+01 | 4.55E+01 | | |
| 354198 | 5/27/2014 - 8/18/2014 | | | H3DW | 8.01E+02 | 1.34E+02 | 1.88E+02 |
| | | | | | | | |
| 354585 | 8/18/2014 - 9/15/2014 | Beta | <6.24E-01 | 0.00E+00 | 1.45E+00 | | |
| | | Mn-54 | <3.06E+00 | 0.00E+00 | 3.06E+00 | | |
| | | Co-58 | <3.03E+00 | 0.00E+00 | 3.03E+00 | | |
| | | Fe-59 | <7.91E+00 | 0.00E+00 | 7.91E+00 | | |
| | | Co-60 | <2.95E+00 | 0.00E+00 | 2.95E+00 | | |
| | | Zn-65 | <6.52E+00 | 0.00E+00 | 6.52E+00 | | |
| | | Zr-95 | <6.69E+00 | 0.00E+00 | 6.69E+00 | | |
| | | Nb-95 | <3.81E+00 | 0.00E+00 | 3.81E+00 | | |
| | | I-131 | <1.15E+01 | 0.00E+00 | 1.15E+01 | | |
| | | Cs-134 | <3.56E+00 | 0.00E+00 | 3.56E+00 | | |
| | | Cs-137 | <3.05E+00 | 0.00E+00 | 3.05E+00 | | |
| | | BaLa-140 | <7.00E+00 | 0.00E+00 | 7.00E+00 | | |
| | | Be-7 | <2.96E+01 | 0.00E+00 | 2.96E+01 | | |
| | | K-40 | 1.69E+02 | 5.31E+01 | 7.02E+01 | | |
| | | 356856 | 9/15/2014 - 10/13/2014 | Beta | 1.61E+00 | 7.73E-01 | 1.22E+00 |
| Mn-54 | <1.81E+00 | | | 0.00E+00 | 1.81E+00 | | |
| Co-58 | <2.01E+00 | | | 0.00E+00 | 2.01E+00 | | |
| Fe-59 | <3.57E+00 | | | 0.00E+00 | 3.57E+00 | | |
| Co-60 | <1.53E+00 | | | 0.00E+00 | 1.53E+00 | | |
| Zn-65 | <2.95E+00 | | | 0.00E+00 | 2.95E+00 | | |
| Zr-95 | <3.93E+00 | | | 0.00E+00 | 3.93E+00 | | |
| Nb-95 | <2.49E+00 | | | 0.00E+00 | 2.49E+00 | | |
| I-131 | <1.20E+01 | | | 0.00E+00 | 1.20E+01 | | |
| Cs-134 | <2.11E+00 | | | 0.00E+00 | 2.11E+00 | | |
| Cs-137 | <2.06E+00 | | | 0.00E+00 | 2.06E+00 | | |
| BaLa-140 | <6.02E+00 | | | 0.00E+00 | 6.02E+00 | | |
| Be-7 | <1.75E+01 | | | 0.00E+00 | 1.75E+01 | | |
| K-40 | 3.20E+01 | | | 1.64E+01 | 2.32E+01 | | |
| 359747 | 10/13/2014 - 11/10/2014 | | | Beta | 2.42E+00 | 8.31E-01 | 1.27E+00 |
| | | Mn-54 | <2.00E+00 | 0.00E+00 | 2.00E+00 | | |
| | | Co-58 | <2.00E+00 | 0.00E+00 | 2.00E+00 | | |
| | | | | | | | |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 101 [INDICATOR - E @ 3.31 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|----------|-----------|--------------------------|----------|
| 359747 | 10/13/2014 - 11/10/2014 | Fe-59 | <4.00E+00 | 0.00E+00 | 4.00E+00 |
| | | Co-60 | <2.05E+00 | 0.00E+00 | 2.05E+00 |
| | | Zn-65 | <3.58E+00 | 0.00E+00 | 3.58E+00 |
| | | Zr-95 | <3.97E+00 | 0.00E+00 | 3.97E+00 |
| | | Nb-95 | <2.72E+00 | 0.00E+00 | 2.72E+00 |
| | | I-131 | <1.17E+01 | 0.00E+00 | 1.17E+01 |
| | | Cs-134 | <2.27E+00 | 0.00E+00 | 2.27E+00 |
| | | Cs-137 | <1.93E+00 | 0.00E+00 | 1.93E+00 |
| | | BaLa-140 | <6.34E+00 | 0.00E+00 | 6.34E+00 |
| | | Be-7 | <1.66E+01 | 0.00E+00 | 1.66E+01 |
| | | K-40 | 4.16E+01 | 1.81E+01 | 2.42E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|------------------------|----------|-----------|--------------------------|----------|
| 362144 | 11/10/2014 - 12/8/2014 | Beta | <1.53E-01 | 0.00E+00 | 1.34E+00 |
| | | Mn-54 | <1.56E+00 | 0.00E+00 | 1.56E+00 |
| | | Co-58 | <2.08E+00 | 0.00E+00 | 2.08E+00 |
| | | Fe-59 | <3.80E+00 | 0.00E+00 | 3.80E+00 |
| | | Co-60 | <1.86E+00 | 0.00E+00 | 1.86E+00 |
| | | Zn-65 | <4.03E+00 | 0.00E+00 | 4.03E+00 |
| | | Zr-95 | <4.20E+00 | 0.00E+00 | 4.20E+00 |
| | | Nb-95 | <2.92E+00 | 0.00E+00 | 2.92E+00 |
| | | I-131 | <1.15E+01 | 0.00E+00 | 1.15E+01 |
| | | Cs-134 | <1.90E+00 | 0.00E+00 | 1.90E+00 |
| | | Cs-137 | <2.10E+00 | 0.00E+00 | 2.10E+00 |
| | | BaLa-140 | <6.61E+00 | 0.00E+00 | 6.61E+00 |
| | | Be-7 | <1.59E+01 | 0.00E+00 | 1.59E+01 |
| | | K-40 | 4.99E+01 | 2.26E+01 | 3.17E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|----------|--------------------------|----------|
| 364861 | 8/18/2014 - 12/8/2014 | H3DW | 9.84E+02 | 1.46E+02 | 1.99E+02 |

Sample Point 119 [INDICATOR - SSW @ 7.4 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|----------|-----------|--------------------------|----------|
| 280859 | 12/9/2013 - 1/6/2014 | Beta | 1.88E+00 | 3.86E-01 | 1.16E+00 |
| | | Mn-54 | <3.39E+00 | 0.00E+00 | 3.39E+00 |
| | | Co-58 | <2.92E+00 | 0.00E+00 | 2.92E+00 |
| | | Fe-59 | <6.09E+00 | 0.00E+00 | 6.09E+00 |
| | | Co-60 | <3.50E+00 | 0.00E+00 | 3.50E+00 |
| | | Zn-65 | <6.23E+00 | 0.00E+00 | 6.23E+00 |
| | | Zr-95 | <7.96E+00 | 0.00E+00 | 7.96E+00 |
| | | Nb-95 | <4.97E+00 | 0.00E+00 | 4.97E+00 |
| | | I-131 | <1.40E+01 | 0.00E+00 | 1.40E+01 |
| | | Cs-134 | <3.50E+00 | 0.00E+00 | 3.50E+00 |
| | | Cs-137 | <3.44E+00 | 0.00E+00 | 3.44E+00 |
| | | BaLa-140 | <7.30E+00 | 0.00E+00 | 7.30E+00 |
| | | Be-7 | <3.21E+01 | 0.00E+00 | 3.21E+01 |
| | | K-40 | 1.54E+02 | 3.12E+01 | 3.76E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|-----------|--------------------------|----------|
| 282974 | 1/6/2014 - 2/3/2014 | Beta | <5.85E-01 | 0.00E+00 | 1.31E+00 |
| | | Mn-54 | <2.78E+00 | 0.00E+00 | 2.78E+00 |
| | | Co-58 | <2.90E+00 | 0.00E+00 | 2.90E+00 |
| | | Fe-59 | <7.16E+00 | 0.00E+00 | 7.16E+00 |
| | | Co-60 | <4.41E+00 | 0.00E+00 | 4.41E+00 |
| | | Zn-65 | <6.29E+00 | 0.00E+00 | 6.29E+00 |
| | | Zr-95 | <6.15E+00 | 0.00E+00 | 6.15E+00 |
| | | Nb-95 | <4.40E+00 | 0.00E+00 | 4.40E+00 |
| | | I-131 | <1.14E+01 | 0.00E+00 | 1.14E+01 |
| | | Cs-134 | <2.90E+00 | 0.00E+00 | 2.90E+00 |
| | | Cs-137 | <3.42E+00 | 0.00E+00 | 3.42E+00 |
| | | BaLa-140 | <8.86E+00 | 0.00E+00 | 8.86E+00 |
| | | Be-7 | <2.83E+01 | 0.00E+00 | 2.83E+01 |
| | | K-40 | <5.66E+01 | 0.00E+00 | 5.66E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|----------|--------------------------|----------|
| 284712 | 12/9/2013 - 3/3/2014 | H3DW | 4.87E+02 | 6.53E+01 | 1.89E+02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 119 [INDICATOR - SSW @ 7.4 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD | | |
|------------|-----------------------|----------|----------------------|--------------------------|-----------|----------|----------|
| 285754 | 2/3/2014 - 3/3/2014 | Beta | 1.28E+00 | 4.00E-01 | 1.27E+00 | | |
| | | Mn-54 | <3.14E+00 | 0.00E+00 | 3.14E+00 | | |
| | | Co-58 | <3.42E+00 | 0.00E+00 | 3.42E+00 | | |
| | | Fe-59 | <6.77E+00 | 0.00E+00 | 6.77E+00 | | |
| | | Co-60 | <3.86E+00 | 0.00E+00 | 3.86E+00 | | |
| | | Zn-65 | <6.57E+00 | 0.00E+00 | 6.57E+00 | | |
| | | Zr-95 | <5.83E+00 | 0.00E+00 | 5.83E+00 | | |
| | | Nb-95 | <4.02E+00 | 0.00E+00 | 4.02E+00 | | |
| | | I-131 | <1.26E+01 | 0.00E+00 | 1.26E+01 | | |
| | | Cs-134 | <2.32E+00 | 0.00E+00 | 2.32E+00 | | |
| | | Cs-137 | <3.06E+00 | 0.00E+00 | 3.06E+00 | | |
| | | BaLa-140 | <8.51E+00 | 0.00E+00 | 8.51E+00 | | |
| | | Be-7 | <2.68E+01 | 0.00E+00 | 2.68E+01 | | |
| | | K-40 | 4.88E+01 | 1.55E+01 | 3.11E+01 | | |
| | | 289118 | 3/3/2014 - 3/31/2014 | Beta | 7.37E-01 | 3.81E-01 | 1.25E+00 |
| | | | | Mn-54 | <3.23E+00 | 0.00E+00 | 3.23E+00 |
| Co-58 | <3.90E+00 | | | 0.00E+00 | 3.90E+00 | | |
| Fe-59 | <7.67E+00 | | | 0.00E+00 | 7.67E+00 | | |
| Co-60 | <4.79E+00 | | | 0.00E+00 | 4.79E+00 | | |
| Zn-65 | <5.68E+00 | | | 0.00E+00 | 5.68E+00 | | |
| Zr-95 | <6.84E+00 | | | 0.00E+00 | 6.84E+00 | | |
| Nb-95 | <4.58E+00 | | | 0.00E+00 | 4.58E+00 | | |
| I-131 | <1.34E+01 | | | 0.00E+00 | 1.34E+01 | | |
| Cs-134 | <3.38E+00 | | | 0.00E+00 | 3.38E+00 | | |
| Cs-137 | <4.11E+00 | | | 0.00E+00 | 4.11E+00 | | |
| BaLa-140 | <1.08E+01 | | | 0.00E+00 | 1.08E+01 | | |
| Be-7 | <3.28E+01 | | | 0.00E+00 | 3.28E+01 | | |
| K-40 | 9.75E+01 | | | 2.38E+01 | 3.41E+01 | | |
| 292813 | 3/31/2014 - 4/28/2014 | | | Beta | 9.38E-01 | 3.80E-01 | 1.23E+00 |
| | | | | Mn-54 | <3.38E+00 | 0.00E+00 | 3.38E+00 |
| | | Co-58 | <3.53E+00 | 0.00E+00 | 3.53E+00 | | |
| | | Fe-59 | <1.19E+01 | 0.00E+00 | 1.19E+01 | | |
| | | Co-60 | <3.67E+00 | 0.00E+00 | 3.67E+00 | | |
| | | Zn-65 | <9.71E+00 | 0.00E+00 | 9.71E+00 | | |
| | | Zr-95 | <7.28E+00 | 0.00E+00 | 7.28E+00 | | |
| | | Nb-95 | <5.65E+00 | 0.00E+00 | 5.65E+00 | | |
| | | I-131 | <1.35E+01 | 0.00E+00 | 1.35E+01 | | |
| | | Cs-134 | <3.76E+00 | 0.00E+00 | 3.76E+00 | | |
| | | Cs-137 | <4.88E+00 | 0.00E+00 | 4.88E+00 | | |
| | | BaLa-140 | <1.08E+01 | 0.00E+00 | 1.08E+01 | | |
| | | Be-7 | <4.05E+01 | 0.00E+00 | 4.05E+01 | | |
| | | K-40 | 9.52E+01 | 3.31E+01 | 4.51E+01 | | |
| | | 295217 | 3/3/2014 - 5/27/2014 | H3DW | 4.92E+02 | 6.58E+01 | 1.90E+02 |
| | | | | | | | |
| 295476 | 4/28/2014 - 5/27/2014 | Beta | 1.87E+00 | 4.01E-01 | 1.22E+00 | | |
| | | Mn-54 | <2.09E+00 | 0.00E+00 | 2.09E+00 | | |
| | | Co-58 | <2.48E+00 | 0.00E+00 | 2.48E+00 | | |
| | | Fe-59 | <6.41E+00 | 0.00E+00 | 6.41E+00 | | |
| | | Co-60 | <2.47E+00 | 0.00E+00 | 2.47E+00 | | |
| | | Zn-65 | <4.58E+00 | 0.00E+00 | 4.58E+00 | | |
| | | Zr-95 | <4.55E+00 | 0.00E+00 | 4.55E+00 | | |
| | | Nb-95 | <3.37E+00 | 0.00E+00 | 3.37E+00 | | |
| | | I-131 | <1.45E+01 | 0.00E+00 | 1.45E+01 | | |
| | | Cs-134 | <1.91E+00 | 0.00E+00 | 1.91E+00 | | |
| | | Cs-137 | <2.53E+00 | 0.00E+00 | 2.53E+00 | | |
| | | BaLa-140 | <7.24E+00 | 0.00E+00 | 7.24E+00 | | |
| | | Be-7 | <2.34E+01 | 0.00E+00 | 2.34E+01 | | |
| | | K-40 | 1.16E+02 | 1.49E+01 | 1.84E+01 | | |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 119 [INDICATOR - SSW @ 7.4 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------------------|--------------------------|----------|
| 296984 | 5/27/2014 - 6/23/2014 | Beta | 2.78E+00 | 8.15E-01 | 1.20E+00 |
| | | Mn-54 | <3.97E+00 | 0.00E+00 | 3.97E+00 |
| | | Co-58 | <3.61E+00 | 0.00E+00 | 3.61E+00 |
| | | Fe-59 | <9.13E+00 | 0.00E+00 | 9.13E+00 |
| | | Co-60 | <3.54E+00 | 0.00E+00 | 3.54E+00 |
| | | Zn-65 | <8.69E+00 | 0.00E+00 | 8.69E+00 |
| | | Zr-95 | <5.48E+00 | 0.00E+00 | 5.48E+00 |
| | | Nb-95 | <5.52E+00 | 0.00E+00 | 5.52E+00 |
| | | I-131 | <1.44E+01 | 0.00E+00 | 1.44E+01 |
| | | Cs-134 | <3.57E+00 | 0.00E+00 | 3.57E+00 |
| | | Cs-137 | <4.18E+00 | 0.00E+00 | 4.18E+00 |
| | | BaLa-140 | <8.87E+00 | 0.00E+00 | 8.87E+00 |
| | | Be-7 | <3.16E+01 | 0.00E+00 | 3.16E+01 |
| | | K-40 | <5.74E+01 | 0.00E+00 | 5.74E+01 |
| | | 350540 | 6/23/2014 - 7/21/2014 | Beta | 1.90E+00 |
| Mn-54 | <2.31E+00 | | | 0.00E+00 | 2.31E+00 |
| Co-58 | <2.54E+00 | | | 0.00E+00 | 2.54E+00 |
| Fe-59 | <4.98E+00 | | | 0.00E+00 | 4.98E+00 |
| Co-60 | <2.64E+00 | | | 0.00E+00 | 2.64E+00 |
| Zn-65 | <4.07E+00 | | | 0.00E+00 | 4.07E+00 |
| Zr-95 | <4.77E+00 | | | 0.00E+00 | 4.77E+00 |
| Nb-95 | <2.98E+00 | | | 0.00E+00 | 2.98E+00 |
| I-131 | <1.13E+01 | | | 0.00E+00 | 1.13E+01 |
| Cs-134 | <1.98E+00 | | | 0.00E+00 | 1.98E+00 |
| Cs-137 | <2.07E+00 | | | 0.00E+00 | 2.07E+00 |
| BaLa-140 | <6.06E+00 | | | 0.00E+00 | 6.06E+00 |
| Be-7 | <2.29E+01 | | | 0.00E+00 | 2.29E+01 |
| K-40 | 1.48E+02 | | | 3.27E+01 | 3.59E+01 |
| 351609 | 7/21/2014 - 8/18/2014 | | | Beta | 2.62E+00 |
| | | Mn-54 | <2.94E+00 | 0.00E+00 | 2.94E+00 |
| | | Co-58 | <3.25E+00 | 0.00E+00 | 3.25E+00 |
| | | Fe-59 | <7.07E+00 | 0.00E+00 | 7.07E+00 |
| | | Co-60 | <4.76E+00 | 0.00E+00 | 4.76E+00 |
| | | Zn-65 | <7.60E+00 | 0.00E+00 | 7.60E+00 |
| | | Zr-95 | <6.45E+00 | 0.00E+00 | 6.45E+00 |
| | | Nb-95 | <4.22E+00 | 0.00E+00 | 4.22E+00 |
| | | I-131 | <1.12E+01 | 0.00E+00 | 1.12E+01 |
| | | Cs-134 | <4.07E+00 | 0.00E+00 | 4.07E+00 |
| | | Cs-137 | <3.89E+00 | 0.00E+00 | 3.89E+00 |
| | | BaLa-140 | <6.34E+00 | 0.00E+00 | 6.34E+00 |
| | | Be-7 | <3.44E+01 | 0.00E+00 | 3.44E+01 |
| | | K-40 | 1.11E+02 | 3.62E+01 | 3.90E+01 |
| | | 354199 | 5/27/2014 - 8/18/2014 | H3DW | 6.79E+02 |
| 354586 | 8/18/2014 - 9/15/2014 | Beta | 1.56E+00 | 8.81E-01 | 1.44E+00 |
| | | Mn-54 | <5.82E+00 | 0.00E+00 | 5.82E+00 |
| | | Co-58 | <4.47E+00 | 0.00E+00 | 4.47E+00 |
| | | Fe-59 | <1.41E+01 | 0.00E+00 | 1.41E+01 |
| | | Co-60 | <5.45E+00 | 0.00E+00 | 5.45E+00 |
| | | Zn-65 | <1.33E+01 | 0.00E+00 | 1.33E+01 |
| | | Zr-95 | <1.18E+01 | 0.00E+00 | 1.18E+01 |
| | | Nb-95 | <7.15E+00 | 0.00E+00 | 7.15E+00 |
| | | I-131 | <1.15E+01 | 0.00E+00 | 1.15E+01 |
| | | Cs-134 | <6.69E+00 | 0.00E+00 | 6.69E+00 |
| | | Cs-137 | <5.64E+00 | 0.00E+00 | 5.64E+00 |
| | | BaLa-140 | <8.12E+00 | 0.00E+00 | 8.12E+00 |
| | | Be-7 | <4.79E+01 | 0.00E+00 | 4.79E+01 |
| | | K-40 | <1.03E+02 | 0.00E+00 | 1.03E+02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 119 [INDICATOR - SSW @ 7.4 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|------------------------|----------|-----------|--------------------------|----------|
| 356857 | 9/15/2014 - 10/13/2014 | Beta | 7.51E+00 | 1.00E+00 | 1.21E+00 |
| | | Mn-54 | <4.01E+00 | 0.00E+00 | 4.01E+00 |
| | | Co-58 | <3.33E+00 | 0.00E+00 | 3.33E+00 |
| | | Fe-59 | <6.51E+00 | 0.00E+00 | 6.51E+00 |
| | | Co-60 | <4.05E+00 | 0.00E+00 | 4.05E+00 |
| | | Zn-65 | <9.00E+00 | 0.00E+00 | 9.00E+00 |
| | | Zr-95 | <7.85E+00 | 0.00E+00 | 7.85E+00 |
| | | Nb-95 | <6.68E+00 | 0.00E+00 | 6.68E+00 |
| | | I-131 | <1.18E+01 | 0.00E+00 | 1.18E+01 |
| | | Cs-134 | <4.63E+00 | 0.00E+00 | 4.63E+00 |
| | | Cs-137 | <3.88E+00 | 0.00E+00 | 3.88E+00 |
| | | BaLa-140 | <7.74E+00 | 0.00E+00 | 7.74E+00 |
| | | Be-7 | <3.46E+01 | 0.00E+00 | 3.46E+01 |
| | | K-40 | 5.40E+01 | 3.23E+01 | 3.96E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|----------|-----------|--------------------------|----------|
| 359748 | 10/13/2014 - 11/10/2014 | Beta | 8.67E-01 | 7.59E-01 | 1.26E+00 |
| | | Mn-54 | <1.75E+00 | 0.00E+00 | 1.75E+00 |
| | | Co-58 | <2.19E+00 | 0.00E+00 | 2.19E+00 |
| | | Fe-59 | <4.66E+00 | 0.00E+00 | 4.66E+00 |
| | | Co-60 | <1.94E+00 | 0.00E+00 | 1.94E+00 |
| | | Zn-65 | <4.37E+00 | 0.00E+00 | 4.37E+00 |
| | | Zr-95 | <3.73E+00 | 0.00E+00 | 3.73E+00 |
| | | Nb-95 | <2.72E+00 | 0.00E+00 | 2.72E+00 |
| | | I-131 | <1.03E+01 | 0.00E+00 | 1.03E+01 |
| | | Cs-134 | <2.24E+00 | 0.00E+00 | 2.24E+00 |
| | | Cs-137 | <1.74E+00 | 0.00E+00 | 1.74E+00 |
| | | BaLa-140 | <7.54E+00 | 0.00E+00 | 7.54E+00 |
| | | Be-7 | <1.80E+01 | 0.00E+00 | 1.80E+01 |
| | | K-40 | 2.74E+01 | 1.78E+01 | 2.65E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|------------------------|----------|-----------|--------------------------|----------|
| 362145 | 11/10/2014 - 12/8/2014 | Beta | <3.03E-01 | 0.00E+00 | 1.33E+00 |
| | | Mn-54 | <1.81E+00 | 0.00E+00 | 1.81E+00 |
| | | Co-58 | <2.12E+00 | 0.00E+00 | 2.12E+00 |
| | | Fe-59 | <3.94E+00 | 0.00E+00 | 3.94E+00 |
| | | Co-60 | <1.94E+00 | 0.00E+00 | 1.94E+00 |
| | | Zn-65 | <3.81E+00 | 0.00E+00 | 3.81E+00 |
| | | Zr-95 | <4.19E+00 | 0.00E+00 | 4.19E+00 |
| | | Nb-95 | <2.83E+00 | 0.00E+00 | 2.83E+00 |
| | | I-131 | <1.18E+01 | 0.00E+00 | 1.18E+01 |
| | | Cs-134 | <2.55E+00 | 0.00E+00 | 2.55E+00 |
| | | Cs-137 | <2.19E+00 | 0.00E+00 | 2.19E+00 |
| | | BaLa-140 | <6.16E+00 | 0.00E+00 | 6.16E+00 |
| | | Be-7 | <1.95E+01 | 0.00E+00 | 1.95E+01 |
| | | K-40 | 4.61E+01 | 1.94E+01 | 2.58E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|----------|--------------------------|----------|
| 364862 | 8/18/2014 - 12/8/2014 | H3DW | 5.36E+02 | 1.33E+02 | 1.99E+02 |

Sample Point 132 [INDICATOR - SSE @ 11.1 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|----------|-----------|--------------------------|----------|
| 280860 | 12/9/2013 - 1/6/2014 | Beta | 1.83E+00 | 3.86E-01 | 1.17E+00 |
| | | Mn-54 | <3.11E+00 | 0.00E+00 | 3.11E+00 |
| | | Co-58 | <3.14E+00 | 0.00E+00 | 3.14E+00 |
| | | Fe-59 | <7.81E+00 | 0.00E+00 | 7.81E+00 |
| | | Co-60 | <4.32E+00 | 0.00E+00 | 4.32E+00 |
| | | Zn-65 | <7.21E+00 | 0.00E+00 | 7.21E+00 |
| | | Zr-95 | <6.82E+00 | 0.00E+00 | 6.82E+00 |
| | | Nb-95 | <4.32E+00 | 0.00E+00 | 4.32E+00 |
| | | I-131 | <1.22E+01 | 0.00E+00 | 1.22E+01 |
| | | Cs-134 | <3.32E+00 | 0.00E+00 | 3.32E+00 |
| | | Cs-137 | <3.24E+00 | 0.00E+00 | 3.24E+00 |
| | | BaLa-140 | <8.47E+00 | 0.00E+00 | 8.47E+00 |
| | | Be-7 | <3.00E+01 | 0.00E+00 | 3.00E+01 |
| | | K-40 | 1.03E+02 | 2.10E+01 | 3.17E+01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 132 [INDICATOR - SSE @ 11.1 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|----------------------|--------------------------|----------|
| 282975 | 1/6/2014 - 2/3/2014 | Beta | 9.00E-01 | 4.05E-01 | 1.31E+00 |
| | | Mn-54 | <4.21E+00 | 0.00E+00 | 4.21E+00 |
| | | Co-58 | <3.94E+00 | 0.00E+00 | 3.94E+00 |
| | | Fe-59 | <8.89E+00 | 0.00E+00 | 8.89E+00 |
| | | Co-60 | <5.52E+00 | 0.00E+00 | 5.52E+00 |
| | | Zn-65 | <9.49E+00 | 0.00E+00 | 9.49E+00 |
| | | Zr-95 | <1.04E+01 | 0.00E+00 | 1.04E+01 |
| | | Nb-95 | <5.59E+00 | 0.00E+00 | 5.59E+00 |
| | | I-131 | <1.37E+01 | 0.00E+00 | 1.37E+01 |
| | | Cs-134 | <4.39E+00 | 0.00E+00 | 4.39E+00 |
| | | Cs-137 | <5.02E+00 | 0.00E+00 | 5.02E+00 |
| | | BaLa-140 | <1.25E+01 | 0.00E+00 | 1.25E+01 |
| | | Be-7 | <4.21E+01 | 0.00E+00 | 4.21E+01 |
| | | K-40 | 2.24E+02 | 2.81E+01 | 5.15E+01 |
| | | 284700 | 12/9/2013 - 3/3/2014 | Nuclide | Activity |
| H3DW | 4.61E+02 | | | 6.49E+01 | 1.89E+02 |
| 285755 | 2/3/2014 - 3/3/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
| | | Beta | 1.10E+00 | 3.97E-01 | 1.27E+00 |
| | | Mn-54 | <4.11E+00 | 0.00E+00 | 4.11E+00 |
| | | Co-58 | <3.84E+00 | 0.00E+00 | 3.84E+00 |
| | | Fe-59 | <1.02E+01 | 0.00E+00 | 1.02E+01 |
| | | Co-60 | <4.20E+00 | 0.00E+00 | 4.20E+00 |
| | | Zn-65 | <9.20E+00 | 0.00E+00 | 9.20E+00 |
| | | Zr-95 | <6.27E+00 | 0.00E+00 | 6.27E+00 |
| | | Nb-95 | <4.94E+00 | 0.00E+00 | 4.94E+00 |
| | | I-131 | <1.43E+01 | 0.00E+00 | 1.43E+01 |
| | | Cs-134 | <3.40E+00 | 0.00E+00 | 3.40E+00 |
| | | Cs-137 | <4.17E+00 | 0.00E+00 | 4.17E+00 |
| | | BaLa-140 | <1.16E+01 | 0.00E+00 | 1.16E+01 |
| | | Be-7 | <4.09E+01 | 0.00E+00 | 4.09E+01 |
| | | K-40 | 1.78E+02 | 3.21E+01 | 4.40E+01 |
| 289119 | 3/3/2014 - 3/31/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
| | | Beta | 1.65E+00 | 4.05E-01 | 1.26E+00 |
| | | Mn-54 | <3.60E+00 | 0.00E+00 | 3.60E+00 |
| | | Co-58 | <3.30E+00 | 0.00E+00 | 3.30E+00 |
| | | Fe-59 | <7.87E+00 | 0.00E+00 | 7.87E+00 |
| | | Co-60 | <3.31E+00 | 0.00E+00 | 3.31E+00 |
| | | Zn-65 | <7.36E+00 | 0.00E+00 | 7.36E+00 |
| | | Zr-95 | <6.21E+00 | 0.00E+00 | 6.21E+00 |
| | | Nb-95 | <4.62E+00 | 0.00E+00 | 4.62E+00 |
| | | I-131 | <1.38E+01 | 0.00E+00 | 1.38E+01 |
| | | Cs-134 | <3.17E+00 | 0.00E+00 | 3.17E+00 |
| | | Cs-137 | <4.02E+00 | 0.00E+00 | 4.02E+00 |
| | | BaLa-140 | <8.11E+00 | 0.00E+00 | 8.11E+00 |
| | | Be-7 | <3.36E+01 | 0.00E+00 | 3.36E+01 |
| | | K-40 | 1.92E+02 | 2.12E+01 | 3.08E+01 |
| 292814 | 3/31/2014 - 4/28/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
| | | Beta | 1.39E+00 | 3.93E-01 | 1.24E+00 |
| | | Mn-54 | <2.73E+00 | 0.00E+00 | 2.73E+00 |
| | | Co-58 | <3.74E+00 | 0.00E+00 | 3.74E+00 |
| | | Fe-59 | <7.35E+00 | 0.00E+00 | 7.35E+00 |
| | | Co-60 | <5.72E+00 | 0.00E+00 | 5.72E+00 |
| | | Zn-65 | <7.38E+00 | 0.00E+00 | 7.38E+00 |
| | | Zr-95 | <7.69E+00 | 0.00E+00 | 7.69E+00 |
| | | Nb-95 | <4.91E+00 | 0.00E+00 | 4.91E+00 |
| | | I-131 | <1.30E+01 | 0.00E+00 | 1.30E+01 |
| | | Cs-134 | <3.21E+00 | 0.00E+00 | 3.21E+00 |
| | | Cs-137 | <4.32E+00 | 0.00E+00 | 4.32E+00 |
| | | BaLa-140 | <1.21E+01 | 0.00E+00 | 1.21E+01 |
| | | Be-7 | <3.50E+01 | 0.00E+00 | 3.50E+01 |
| | | K-40 | 3.43E+01 | 1.67E+01 | 3.35E+01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 132 [INDICATOR - SSE @ 11.1 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------|--------------------------|----------|
| 295218 | 3/3/2014 - 5/27/2014 | H3DW | 5.98E+02 | 6.64E+01 | 1.87E+02 |
| 295477 | 4/28/2014 - 5/27/2014 | Beta | 1.12E+00 | 3.86E-01 | 1.23E+00 |
| | | Mn-54 | <3.18E+00 | 0.00E+00 | 3.18E+00 |
| | | Co-58 | <3.98E+00 | 0.00E+00 | 3.98E+00 |
| | | Fe-59 | <7.28E+00 | 0.00E+00 | 7.28E+00 |
| | | Co-60 | <3.86E+00 | 0.00E+00 | 3.86E+00 |
| | | Zn-65 | <8.13E+00 | 0.00E+00 | 8.13E+00 |
| | | Zr-95 | <7.67E+00 | 0.00E+00 | 7.67E+00 |
| | | Nb-95 | <4.30E+00 | 0.00E+00 | 4.30E+00 |
| | | I-131 | <1.33E+01 | 0.00E+00 | 1.33E+01 |
| | | Cs-134 | <3.33E+00 | 0.00E+00 | 3.33E+00 |
| | | Cs-137 | <3.58E+00 | 0.00E+00 | 3.58E+00 |
| | | BaLa-140 | <6.97E+00 | 0.00E+00 | 6.97E+00 |
| | | Be-7 | <3.71E+01 | 0.00E+00 | 3.71E+01 |
| | | K-40 | 1.87E+02 | 2.29E+01 | 3.38E+01 |
| 296985 | 5/27/2014 - 6/23/2014 | Beta | 2.36E+00 | 8.05E-01 | 1.21E+00 |
| | | Mn-54 | <3.32E+00 | 0.00E+00 | 3.32E+00 |
| | | Co-58 | <4.73E+00 | 0.00E+00 | 4.73E+00 |
| | | Fe-59 | <7.06E+00 | 0.00E+00 | 7.06E+00 |
| | | Co-60 | <4.08E+00 | 0.00E+00 | 4.08E+00 |
| | | Zn-65 | <8.29E+00 | 0.00E+00 | 8.29E+00 |
| | | Zr-95 | <8.31E+00 | 0.00E+00 | 8.31E+00 |
| | | Nb-95 | <5.12E+00 | 0.00E+00 | 5.12E+00 |
| | | I-131 | <1.42E+01 | 0.00E+00 | 1.42E+01 |
| | | Cs-134 | <4.07E+00 | 0.00E+00 | 4.07E+00 |
| | | Cs-137 | <4.60E+00 | 0.00E+00 | 4.60E+00 |
| | | BaLa-140 | <9.27E+00 | 0.00E+00 | 9.27E+00 |
| | | Be-7 | <4.11E+01 | 0.00E+00 | 4.11E+01 |
| | | K-40 | 1.88E+02 | 2.74E+01 | 3.75E+01 |
| 350541 | 6/23/2014 - 7/21/2014 | Beta | 2.24E+00 | 7.76E-01 | 1.17E+00 |
| | | Mn-54 | <2.49E+00 | 0.00E+00 | 2.49E+00 |
| | | Co-58 | <2.95E+00 | 0.00E+00 | 2.95E+00 |
| | | Fe-59 | <6.15E+00 | 0.00E+00 | 6.15E+00 |
| | | Co-60 | <3.09E+00 | 0.00E+00 | 3.09E+00 |
| | | Zn-65 | <6.57E+00 | 0.00E+00 | 6.57E+00 |
| | | Zr-95 | <5.96E+00 | 0.00E+00 | 5.96E+00 |
| | | Nb-95 | <3.80E+00 | 0.00E+00 | 3.80E+00 |
| | | I-131 | <1.11E+01 | 0.00E+00 | 1.11E+01 |
| | | Cs-134 | <2.34E+00 | 0.00E+00 | 2.34E+00 |
| | | Cs-137 | <3.35E+00 | 0.00E+00 | 3.35E+00 |
| | | BaLa-140 | <9.58E+00 | 0.00E+00 | 9.58E+00 |
| | | Be-7 | <2.99E+01 | 0.00E+00 | 2.99E+01 |
| | | K-40 | 1.04E+02 | 3.83E+01 | 5.04E+01 |
| 351610 | 7/21/2014 - 8/18/2014 | Beta | 2.05E+00 | 7.81E-01 | 1.19E+00 |
| | | Mn-54 | <3.01E+00 | 0.00E+00 | 3.01E+00 |
| | | Co-58 | <3.41E+00 | 0.00E+00 | 3.41E+00 |
| | | Fe-59 | <5.54E+00 | 0.00E+00 | 5.54E+00 |
| | | Co-60 | <2.84E+00 | 0.00E+00 | 2.84E+00 |
| | | Zn-65 | <6.59E+00 | 0.00E+00 | 6.59E+00 |
| | | Zr-95 | <6.17E+00 | 0.00E+00 | 6.17E+00 |
| | | Nb-95 | <4.01E+00 | 0.00E+00 | 4.01E+00 |
| | | I-131 | <1.07E+01 | 0.00E+00 | 1.07E+01 |
| | | Cs-134 | <3.46E+00 | 0.00E+00 | 3.46E+00 |
| | | Cs-137 | <3.04E+00 | 0.00E+00 | 3.04E+00 |
| | | BaLa-140 | <5.85E+00 | 0.00E+00 | 5.85E+00 |
| | | Be-7 | <2.91E+01 | 0.00E+00 | 2.91E+01 |
| | | K-40 | 1.43E+02 | 3.76E+01 | 4.20E+01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 132 [INDICATOR - SSE @ 11.1 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|----------|-----------|--------------------------|----------|
| 354200 | 5/27/2014 - 8/18/2014 | H3DW | 5.79E+02 | 1.27E+02 | 1.87E+02 |
| 354587 | 8/18/2014 - 9/15/2014 | Beta | 9.53E-01 | 8.62E-01 | 1.45E+00 |
| | | Mn-54 | <3.73E+00 | 0.00E+00 | 3.73E+00 |
| | | Co-58 | <5.32E+00 | 0.00E+00 | 5.32E+00 |
| | | Fe-59 | <1.19E+01 | 0.00E+00 | 1.19E+01 |
| | | Co-60 | <5.60E+00 | 0.00E+00 | 5.60E+00 |
| | | Zn-65 | <6.00E+00 | 0.00E+00 | 6.00E+00 |
| | | Zr-95 | <7.30E+00 | 0.00E+00 | 7.30E+00 |
| | | Nb-95 | <3.97E+00 | 0.00E+00 | 3.97E+00 |
| | | I-131 | <1.19E+01 | 0.00E+00 | 1.19E+01 |
| | | Cs-134 | <4.01E+00 | 0.00E+00 | 4.01E+00 |
| | | Cs-137 | <4.04E+00 | 0.00E+00 | 4.04E+00 |
| | | BaLa-140 | <8.70E+00 | 0.00E+00 | 8.70E+00 |
| | | Be-7 | <4.09E+01 | 0.00E+00 | 4.09E+01 |
| | | K-40 | <7.96E+01 | 0.00E+00 | 7.96E+01 |
| 356858 | 9/15/2014 - 10/13/2014 | Beta | 4.64E+00 | 9.00E-01 | 1.22E+00 |
| | | Mn-54 | <3.46E+00 | 0.00E+00 | 3.46E+00 |
| | | Co-58 | <4.14E+00 | 0.00E+00 | 4.14E+00 |
| | | Fe-59 | <7.18E+00 | 0.00E+00 | 7.18E+00 |
| | | Co-60 | <2.79E+00 | 0.00E+00 | 2.79E+00 |
| | | Zn-65 | <6.32E+00 | 0.00E+00 | 6.32E+00 |
| | | Zr-95 | <8.02E+00 | 0.00E+00 | 8.02E+00 |
| | | Nb-95 | <5.30E+00 | 0.00E+00 | 5.30E+00 |
| | | I-131 | <1.06E+01 | 0.00E+00 | 1.06E+01 |
| | | Cs-134 | <4.14E+00 | 0.00E+00 | 4.14E+00 |
| | | Cs-137 | <3.66E+00 | 0.00E+00 | 3.66E+00 |
| | | BaLa-140 | <7.23E+00 | 0.00E+00 | 7.23E+00 |
| | | Be-7 | <2.80E+01 | 0.00E+00 | 2.80E+01 |
| | | K-40 | 1.11E+02 | 4.71E+01 | 6.46E+01 |
| 359749 | 10/13/2014 - 11/10/2014 | Beta | 1.28E+00 | 7.80E-01 | 1.27E+00 |
| | | Mn-54 | <1.98E+00 | 0.00E+00 | 1.98E+00 |
| | | Co-58 | <2.26E+00 | 0.00E+00 | 2.26E+00 |
| | | Fe-59 | <4.24E+00 | 0.00E+00 | 4.24E+00 |
| | | Co-60 | <1.98E+00 | 0.00E+00 | 1.98E+00 |
| | | Zn-65 | <4.35E+00 | 0.00E+00 | 4.35E+00 |
| | | Zr-95 | <3.80E+00 | 0.00E+00 | 3.80E+00 |
| | | Nb-95 | <2.72E+00 | 0.00E+00 | 2.72E+00 |
| | | I-131 | <1.06E+01 | 0.00E+00 | 1.06E+01 |
| | | Cs-134 | <2.18E+00 | 0.00E+00 | 2.18E+00 |
| | | Cs-137 | <2.15E+00 | 0.00E+00 | 2.15E+00 |
| | | BaLa-140 | <6.40E+00 | 0.00E+00 | 6.40E+00 |
| | | Be-7 | <1.95E+01 | 0.00E+00 | 1.95E+01 |
| | | K-40 | 3.13E+01 | 1.73E+01 | 2.47E+01 |
| 362146 | 11/10/2014 - 12/8/2014 | Beta | 8.04E-01 | 8.03E-01 | 1.34E+00 |
| | | Mn-54 | <1.44E+00 | 0.00E+00 | 1.44E+00 |
| | | Co-58 | <1.82E+00 | 0.00E+00 | 1.82E+00 |
| | | Fe-59 | <3.09E+00 | 0.00E+00 | 3.09E+00 |
| | | Co-60 | <1.34E+00 | 0.00E+00 | 1.34E+00 |
| | | Zn-65 | <3.05E+00 | 0.00E+00 | 3.05E+00 |
| | | Zr-95 | <2.64E+00 | 0.00E+00 | 2.64E+00 |
| | | Nb-95 | <2.04E+00 | 0.00E+00 | 2.04E+00 |
| | | I-131 | <1.03E+01 | 0.00E+00 | 1.03E+01 |
| | | Cs-134 | <1.73E+00 | 0.00E+00 | 1.73E+00 |
| | | Cs-137 | <1.36E+00 | 0.00E+00 | 1.36E+00 |
| | | BaLa-140 | <5.18E+00 | 0.00E+00 | 5.18E+00 |
| | | Be-7 | <1.38E+01 | 0.00E+00 | 1.38E+01 |
| | | K-40 | 2.37E+01 | 1.71E+01 | 2.67E+01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 132 [INDICATOR - SSE @ 11.1 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|----------|--------------------------|----------|
| 364863 | 8/18/2014 - 12/8/2014 | H3DW | 6.26E+02 | 1.35E+02 | 1.99E+02 |

Sample Point 136 [CONTROL - NNE @ 12.7 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|----------|-----------|--------------------------|----------|
| 280861 | 12/9/2013 - 1/6/2014 | Beta | 2.11E+00 | 3.93E-01 | 1.16E+00 |
| | | Mn-54 | <3.33E+00 | 0.00E+00 | 3.33E+00 |
| | | Co-58 | <3.97E+00 | 0.00E+00 | 3.97E+00 |
| | | Fe-59 | <6.92E+00 | 0.00E+00 | 6.92E+00 |
| | | Co-60 | <3.64E+00 | 0.00E+00 | 3.64E+00 |
| | | Zn-65 | <7.23E+00 | 0.00E+00 | 7.23E+00 |
| | | Zr-95 | <7.02E+00 | 0.00E+00 | 7.02E+00 |
| | | Nb-95 | <4.41E+00 | 0.00E+00 | 4.41E+00 |
| | | I-131 | <1.38E+01 | 0.00E+00 | 1.38E+01 |
| | | Cs-134 | <3.52E+00 | 0.00E+00 | 3.52E+00 |
| | | Cs-137 | <3.49E+00 | 0.00E+00 | 3.49E+00 |
| | | BaLa-140 | <8.18E+00 | 0.00E+00 | 8.18E+00 |
| | | Be-7 | <3.63E+01 | 0.00E+00 | 3.63E+01 |
| | | K-40 | 1.76E+02 | 2.32E+01 | 3.62E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|-----------|--------------------------|----------|
| 282976 | 1/6/2014 - 2/3/2014 | Beta | 1.42E+00 | 4.14E-01 | 1.31E+00 |
| | | Mn-54 | <3.83E+00 | 0.00E+00 | 3.83E+00 |
| | | Co-58 | <3.80E+00 | 0.00E+00 | 3.80E+00 |
| | | Fe-59 | <9.69E+00 | 0.00E+00 | 9.69E+00 |
| | | Co-60 | <4.07E+00 | 0.00E+00 | 4.07E+00 |
| | | Zn-65 | <8.50E+00 | 0.00E+00 | 8.50E+00 |
| | | Zr-95 | <8.38E+00 | 0.00E+00 | 8.38E+00 |
| | | Nb-95 | <5.10E+00 | 0.00E+00 | 5.10E+00 |
| | | I-131 | <1.44E+01 | 0.00E+00 | 1.44E+01 |
| | | Cs-134 | <3.67E+00 | 0.00E+00 | 3.67E+00 |
| | | Cs-137 | <4.14E+00 | 0.00E+00 | 4.14E+00 |
| | | BaLa-140 | <1.05E+01 | 0.00E+00 | 1.05E+01 |
| | | Be-7 | <3.97E+01 | 0.00E+00 | 3.97E+01 |
| | | K-40 | 1.71E+02 | 2.59E+01 | 4.74E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 284701 | 12/9/2013 - 3/3/2014 | H3DW | <3.78E+01 | 0.00E+00 | 1.89E+02 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|-----------|--------------------------|----------|
| 285756 | 2/3/2014 - 3/3/2014 | Beta | 1.71E+00 | 4.10E-01 | 1.27E+00 |
| | | Mn-54 | <3.01E+00 | 0.00E+00 | 3.01E+00 |
| | | Co-58 | <3.75E+00 | 0.00E+00 | 3.75E+00 |
| | | Fe-59 | <7.93E+00 | 0.00E+00 | 7.93E+00 |
| | | Co-60 | <5.26E+00 | 0.00E+00 | 5.26E+00 |
| | | Zn-65 | <7.20E+00 | 0.00E+00 | 7.20E+00 |
| | | Zr-95 | <6.76E+00 | 0.00E+00 | 6.76E+00 |
| | | Nb-95 | <5.12E+00 | 0.00E+00 | 5.12E+00 |
| | | I-131 | <1.21E+01 | 0.00E+00 | 1.21E+01 |
| | | Cs-134 | <2.63E+00 | 0.00E+00 | 2.63E+00 |
| | | Cs-137 | <3.64E+00 | 0.00E+00 | 3.64E+00 |
| | | BaLa-140 | <9.48E+00 | 0.00E+00 | 9.48E+00 |
| | | Be-7 | <3.20E+01 | 0.00E+00 | 3.20E+01 |
| | | K-40 | 9.22E+01 | 2.10E+01 | 3.09E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|----------|-----------|--------------------------|----------|
| 289120 | 3/3/2014 - 3/31/2014 | Beta | 1.23E+00 | 3.93E-01 | 1.25E+00 |
| | | Mn-54 | <2.85E+00 | 0.00E+00 | 2.85E+00 |
| | | Co-58 | <3.68E+00 | 0.00E+00 | 3.68E+00 |
| | | Fe-59 | <6.29E+00 | 0.00E+00 | 6.29E+00 |
| | | Co-60 | <4.91E+00 | 0.00E+00 | 4.91E+00 |
| | | Zn-65 | <8.18E+00 | 0.00E+00 | 8.18E+00 |
| | | Zr-95 | <6.91E+00 | 0.00E+00 | 6.91E+00 |
| | | Nb-95 | <4.18E+00 | 0.00E+00 | 4.18E+00 |
| | | I-131 | <1.08E+01 | 0.00E+00 | 1.08E+01 |
| | | Cs-134 | <3.61E+00 | 0.00E+00 | 3.61E+00 |
| | | Cs-137 | <3.87E+00 | 0.00E+00 | 3.87E+00 |
| | | BaLa-140 | <8.92E+00 | 0.00E+00 | 8.92E+00 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 136 [CONTROL - NNE @ 12.7 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------|--------------------------|----------|
| 289120 | 3/3/2014 - 3/31/2014 | Be-7 | <3.48E+01 | 0.00E+00 | 3.48E+01 |
| | | K-40 | 6.69E+01 | 1.74E+01 | 3.78E+01 |
| | | | | | |
| 292815 | 3/31/2014 - 4/28/2014 | Beta | 1.49E+00 | 3.94E-01 | 1.23E+00 |
| | | Mn-54 | <4.31E+00 | 0.00E+00 | 4.31E+00 |
| | | Co-58 | <3.12E+00 | 0.00E+00 | 3.12E+00 |
| | | Fe-59 | <8.24E+00 | 0.00E+00 | 8.24E+00 |
| | | Co-60 | <3.96E+00 | 0.00E+00 | 3.96E+00 |
| | | Zn-65 | <7.08E+00 | 0.00E+00 | 7.08E+00 |
| | | Zr-95 | <7.53E+00 | 0.00E+00 | 7.53E+00 |
| | | Nb-95 | <4.57E+00 | 0.00E+00 | 4.57E+00 |
| | | I-131 | <1.20E+01 | 0.00E+00 | 1.20E+01 |
| | | Cs-134 | <2.99E+00 | 0.00E+00 | 2.99E+00 |
| | | Cs-137 | <4.38E+00 | 0.00E+00 | 4.38E+00 |
| | | BaLa-140 | <1.25E+01 | 0.00E+00 | 1.25E+01 |
| | | Be-7 | <3.70E+01 | 0.00E+00 | 3.70E+01 |
| | | K-40 | 3.82E+01 | 1.47E+01 | 3.92E+01 |
| | | | | | |
| 295219 | 3/3/2014 - 5/27/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
| | | H3DW | <-5.1E+01 | 0.00E+00 | 1.88E+02 |
| 295478 | 4/28/2014 - 5/27/2014 | Beta | 2.67E+00 | 4.23E-01 | 1.23E+00 |
| | | Mn-54 | <3.10E+00 | 0.00E+00 | 3.10E+00 |
| | | Co-58 | <3.24E+00 | 0.00E+00 | 3.24E+00 |
| | | Fe-59 | <7.83E+00 | 0.00E+00 | 7.83E+00 |
| | | Co-60 | <3.27E+00 | 0.00E+00 | 3.27E+00 |
| | | Zn-65 | <7.15E+00 | 0.00E+00 | 7.15E+00 |
| | | Zr-95 | <7.79E+00 | 0.00E+00 | 7.79E+00 |
| | | Nb-95 | <5.06E+00 | 0.00E+00 | 5.06E+00 |
| | | I-131 | <1.43E+01 | 0.00E+00 | 1.43E+01 |
| | | Cs-134 | <3.60E+00 | 0.00E+00 | 3.60E+00 |
| | | Cs-137 | <3.68E+00 | 0.00E+00 | 3.68E+00 |
| | | BaLa-140 | <7.59E+00 | 0.00E+00 | 7.59E+00 |
| | | Be-7 | <3.11E+01 | 0.00E+00 | 3.11E+01 |
| | | K-40 | 2.08E+02 | 2.29E+01 | 3.25E+01 |
| | | | | | |
| 296986 | 5/27/2014 - 6/23/2014 | Beta | 1.92E+00 | 7.83E-01 | 1.21E+00 |
| | | Mn-54 | <3.31E+00 | 0.00E+00 | 3.31E+00 |
| | | Co-58 | <4.29E+00 | 0.00E+00 | 4.29E+00 |
| | | Fe-59 | <1.12E+01 | 0.00E+00 | 1.12E+01 |
| | | Co-60 | <4.72E+00 | 0.00E+00 | 4.72E+00 |
| | | Zn-65 | <7.62E+00 | 0.00E+00 | 7.62E+00 |
| | | Zr-95 | <8.55E+00 | 0.00E+00 | 8.55E+00 |
| | | Nb-95 | <6.19E+00 | 0.00E+00 | 6.19E+00 |
| | | I-131 | <1.27E+01 | 0.00E+00 | 1.27E+01 |
| | | Cs-134 | <4.61E+00 | 0.00E+00 | 4.61E+00 |
| | | Cs-137 | <4.78E+00 | 0.00E+00 | 4.78E+00 |
| | | BaLa-140 | <9.99E+00 | 0.00E+00 | 9.99E+00 |
| | | Be-7 | <4.61E+01 | 0.00E+00 | 4.61E+01 |
| | | K-40 | 4.84E+01 | 1.83E+01 | 3.42E+01 |
| | | | | | |
| 350542 | 6/23/2014 - 7/21/2014 | Beta | 2.03E+00 | 7.65E-01 | 1.17E+00 |
| | | Mn-54 | <2.16E+00 | 0.00E+00 | 2.16E+00 |
| | | Co-58 | <2.68E+00 | 0.00E+00 | 2.68E+00 |
| | | Fe-59 | <6.30E+00 | 0.00E+00 | 6.30E+00 |
| | | Co-60 | <2.88E+00 | 0.00E+00 | 2.88E+00 |
| | | Zn-65 | <5.00E+00 | 0.00E+00 | 5.00E+00 |
| | | Zr-95 | <4.41E+00 | 0.00E+00 | 4.41E+00 |
| | | Nb-95 | <2.77E+00 | 0.00E+00 | 2.77E+00 |
| | | I-131 | <1.17E+01 | 0.00E+00 | 1.17E+01 |
| | | Cs-134 | <2.16E+00 | 0.00E+00 | 2.16E+00 |
| | | Cs-137 | <2.76E+00 | 0.00E+00 | 2.76E+00 |
| | | BaLa-140 | <6.83E+00 | 0.00E+00 | 6.83E+00 |
| | | | | | |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 136 [CONTROL - NNE @ 12.7 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 359750 | 10/13/2014 - 11/10/2014 | Be-7 | <1.92E+01 | 0.00E+00 | 1.92E+01 |
| | | K-40 | 1.73E+02 | 3.01E+01 | 2.95E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|------------------------|----------|-----------|--------------------------|----------|
| 362147 | 11/10/2014 - 12/8/2014 | Beta | 1.02E+00 | 8.10E-01 | 1.33E+00 |
| | | Mn-54 | <1.80E+00 | 0.00E+00 | 1.80E+00 |
| | | Co-58 | <2.06E+00 | 0.00E+00 | 2.06E+00 |
| | | Fe-59 | <3.94E+00 | 0.00E+00 | 3.94E+00 |
| | | Co-60 | <1.86E+00 | 0.00E+00 | 1.86E+00 |
| | | Zn-65 | <3.23E+00 | 0.00E+00 | 3.23E+00 |
| | | Zr-95 | <3.84E+00 | 0.00E+00 | 3.84E+00 |
| | | Nb-95 | <2.67E+00 | 0.00E+00 | 2.67E+00 |
| | | I-131 | <1.18E+01 | 0.00E+00 | 1.18E+01 |
| | | Cs-134 | <1.97E+00 | 0.00E+00 | 1.97E+00 |
| | | Cs-137 | <1.47E+00 | 0.00E+00 | 1.47E+00 |
| | | BaLa-140 | <6.70E+00 | 0.00E+00 | 6.70E+00 |
| | | Be-7 | <1.64E+01 | 0.00E+00 | 1.64E+01 |
| | | K-40 | 1.07E+02 | 2.34E+01 | 2.90E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 364864 | 8/18/2014 - 12/8/2014 | H3DW | <2.52E+01 | 0.00E+00 | 1.99E+02 |

Sample Point 194 [INDICATOR - NNW @ 6.73 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|----------|-----------|--------------------------|----------|
| 280862 | 12/9/2013 - 1/6/2014 | Beta | 1.65E+00 | 3.82E-01 | 1.17E+00 |
| | | Mn-54 | <4.54E+00 | 0.00E+00 | 4.54E+00 |
| | | Co-58 | <4.88E+00 | 0.00E+00 | 4.88E+00 |
| | | Fe-59 | <9.64E+00 | 0.00E+00 | 9.64E+00 |
| | | Co-60 | <3.63E+00 | 0.00E+00 | 3.63E+00 |
| | | Zn-65 | <7.92E+00 | 0.00E+00 | 7.92E+00 |
| | | Zr-95 | <8.45E+00 | 0.00E+00 | 8.45E+00 |
| | | Nb-95 | <5.88E+00 | 0.00E+00 | 5.88E+00 |
| | | I-131 | <1.45E+01 | 0.00E+00 | 1.45E+01 |
| | | Cs-134 | <3.84E+00 | 0.00E+00 | 3.84E+00 |
| | | Cs-137 | <4.35E+00 | 0.00E+00 | 4.35E+00 |
| | | BaLa-140 | <1.02E+01 | 0.00E+00 | 1.02E+01 |
| | | Be-7 | <4.66E+01 | 0.00E+00 | 4.66E+01 |
| | | K-40 | 1.52E+02 | 2.28E+01 | 3.18E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|-----------|--------------------------|----------|
| 282977 | 1/6/2014 - 2/3/2014 | Beta | 1.03E+00 | 4.07E-01 | 1.31E+00 |
| | | Mn-54 | <4.49E+00 | 0.00E+00 | 4.49E+00 |
| | | Co-58 | <4.37E+00 | 0.00E+00 | 4.37E+00 |
| | | Fe-59 | <1.05E+01 | 0.00E+00 | 1.05E+01 |
| | | Co-60 | <9.06E+00 | 0.00E+00 | 9.06E+00 |
| | | Zn-65 | <1.30E+01 | 0.00E+00 | 1.30E+01 |
| | | Zr-95 | <9.62E+00 | 0.00E+00 | 9.62E+00 |
| | | Nb-95 | <6.58E+00 | 0.00E+00 | 6.58E+00 |
| | | I-131 | <1.44E+01 | 0.00E+00 | 1.44E+01 |
| | | Cs-134 | <5.60E+00 | 0.00E+00 | 5.60E+00 |
| | | Cs-137 | <7.65E+00 | 0.00E+00 | 7.65E+00 |
| | | BaLa-140 | <1.16E+01 | 0.00E+00 | 1.16E+01 |
| | | Be-7 | 4.41E+01 | 1.45E+01 | 4.84E+01 |
| | | K-40 | <9.46E+01 | 0.00E+00 | 9.46E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 284702 | 12/9/2013 - 3/3/2014 | H3DW | <-1.4E+01 | 0.00E+00 | 1.89E+02 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|---------|-----------|--------------------------|----------|
| 285757 | 2/3/2014 - 3/3/2014 | Beta | 2.04E+00 | 4.19E-01 | 1.27E+00 |
| | | Mn-54 | <3.84E+00 | 0.00E+00 | 3.84E+00 |
| | | Co-58 | <4.05E+00 | 0.00E+00 | 4.05E+00 |
| | | Fe-59 | <7.39E+00 | 0.00E+00 | 7.39E+00 |
| | | Co-60 | <3.49E+00 | 0.00E+00 | 3.49E+00 |
| | | Zn-65 | <6.19E+00 | 0.00E+00 | 6.19E+00 |
| | | Zr-95 | <6.73E+00 | 0.00E+00 | 6.73E+00 |
| | | Nb-95 | <4.22E+00 | 0.00E+00 | 4.22E+00 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 194 [INDICATOR - NNW @ 6.73 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------------------|--------------------------|-----------|
| 285757 | 2/3/2014 - 3/3/2014 | I-131 | <1.27E+01 | 0.00E+00 | 1.27E+01 |
| | | Cs-134 | <2.87E+00 | 0.00E+00 | 2.87E+00 |
| | | Cs-137 | <3.05E+00 | 0.00E+00 | 3.05E+00 |
| | | BaLa-140 | <8.41E+00 | 0.00E+00 | 8.41E+00 |
| | | Be-7 | <3.14E+01 | 0.00E+00 | 3.14E+01 |
| | | K-40 | 1.72E+02 | 2.59E+01 | 3.36E+01 |
| 289121 | 3/3/2014 - 3/31/2014 | Beta | 9.34E-01 | 3.89E-01 | 1.26E+00 |
| | | Mn-54 | <2.54E+00 | 0.00E+00 | 2.54E+00 |
| | | Co-58 | <2.78E+00 | 0.00E+00 | 2.78E+00 |
| | | Fe-59 | <6.40E+00 | 0.00E+00 | 6.40E+00 |
| | | Co-60 | <3.42E+00 | 0.00E+00 | 3.42E+00 |
| | | Zn-65 | <4.99E+00 | 0.00E+00 | 4.99E+00 |
| | | Zr-95 | <4.62E+00 | 0.00E+00 | 4.62E+00 |
| | | Nb-95 | <3.69E+00 | 0.00E+00 | 3.69E+00 |
| | | I-131 | <8.86E+00 | 0.00E+00 | 8.86E+00 |
| | | Cs-134 | <2.38E+00 | 0.00E+00 | 2.38E+00 |
| | | Cs-137 | <2.92E+00 | 0.00E+00 | 2.92E+00 |
| | | BaLa-140 | <5.84E+00 | 0.00E+00 | 5.84E+00 |
| | | Be-7 | <2.64E+01 | 0.00E+00 | 2.64E+01 |
| | | K-40 | 8.05E+01 | 1.76E+01 | 2.70E+01 |
| | | 292816 | 3/31/2014 - 4/28/2014 | Beta | 1.11E+00 |
| Mn-54 | <3.34E+00 | | | 0.00E+00 | 3.34E+00 |
| Co-58 | <3.76E+00 | | | 0.00E+00 | 3.76E+00 |
| Fe-59 | <1.03E+01 | | | 0.00E+00 | 1.03E+01 |
| Co-60 | <3.44E+00 | | | 0.00E+00 | 3.44E+00 |
| Zn-65 | <9.16E+00 | | | 0.00E+00 | 9.16E+00 |
| Zr-95 | <6.17E+00 | | | 0.00E+00 | 6.17E+00 |
| Nb-95 | <4.99E+00 | | | 0.00E+00 | 4.99E+00 |
| I-131 | <1.44E+01 | | | 0.00E+00 | 1.44E+01 |
| Cs-134 | <2.96E+00 | | | 0.00E+00 | 2.96E+00 |
| Cs-137 | <3.89E+00 | | | 0.00E+00 | 3.89E+00 |
| BaLa-140 | <8.20E+00 | | | 0.00E+00 | 8.20E+00 |
| Be-7 | <4.59E+01 | | | 0.00E+00 | 4.59E+01 |
| K-40 | 1.37E+02 | | | 2.32E+01 | 3.31E+01 |
| 295220 | 3/3/2014 - 5/27/2014 | | | H3DW | <7.45E+01 |
| | | | | | |
| 295479 | 4/28/2014 - 5/27/2014 | Beta | 1.77E+00 | 4.00E-01 | 1.23E+00 |
| | | Mn-54 | <5.34E+00 | 0.00E+00 | 5.34E+00 |
| | | Co-58 | <5.88E+00 | 0.00E+00 | 5.88E+00 |
| | | Fe-59 | <1.17E+01 | 0.00E+00 | 1.17E+01 |
| | | Co-60 | <6.57E+00 | 0.00E+00 | 6.57E+00 |
| | | Zn-65 | <1.00E+01 | 0.00E+00 | 1.00E+01 |
| | | Zr-95 | <7.24E+00 | 0.00E+00 | 7.24E+00 |
| | | Nb-95 | <6.34E+00 | 0.00E+00 | 6.34E+00 |
| | | I-131 | <1.36E+01 | 0.00E+00 | 1.36E+01 |
| | | Cs-134 | <3.73E+00 | 0.00E+00 | 3.73E+00 |
| | | Cs-137 | <5.63E+00 | 0.00E+00 | 5.63E+00 |
| | | BaLa-140 | <1.14E+01 | 0.00E+00 | 1.14E+01 |
| | | Be-7 | <4.24E+01 | 0.00E+00 | 4.24E+01 |
| | | K-40 | <8.48E+01 | 0.00E+00 | 8.48E+01 |
| | | 296987 | 5/27/2014 - 6/23/2014 | Beta | 2.60E+00 |
| Mn-54 | <4.61E+00 | | | 0.00E+00 | 4.61E+00 |
| Co-58 | <2.57E+00 | | | 0.00E+00 | 2.57E+00 |
| Fe-59 | <1.10E+01 | | | 0.00E+00 | 1.10E+01 |
| Co-60 | <3.65E+00 | | | 0.00E+00 | 3.65E+00 |
| Zn-65 | <1.06E+01 | | | 0.00E+00 | 1.06E+01 |
| Zr-95 | <8.87E+00 | | | 0.00E+00 | 8.87E+00 |
| Nb-95 | <5.77E+00 | | | 0.00E+00 | 5.77E+00 |
| | | | | | |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 194 [INDICATOR - NNW @ 6.73 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------|--------------------------|----------|
| 296987 | 5/27/2014 - 6/23/2014 | I-131 | <1.43E+01 | 0.00E+00 | 1.43E+01 |
| | | Cs-134 | <4.41E+00 | 0.00E+00 | 4.41E+00 |
| | | Cs-137 | <5.07E+00 | 0.00E+00 | 5.07E+00 |
| | | BaLa-140 | <9.53E+00 | 0.00E+00 | 9.53E+00 |
| | | Be-7 | <3.93E+01 | 0.00E+00 | 3.93E+01 |
| | | K-40 | 1.25E+02 | 2.30E+01 | 4.35E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------|--------------------------|----------|
| 350543 | 6/23/2014 - 7/21/2014 | Beta | 2.18E+00 | 7.73E-01 | 1.17E+00 |
| | | Mn-54 | <2.83E+00 | 0.00E+00 | 2.83E+00 |
| | | Co-58 | <3.45E+00 | 0.00E+00 | 3.45E+00 |
| | | Fe-59 | <6.14E+00 | 0.00E+00 | 6.14E+00 |
| | | Co-60 | <2.57E+00 | 0.00E+00 | 2.57E+00 |
| | | Zn-65 | <5.39E+00 | 0.00E+00 | 5.39E+00 |
| | | Zr-95 | <5.50E+00 | 0.00E+00 | 5.50E+00 |
| | | Nb-95 | <3.75E+00 | 0.00E+00 | 3.75E+00 |
| | | I-131 | <1.19E+01 | 0.00E+00 | 1.19E+01 |
| | | Cs-134 | <2.26E+00 | 0.00E+00 | 2.26E+00 |
| | | Cs-137 | <2.46E+00 | 0.00E+00 | 2.46E+00 |
| | | BaLa-140 | <6.64E+00 | 0.00E+00 | 6.64E+00 |
| | | Be-7 | <2.78E+01 | 0.00E+00 | 2.78E+01 |
| | | K-40 | 2.06E+02 | 4.02E+01 | 3.87E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------|--------------------------|----------|
| 351612 | 7/21/2014 - 8/18/2014 | Beta | 2.18E+00 | 7.86E-01 | 1.19E+00 |
| | | Mn-54 | <4.00E+00 | 0.00E+00 | 4.00E+00 |
| | | Co-58 | <4.16E+00 | 0.00E+00 | 4.16E+00 |
| | | Fe-59 | <6.41E+00 | 0.00E+00 | 6.41E+00 |
| | | Co-60 | <4.64E+00 | 0.00E+00 | 4.64E+00 |
| | | Zn-65 | <8.37E+00 | 0.00E+00 | 8.37E+00 |
| | | Zr-95 | <7.74E+00 | 0.00E+00 | 7.74E+00 |
| | | Nb-95 | <4.47E+00 | 0.00E+00 | 4.47E+00 |
| | | I-131 | <1.15E+01 | 0.00E+00 | 1.15E+01 |
| | | Cs-134 | <4.18E+00 | 0.00E+00 | 4.18E+00 |
| | | Cs-137 | <3.69E+00 | 0.00E+00 | 3.69E+00 |
| | | BaLa-140 | <9.09E+00 | 0.00E+00 | 9.09E+00 |
| | | Be-7 | <2.97E+01 | 0.00E+00 | 2.97E+01 |
| | | K-40 | 4.22E+01 | 4.14E+01 | 6.55E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|----------|--------------------------|----------|
| 354202 | 5/27/2014 - 8/18/2014 | H3DW | 2.54E+02 | 1.18E+02 | 1.89E+02 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------|--------------------------|----------|
| 354589 | 8/18/2014 - 9/15/2014 | Beta | 1.32E+00 | 8.77E-01 | 1.45E+00 |
| | | Mn-54 | <4.20E+00 | 0.00E+00 | 4.20E+00 |
| | | Co-58 | <3.78E+00 | 0.00E+00 | 3.78E+00 |
| | | Fe-59 | <6.61E+00 | 0.00E+00 | 6.61E+00 |
| | | Co-60 | <3.57E+00 | 0.00E+00 | 3.57E+00 |
| | | Zn-65 | <6.84E+00 | 0.00E+00 | 6.84E+00 |
| | | Zr-95 | <7.29E+00 | 0.00E+00 | 7.29E+00 |
| | | Nb-95 | <4.76E+00 | 0.00E+00 | 4.76E+00 |
| | | I-131 | <1.15E+01 | 0.00E+00 | 1.15E+01 |
| | | Cs-134 | <4.05E+00 | 0.00E+00 | 4.05E+00 |
| | | Cs-137 | <3.38E+00 | 0.00E+00 | 3.38E+00 |
| | | BaLa-140 | <6.75E+00 | 0.00E+00 | 6.75E+00 |
| | | Be-7 | <3.41E+01 | 0.00E+00 | 3.41E+01 |
| | | K-40 | 1.97E+02 | 5.05E+01 | 5.40E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|------------------------|---------|-----------|--------------------------|----------|
| 356860 | 9/15/2014 - 10/13/2014 | Beta | 2.38E+00 | 8.15E-01 | 1.23E+00 |
| | | Mn-54 | <3.17E+00 | 0.00E+00 | 3.17E+00 |
| | | Co-58 | <3.89E+00 | 0.00E+00 | 3.89E+00 |
| | | Fe-59 | <6.91E+00 | 0.00E+00 | 6.91E+00 |
| | | Co-60 | <3.60E+00 | 0.00E+00 | 3.60E+00 |
| | | Zn-65 | <6.45E+00 | 0.00E+00 | 6.45E+00 |
| | | Zr-95 | <6.71E+00 | 0.00E+00 | 6.71E+00 |
| | | Nb-95 | <4.47E+00 | 0.00E+00 | 4.47E+00 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 194 [INDICATOR - NNW @ 6.73 miles]

| Sample ID: | 356860 | Sample Dates: | 9/15/2014 - 10/13/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|------------------------|----------|-----------|--------------------------|----------|
| | | | | I-131 | <1.17E+01 | 0.00E+00 | 1.17E+01 |
| | | | | Cs-134 | <3.46E+00 | 0.00E+00 | 3.46E+00 |
| | | | | Cs-137 | <3.00E+00 | 0.00E+00 | 3.00E+00 |
| | | | | BaLa-140 | <6.91E+00 | 0.00E+00 | 6.91E+00 |
| | | | | Be-7 | <2.98E+01 | 0.00E+00 | 2.98E+01 |
| | | | | K-40 | 1.51E+02 | 4.06E+01 | 4.30E+01 |

| Sample ID: | 359751 | Sample Dates: | 10/13/2014 - 11/10/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|-------------------------|----------|-----------|--------------------------|----------|
| | | | | Beta | 2.01E+00 | 8.15E-01 | 1.27E+00 |
| | | | | Mn-54 | <2.44E+00 | 0.00E+00 | 2.44E+00 |
| | | | | Co-58 | <2.87E+00 | 0.00E+00 | 2.87E+00 |
| | | | | Fe-59 | <6.17E+00 | 0.00E+00 | 6.17E+00 |
| | | | | Co-60 | <2.93E+00 | 0.00E+00 | 2.93E+00 |
| | | | | Zn-65 | <5.04E+00 | 0.00E+00 | 5.04E+00 |
| | | | | Zr-95 | <4.94E+00 | 0.00E+00 | 4.94E+00 |
| | | | | Nb-95 | <3.88E+00 | 0.00E+00 | 3.88E+00 |
| | | | | I-131 | <9.68E+00 | 0.00E+00 | 9.68E+00 |
| | | | | Cs-134 | <3.13E+00 | 0.00E+00 | 3.13E+00 |
| | | | | Cs-137 | <2.47E+00 | 0.00E+00 | 2.47E+00 |
| | | | | BaLa-140 | <7.11E+00 | 0.00E+00 | 7.11E+00 |
| | | | | Be-7 | <2.29E+01 | 0.00E+00 | 2.29E+01 |
| | | | | K-40 | 1.00E+02 | 2.64E+01 | 2.83E+01 |

| Sample ID: | 362148 | Sample Dates: | 11/10/2014 - 12/8/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|------------------------|----------|-----------|--------------------------|----------|
| | | | | Beta | 1.48E+00 | 8.31E-01 | 1.34E+00 |
| | | | | Mn-54 | <1.33E+00 | 0.00E+00 | 1.33E+00 |
| | | | | Co-58 | <1.50E+00 | 0.00E+00 | 1.50E+00 |
| | | | | Fe-59 | <3.40E+00 | 0.00E+00 | 3.40E+00 |
| | | | | Co-60 | <1.30E+00 | 0.00E+00 | 1.30E+00 |
| | | | | Zn-65 | <2.57E+00 | 0.00E+00 | 2.57E+00 |
| | | | | Zr-95 | <2.97E+00 | 0.00E+00 | 2.97E+00 |
| | | | | Nb-95 | <1.94E+00 | 0.00E+00 | 1.94E+00 |
| | | | | I-131 | <1.03E+01 | 0.00E+00 | 1.03E+01 |
| | | | | Cs-134 | <1.48E+00 | 0.00E+00 | 1.48E+00 |
| | | | | Cs-137 | <1.21E+00 | 0.00E+00 | 1.21E+00 |
| | | | | BaLa-140 | <4.70E+00 | 0.00E+00 | 4.70E+00 |
| | | | | Be-7 | <1.24E+01 | 0.00E+00 | 1.24E+01 |
| | | | | K-40 | 1.63E+02 | 2.16E+01 | 1.80E+01 |

| Sample ID: | 364865 | Sample Dates: | 8/18/2014 - 12/8/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|-----------------------|---------|-----------|--------------------------|----------|
| | | | | H3DW | <9.56E+01 | 0.00E+00 | 1.99E+02 |

Media Type: FISH Concentration (Activity): Unknown

Sample Point 129 [INDICATOR - ENE @ 0.51 miles]

| Sample ID: | 287068 | Sample Dates: | 4/9/2014 - 4/9/2014 | BOTMFEEDER | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|---------------------|------------|---------|-----------|--------------------------|----------|
| | | | | | Mn-54 | <1.42E+01 | 0.00E+00 | 1.42E+01 |
| | | | | | Co-58 | <1.28E+01 | 0.00E+00 | 1.28E+01 |
| | | | | | Fe-59 | <3.35E+01 | 0.00E+00 | 3.35E+01 |
| | | | | | Co-60 | <1.70E+01 | 0.00E+00 | 1.70E+01 |
| | | | | | Zn-65 | <3.64E+01 | 0.00E+00 | 3.64E+01 |
| | | | | | Nb-95 | <1.10E+01 | 0.00E+00 | 1.10E+01 |
| | | | | | I-131 | <1.18E+01 | 0.00E+00 | 1.18E+01 |
| | | | | | Cs-134 | <1.47E+01 | 0.00E+00 | 1.47E+01 |
| | | | | | Cs-137 | 1.06E+01 | 6.31E+00 | 1.63E+01 |
| | | | | | Be-7 | <9.34E+01 | 0.00E+00 | 9.34E+01 |
| | | | | | K-40 | 3.03E+03 | 2.28E+02 | 1.46E+02 |
| | | | | | Ag-110M | <9.74E+00 | 0.00E+00 | 9.74E+00 |
| | | | | | Sb-122 | <1.68E+01 | 0.00E+00 | 1.68E+01 |
| | | | | | Sb-125 | <3.18E+01 | 0.00E+00 | 3.18E+01 |

| Sample ID: | 287070 | Sample Dates: | 4/9/2014 - 4/9/2014 | FREESWIM | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|---------------------|----------|---------|-----------|--------------------------|----------|
| | | | | | Mn-54 | <1.54E+01 | 0.00E+00 | 1.54E+01 |
| | | | | | Co-58 | <1.15E+01 | 0.00E+00 | 1.15E+01 |
| | | | | | Fe-59 | <4.12E+01 | 0.00E+00 | 4.12E+01 |
| | | | | | Co-60 | <1.85E+01 | 0.00E+00 | 1.85E+01 |
| | | | | | Zn-65 | <4.04E+01 | 0.00E+00 | 4.04E+01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

Media Type: FISH Concentration (Activity): Unknown

Sample Point 129 [INDICATOR - ENE @ 0.51 miles]

| Sample ID: | 287070 | Sample Dates: | 4/9/2014 - 4/9/2014 | FREESWIM | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|---------------------|----------|---------|-----------|--------------------------|----------|
| | | | | | Nb-95 | <1.52E+01 | 0.00E+00 | 1.52E+01 |
| | | | | | I-131 | <1.65E+01 | 0.00E+00 | 1.65E+01 |
| | | | | | Cs-134 | <1.79E+01 | 0.00E+00 | 1.79E+01 |
| | | | | | Cs-137 | <1.73E+01 | 0.00E+00 | 1.73E+01 |
| | | | | | Be-7 | <1.33E+02 | 0.00E+00 | 1.33E+02 |
| | | | | | K-40 | 3.07E+03 | 2.02E+02 | 1.60E+02 |
| | | | | | Ag-110M | <1.34E+01 | 0.00E+00 | 1.34E+01 |
| | | | | | Sb-122 | <2.12E+01 | 0.00E+00 | 2.12E+01 |
| | | | | | Sb-125 | <4.39E+01 | 0.00E+00 | 4.39E+01 |

| Sample ID: | 287072 | Sample Dates: | 4/9/2014 - 4/9/2014 | FREESWIM | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|---------------------|----------|---------|-----------|--------------------------|----------|
| | | | | | Mn-54 | <2.96E+01 | 0.00E+00 | 2.96E+01 |
| | | | | | Co-58 | <2.95E+01 | 0.00E+00 | 2.95E+01 |
| | | | | | Fe-59 | <4.74E+01 | 0.00E+00 | 4.74E+01 |
| | | | | | Co-60 | <3.05E+01 | 0.00E+00 | 3.05E+01 |
| | | | | | Zn-65 | <6.90E+01 | 0.00E+00 | 6.90E+01 |
| | | | | | Nb-95 | <2.43E+01 | 0.00E+00 | 2.43E+01 |
| | | | | | I-131 | <2.19E+01 | 0.00E+00 | 2.19E+01 |
| | | | | | Cs-134 | <2.91E+01 | 0.00E+00 | 2.91E+01 |
| | | | | | Cs-137 | <3.08E+01 | 0.00E+00 | 3.08E+01 |
| | | | | | Be-7 | <2.04E+02 | 0.00E+00 | 2.04E+02 |
| | | | | | K-40 | 2.96E+03 | 3.02E+02 | 3.59E+02 |
| | | | | | Ag-110M | <2.32E+01 | 0.00E+00 | 2.32E+01 |
| | | | | | Sb-122 | <4.28E+01 | 0.00E+00 | 4.28E+01 |
| | | | | | Sb-125 | <7.57E+01 | 0.00E+00 | 7.57E+01 |

| Sample ID: | 357040 | Sample Dates: | 10/7/2014 - 10/7/2014 | FREESWIM | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|-----------------------|----------|---------|-----------|--------------------------|----------|
| | | | | | Mn-54 | <2.03E+01 | 0.00E+00 | 2.03E+01 |
| | | | | | Co-58 | <2.56E+01 | 0.00E+00 | 2.56E+01 |
| | | | | | Fe-59 | <7.29E+01 | 0.00E+00 | 7.29E+01 |
| | | | | | Co-60 | <2.93E+01 | 0.00E+00 | 2.93E+01 |
| | | | | | Zn-65 | <5.77E+01 | 0.00E+00 | 5.77E+01 |
| | | | | | Nb-95 | <2.15E+01 | 0.00E+00 | 2.15E+01 |
| | | | | | I-131 | <4.00E+01 | 0.00E+00 | 4.00E+01 |
| | | | | | Cs-134 | <2.97E+01 | 0.00E+00 | 2.97E+01 |
| | | | | | Cs-137 | <3.15E+01 | 0.00E+00 | 3.15E+01 |
| | | | | | Be-7 | <1.17E+02 | 0.00E+00 | 1.17E+02 |
| | | | | | K-40 | 2.93E+03 | 6.39E+02 | 3.55E+02 |
| | | | | | Ag-110M | <2.31E+01 | 0.00E+00 | 2.31E+01 |
| | | | | | Sb-122 | <2.15E+02 | 0.00E+00 | 2.15E+02 |
| | | | | | Sb-125 | <7.04E+01 | 0.00E+00 | 7.04E+01 |

| Sample ID: | 357041 | Sample Dates: | 10/7/2014 - 10/7/2014 | BOTMFEEDER | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|-----------------------|------------|---------|-----------|--------------------------|----------|
| | | | | | Mn-54 | <5.56E+00 | 0.00E+00 | 5.56E+00 |
| | | | | | Co-58 | <5.05E+00 | 0.00E+00 | 5.05E+00 |
| | | | | | Fe-59 | <1.49E+01 | 0.00E+00 | 1.49E+01 |
| | | | | | Co-60 | <5.96E+00 | 0.00E+00 | 5.96E+00 |
| | | | | | Zn-65 | <1.39E+01 | 0.00E+00 | 1.39E+01 |
| | | | | | Nb-95 | <6.65E+00 | 0.00E+00 | 6.65E+00 |
| | | | | | I-131 | <1.71E+01 | 0.00E+00 | 1.71E+01 |
| | | | | | Cs-134 | <6.30E+00 | 0.00E+00 | 6.30E+00 |
| | | | | | Cs-137 | 2.90E+00 | 3.38E+00 | 5.50E+00 |
| | | | | | Be-7 | <4.71E+01 | 0.00E+00 | 4.71E+01 |
| | | | | | K-40 | 2.27E+03 | 2.50E+02 | 7.71E+01 |
| | | | | | Ag-110M | <4.32E+00 | 0.00E+00 | 4.32E+00 |
| | | | | | Sb-122 | <3.31E+02 | 0.00E+00 | 3.31E+02 |
| | | | | | Sb-125 | <1.37E+01 | 0.00E+00 | 1.37E+01 |

| Sample ID: | 357042 | Sample Dates: | 10/7/2014 - 10/7/2014 | FREESWIM | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|-----------------------|----------|---------|-----------|--------------------------|----------|
| | | | | | Mn-54 | <4.82E+01 | 0.00E+00 | 4.82E+01 |
| | | | | | Co-58 | <1.25E+01 | 0.00E+00 | 1.25E+01 |
| | | | | | Fe-59 | <1.19E+02 | 0.00E+00 | 1.19E+02 |
| | | | | | Co-60 | <4.89E+01 | 0.00E+00 | 4.89E+01 |
| | | | | | Zn-65 | <8.51E+01 | 0.00E+00 | 8.51E+01 |
| | | | | | Nb-95 | <5.07E+01 | 0.00E+00 | 5.07E+01 |
| | | | | | I-131 | <7.83E+01 | 0.00E+00 | 7.83E+01 |
| | | | | | Cs-134 | <7.48E+01 | 0.00E+00 | 7.48E+01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

Media Type: FISH Concentration (Activity): Unknown

Sample Point 129 [INDICATOR - ENE @ 0.51 miles]

| Sample ID: | 357042 | Sample Dates: | 10/7/2014 - 10/7/2014 | FREESWIM | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|-----------------------|----------|---------|-----------|--------------------------|----------|
| | | | | | Cs-137 | <4.55E+01 | 0.00E+00 | 4.55E+01 |
| | | | | | Be-7 | <4.46E+02 | 0.00E+00 | 4.46E+02 |
| | | | | | K-40 | 3.14E+03 | 1.06E+03 | 9.34E+02 |
| | | | | | Ag-110M | <4.10E+01 | 0.00E+00 | 4.10E+01 |
| | | | | | Sb-122 | <3.72E+02 | 0.00E+00 | 3.72E+02 |
| | | | | | Sb-125 | <1.08E+02 | 0.00E+00 | 1.08E+02 |

Sample Point 137 [CONTROL - N @ 12 miles]

| Sample ID: | 287069 | Sample Dates: | 4/8/2014 - 4/8/2014 | BOTMFEEDER | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|---------------------|------------|---------|-----------|--------------------------|----------|
| | | | | | Mn-54 | <1.37E+01 | 0.00E+00 | 1.37E+01 |
| | | | | | Co-58 | <1.37E+01 | 0.00E+00 | 1.37E+01 |
| | | | | | Fe-59 | <4.32E+01 | 0.00E+00 | 4.32E+01 |
| | | | | | Co-60 | <1.44E+01 | 0.00E+00 | 1.44E+01 |
| | | | | | Zn-65 | <4.53E+01 | 0.00E+00 | 4.53E+01 |
| | | | | | Nb-95 | <1.61E+01 | 0.00E+00 | 1.61E+01 |
| | | | | | I-131 | <1.16E+01 | 0.00E+00 | 1.16E+01 |
| | | | | | Cs-134 | <1.26E+01 | 0.00E+00 | 1.26E+01 |
| | | | | | Cs-137 | <1.76E+01 | 0.00E+00 | 1.76E+01 |
| | | | | | Be-7 | <1.06E+02 | 0.00E+00 | 1.06E+02 |
| | | | | | K-40 | 2.35E+03 | 1.99E+02 | 1.14E+02 |
| | | | | | Ag-110M | <7.62E+00 | 0.00E+00 | 7.62E+00 |
| | | | | | Sb-122 | <2.67E+01 | 0.00E+00 | 2.67E+01 |
| | | | | | Sb-125 | <3.21E+01 | 0.00E+00 | 3.21E+01 |

| Sample ID: | 287071 | Sample Dates: | 4/8/2014 - 4/8/2014 | FREESWIM | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|---------------------|----------|---------|-----------|--------------------------|----------|
| | | | | | Mn-54 | <2.38E+01 | 0.00E+00 | 2.38E+01 |
| | | | | | Co-58 | <2.07E+01 | 0.00E+00 | 2.07E+01 |
| | | | | | Fe-59 | <5.94E+01 | 0.00E+00 | 5.94E+01 |
| | | | | | Co-60 | <3.75E+01 | 0.00E+00 | 3.75E+01 |
| | | | | | Zn-65 | <6.21E+01 | 0.00E+00 | 6.21E+01 |
| | | | | | Nb-95 | <2.74E+01 | 0.00E+00 | 2.74E+01 |
| | | | | | I-131 | <2.89E+01 | 0.00E+00 | 2.89E+01 |
| | | | | | Cs-134 | <2.73E+01 | 0.00E+00 | 2.73E+01 |
| | | | | | Cs-137 | <2.09E+01 | 0.00E+00 | 2.09E+01 |
| | | | | | Be-7 | <1.17E+02 | 0.00E+00 | 1.17E+02 |
| | | | | | K-40 | 3.07E+03 | 3.00E+02 | 3.38E+02 |
| | | | | | Ag-110M | <1.91E+01 | 0.00E+00 | 1.91E+01 |
| | | | | | Sb-122 | <4.46E+01 | 0.00E+00 | 4.46E+01 |
| | | | | | Sb-125 | <5.65E+01 | 0.00E+00 | 5.65E+01 |

| Sample ID: | 287073 | Sample Dates: | 4/8/2014 - 4/8/2014 | FREESWIM | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|---------------------|----------|---------|-----------|--------------------------|----------|
| | | | | | Mn-54 | <1.27E+01 | 0.00E+00 | 1.27E+01 |
| | | | | | Co-58 | <1.24E+01 | 0.00E+00 | 1.24E+01 |
| | | | | | Fe-59 | <3.00E+01 | 0.00E+00 | 3.00E+01 |
| | | | | | Co-60 | <1.64E+01 | 0.00E+00 | 1.64E+01 |
| | | | | | Zn-65 | <2.62E+01 | 0.00E+00 | 2.62E+01 |
| | | | | | Nb-95 | <1.21E+01 | 0.00E+00 | 1.21E+01 |
| | | | | | I-131 | <1.21E+01 | 0.00E+00 | 1.21E+01 |
| | | | | | Cs-134 | <1.01E+01 | 0.00E+00 | 1.01E+01 |
| | | | | | Cs-137 | <1.74E+01 | 0.00E+00 | 1.74E+01 |
| | | | | | Be-7 | <7.30E+01 | 0.00E+00 | 7.30E+01 |
| | | | | | K-40 | 3.27E+03 | 1.89E+02 | 1.76E+02 |
| | | | | | Ag-110M | <1.41E+01 | 0.00E+00 | 1.41E+01 |
| | | | | | Sb-122 | <2.62E+01 | 0.00E+00 | 2.62E+01 |
| | | | | | Sb-125 | <2.67E+01 | 0.00E+00 | 2.67E+01 |

| Sample ID: | 357043 | Sample Dates: | 10/6/2014 - 10/6/2014 | FREESWIM | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|-----------------------|----------|---------|-----------|--------------------------|----------|
| | | | | | Mn-54 | <2.57E+01 | 0.00E+00 | 2.57E+01 |
| | | | | | Co-58 | <3.17E+01 | 0.00E+00 | 3.17E+01 |
| | | | | | Fe-59 | <6.34E+01 | 0.00E+00 | 6.34E+01 |
| | | | | | Co-60 | <2.82E+01 | 0.00E+00 | 2.82E+01 |
| | | | | | Zn-65 | <6.54E+01 | 0.00E+00 | 6.54E+01 |
| | | | | | Nb-95 | <3.94E+01 | 0.00E+00 | 3.94E+01 |
| | | | | | I-131 | <4.21E+01 | 0.00E+00 | 4.21E+01 |
| | | | | | Cs-134 | <3.68E+01 | 0.00E+00 | 3.68E+01 |
| | | | | | Cs-137 | <2.77E+01 | 0.00E+00 | 2.77E+01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

Media Type: FISH Concentration (Activity): Unknown

Sample Point 137 [CONTROL - N @ 12 miles]

| Sample ID: | Sample Dates: | FREESWIM | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|---------|-----------|--------------------------|----------|
| 357043 | 10/6/2014 - 10/6/2014 | | Be-7 | <1.94E+02 | 0.00E+00 | 1.94E+02 |
| | | | K-40 | 3.94E+03 | 7.47E+02 | 3.92E+02 |
| | | | Ag-110M | <2.07E+01 | 0.00E+00 | 2.07E+01 |
| | | | Sb-122 | <2.27E+02 | 0.00E+00 | 2.27E+02 |
| | | | Sb-125 | <8.09E+01 | 0.00E+00 | 8.09E+01 |

| Sample ID: | Sample Dates: | BOTMFEEDER | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|------------|---------|-----------|--------------------------|----------|
| 357044 | 10/6/2014 - 10/6/2014 | | Mn-54 | <4.80E+01 | 0.00E+00 | 4.80E+01 |
| | | | Co-58 | <5.57E+01 | 0.00E+00 | 5.57E+01 |
| | | | Fe-59 | <1.20E+02 | 0.00E+00 | 1.20E+02 |
| | | | Co-60 | <7.93E+01 | 0.00E+00 | 7.93E+01 |
| | | | Zn-65 | <1.07E+02 | 0.00E+00 | 1.07E+02 |
| | | | Nb-95 | <3.51E+01 | 0.00E+00 | 3.51E+01 |
| | | | I-131 | <9.19E+01 | 0.00E+00 | 9.19E+01 |
| | | | Cs-134 | <6.49E+01 | 0.00E+00 | 6.49E+01 |
| | | | Cs-137 | <3.89E+01 | 0.00E+00 | 3.89E+01 |
| | | | Be-7 | <4.70E+02 | 0.00E+00 | 4.70E+02 |
| | | | K-40 | 3.65E+03 | 1.10E+03 | 8.21E+02 |
| | | | Ag-110M | <3.52E+01 | 0.00E+00 | 3.52E+01 |
| | | | Sb-122 | <5.01E+02 | 0.00E+00 | 5.01E+02 |
| | | | Sb-125 | <1.64E+02 | 0.00E+00 | 1.64E+02 |

| Sample ID: | Sample Dates: | FREESWIM | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|---------|-----------|--------------------------|----------|
| 357045 | 10/6/2014 - 10/6/2014 | | Mn-54 | <3.27E+01 | 0.00E+00 | 3.27E+01 |
| | | | Co-58 | <2.46E+01 | 0.00E+00 | 2.46E+01 |
| | | | Fe-59 | <1.31E+01 | 0.00E+00 | 1.31E+01 |
| | | | Co-60 | <3.71E+01 | 0.00E+00 | 3.71E+01 |
| | | | Zn-65 | <6.55E+01 | 0.00E+00 | 6.55E+01 |
| | | | Nb-95 | <2.76E+01 | 0.00E+00 | 2.76E+01 |
| | | | I-131 | <4.68E+01 | 0.00E+00 | 4.68E+01 |
| | | | Cs-134 | <4.11E+01 | 0.00E+00 | 4.11E+01 |
| | | | Cs-137 | <3.41E+01 | 0.00E+00 | 3.41E+01 |
| | | | Be-7 | <2.65E+02 | 0.00E+00 | 2.65E+02 |
| | | | K-40 | 2.43E+03 | 6.73E+02 | 6.86E+02 |
| | | | Ag-110M | <2.23E+01 | 0.00E+00 | 2.23E+01 |
| | | | Sb-122 | <2.00E+02 | 0.00E+00 | 2.00E+02 |
| | | | Sb-125 | <5.83E+01 | 0.00E+00 | 5.83E+01 |

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

Sample Point 141 [CONTROL - WNW @ 14.8 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------|--------------------------|----------|
| 281230 | 1/13/2014 - 1/13/2014 | Be-7 | <3.16E+00 | 0.00E+00 | 3.16E+00 |
| | | K-40 | 1.74E+01 | 2.39E+00 | 3.97E+00 |
| | | LLI-131 | <4.28E-01 | 0.00E+00 | 4.28E-01 |
| | | I-131 | <3.72E+00 | 0.00E+00 | 3.72E+00 |
| | | Cs-134 | <3.18E+00 | 0.00E+00 | 3.18E+00 |
| | | Cs-137 | <4.41E+00 | 0.00E+00 | 4.41E+00 |
| | | BaLa-140 | <3.84E+00 | 0.00E+00 | 3.84E+00 |
| | | Be-7 | <2.95E+01 | 0.00E+00 | 2.95E+01 |
| | | K-40 | 1.54E+03 | 6.19E+01 | 4.02E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------|--------------------------|----------|
| 282166 | 1/27/2014 - 1/27/2014 | Be-7 | <2.98E+00 | 0.00E+00 | 2.98E+00 |
| | | K-40 | 7.97E+00 | 3.41E+00 | 6.36E+00 |
| | | LLI-131 | <6.39E-01 | 0.00E+00 | 6.39E-01 |
| | | I-131 | <8.74E+00 | 0.00E+00 | 8.74E+00 |
| | | Cs-134 | <9.24E+00 | 0.00E+00 | 9.24E+00 |
| | | Cs-137 | <1.07E+01 | 0.00E+00 | 1.07E+01 |
| | | BaLa-140 | <5.92E+00 | 0.00E+00 | 5.92E+00 |
| | | Be-7 | <7.14E+01 | 0.00E+00 | 7.14E+01 |
| K-40 | 1.30E+03 | 1.18E+02 | 1.19E+02 | | |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 283425 | 2/10/2014 - 2/10/2014 | Be-7 | <3.96E+00 | 0.00E+00 | 3.96E+00 |
| | | K-40 | 1.12E+01 | 3.24E+00 | 6.54E+00 |
| | | LLI-131 | <5.46E-01 | 0.00E+00 | 5.46E-01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 141 [CONTROL - WNW @ 14.8 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------------------|--------------------------|-----------|
| 283425 | 2/10/2014 - 2/10/2014 | I-131 | <8.93E+00 | 0.00E+00 | 8.93E+00 |
| | | Cs-134 | <9.69E+00 | 0.00E+00 | 9.69E+00 |
| | | Cs-137 | <1.15E+01 | 0.00E+00 | 1.15E+01 |
| | | BaLa-140 | <1.40E+01 | 0.00E+00 | 1.40E+01 |
| | | Be-7 | <6.91E+01 | 0.00E+00 | 6.91E+01 |
| | | K-40 | 1.30E+03 | 1.11E+02 | 8.13E+01 |
| 285149 | 2/24/2014 - 2/24/2014 | Be-7 | <4.34E+00 | 0.00E+00 | 4.34E+00 |
| | | K-40 | 2.32E+01 | 4.89E+00 | 5.58E+00 |
| | | LLI-131 | <5.47E-01 | 0.00E+00 | 5.47E-01 |
| | | I-131 | <6.25E+00 | 0.00E+00 | 6.25E+00 |
| | | Cs-134 | <6.47E+00 | 0.00E+00 | 6.47E+00 |
| | | Cs-137 | <7.38E+00 | 0.00E+00 | 7.38E+00 |
| | | BaLa-140 | <8.60E+00 | 0.00E+00 | 8.60E+00 |
| | | Be-7 | <4.54E+01 | 0.00E+00 | 4.54E+01 |
| | | K-40 | 1.65E+03 | 8.41E+01 | 5.06E+01 |
| | | 286258 | 3/10/2014 - 3/10/2014 | Be-7 | <4.35E+00 |
| K-40 | 1.46E+01 | | | 3.96E+00 | 9.58E+00 |
| LLI-131 | <6.48E-01 | | | 0.00E+00 | 6.48E-01 |
| I-131 | <8.57E+00 | | | 0.00E+00 | 8.57E+00 |
| Cs-134 | <1.02E+01 | | | 0.00E+00 | 1.02E+01 |
| Cs-137 | <6.83E+00 | | | 0.00E+00 | 6.83E+00 |
| BaLa-140 | <1.34E+01 | | | 0.00E+00 | 1.34E+01 |
| Be-7 | <8.32E+01 | | | 0.00E+00 | 8.32E+01 |
| K-40 | 1.59E+03 | | | 1.18E+02 | 1.11E+02 |
| 288394 | 3/24/2014 - 3/24/2014 | | | Be-7 | <2.76E+00 |
| | | K-40 | 4.58E+01 | 3.20E+00 | 3.72E+00 |
| | | LLI-131 | <5.55E-01 | 0.00E+00 | 5.55E-01 |
| | | I-131 | <1.05E+01 | 0.00E+00 | 1.05E+01 |
| | | Cs-134 | <7.61E+00 | 0.00E+00 | 7.61E+00 |
| | | Cs-137 | <9.34E+00 | 0.00E+00 | 9.34E+00 |
| | | BaLa-140 | <8.07E+00 | 0.00E+00 | 8.07E+00 |
| | | Be-7 | <8.34E+01 | 0.00E+00 | 8.34E+01 |
| | | K-40 | 1.40E+03 | 1.21E+02 | 1.11E+02 |
| | | 289504 | 4/7/2014 - 4/7/2014 | Be-7 | <3.94E+00 |
| K-40 | 2.08E+01 | | | 3.07E+00 | 5.80E+00 |
| LLI-131 | <6.26E-01 | | | 0.00E+00 | 6.26E-01 |
| I-131 | <6.88E+00 | | | 0.00E+00 | 6.88E+00 |
| Cs-134 | <5.05E+00 | | | 0.00E+00 | 5.05E+00 |
| Cs-137 | <7.25E+00 | | | 0.00E+00 | 7.25E+00 |
| BaLa-140 | <6.50E+00 | | | 0.00E+00 | 6.50E+00 |
| Be-7 | <5.56E+01 | | | 0.00E+00 | 5.56E+01 |
| K-40 | 1.45E+03 | | | 7.82E+01 | 3.76E+01 |
| 291519 | 4/21/2014 - 4/21/2014 | | | Be-7 | <2.71E+00 |
| | | K-40 | 1.14E+01 | 2.27E+00 | 4.13E+00 |
| | | LLI-131 | <5.66E-01 | 0.00E+00 | 5.66E-01 |
| | | I-131 | <6.49E+00 | 0.00E+00 | 6.49E+00 |
| | | Cs-134 | <6.60E+00 | 0.00E+00 | 6.60E+00 |
| | | Cs-137 | <6.26E+00 | 0.00E+00 | 6.26E+00 |
| | | BaLa-140 | <4.86E+00 | 0.00E+00 | 4.86E+00 |
| | | Be-7 | <5.55E+01 | 0.00E+00 | 5.55E+01 |
| | | K-40 | 1.47E+03 | 7.92E+01 | 4.29E+01 |
| | | 293075 | 5/5/2014 - 5/5/2014 | Be-7 | <4.15E+00 |
| K-40 | 2.21E+01 | | | 3.62E+00 | 7.23E+00 |
| LLI-131 | <6.30E-01 | | | 0.00E+00 | 6.30E-01 |
| I-131 | <7.70E+00 | | | 0.00E+00 | 7.70E+00 |
| Cs-134 | <9.21E+00 | | | 0.00E+00 | 9.21E+00 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 141 [CONTROL - WNW @ 14.8 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------|--------------------------|----------|
| 293075 | 5/5/2014 - 5/5/2014 | Cs-137 | <1.13E+01 | 0.00E+00 | 1.13E+01 |
| | | BaLa-140 | <8.99E+00 | 0.00E+00 | 8.99E+00 |
| | | Be-7 | <5.59E+01 | 0.00E+00 | 5.59E+01 |
| | | K-40 | 1.55E+03 | 1.12E+02 | 9.76E+01 |
| | | | | | |
| 295215 | 5/19/2014 - 5/19/2014 | Be-7 | <4.20E+00 | 0.00E+00 | 4.20E+00 |
| | | K-40 | 2.00E+01 | 3.36E+00 | 5.89E+00 |
| | | LLI-131 | <5.74E-01 | 0.00E+00 | 5.74E-01 |
| | | I-131 | <8.60E+00 | 0.00E+00 | 8.60E+00 |
| | | Cs-134 | <7.84E+00 | 0.00E+00 | 7.84E+00 |
| | | Cs-137 | <9.87E+00 | 0.00E+00 | 9.87E+00 |
| | | BaLa-140 | <1.15E+01 | 0.00E+00 | 1.15E+01 |
| | | Be-7 | <7.52E+01 | 0.00E+00 | 7.52E+01 |
| | | K-40 | 1.55E+03 | 1.24E+02 | 1.21E+02 |
| 295991 | 6/2/2014 - 6/2/2014 | Be-7 | <4.53E+00 | 0.00E+00 | 4.53E+00 |
| | | K-40 | 1.50E+01 | 3.58E+00 | 7.36E+00 |
| | | LLI-131 | <6.08E-01 | 0.00E+00 | 6.08E-01 |
| | | I-131 | <8.46E+00 | 0.00E+00 | 8.46E+00 |
| | | Cs-134 | <6.52E+00 | 0.00E+00 | 6.52E+00 |
| | | Cs-137 | <9.62E+00 | 0.00E+00 | 9.62E+00 |
| | | BaLa-140 | <1.18E+01 | 0.00E+00 | 1.18E+01 |
| | | Be-7 | <5.88E+01 | 0.00E+00 | 5.88E+01 |
| | | K-40 | 1.30E+03 | 1.02E+02 | 9.76E+01 |
| | | | | | |
| 296757 | 6/16/2014 - 6/16/2014 | Be-7 | <3.50E+00 | 0.00E+00 | 3.50E+00 |
| | | K-40 | 1.90E+01 | 2.81E+00 | 5.85E+00 |
| | | LLI-131 | <5.22E-01 | 0.00E+00 | 5.22E-01 |
| | | I-131 | <7.72E+00 | 0.00E+00 | 7.72E+00 |
| | | Cs-134 | <5.85E+00 | 0.00E+00 | 5.85E+00 |
| | | Cs-137 | <9.95E+00 | 0.00E+00 | 9.95E+00 |
| | | BaLa-140 | <9.91E+00 | 0.00E+00 | 9.91E+00 |
| | | Be-7 | <7.54E+01 | 0.00E+00 | 7.54E+01 |
| | | K-40 | 1.64E+03 | 1.20E+02 | 8.34E+01 |
| | | | | | |
| 297381 | 6/30/2014 - 6/30/2014 | Be-7 | <2.81E+00 | 0.00E+00 | 2.81E+00 |
| | | K-40 | 4.76E+01 | 3.46E+00 | 3.64E+00 |
| | | LLI-131 | <5.83E-01 | 0.00E+00 | 5.83E-01 |
| | | I-131 | <8.70E+00 | 0.00E+00 | 8.70E+00 |
| | | Cs-134 | <9.43E+00 | 0.00E+00 | 9.43E+00 |
| | | Cs-137 | <1.08E+01 | 0.00E+00 | 1.08E+01 |
| | | BaLa-140 | <1.42E+01 | 0.00E+00 | 1.42E+01 |
| | | Be-7 | <5.61E+01 | 0.00E+00 | 5.61E+01 |
| | | K-40 | 1.17E+03 | 1.20E+02 | 1.31E+02 |
| | | | | | |
| 298205 | 7/14/2014 - 7/14/2014 | LLI-131 | <5.28E-01 | 0.00E+00 | 5.28E-01 |
| | | I-131 | <8.94E+00 | 0.00E+00 | 8.94E+00 |
| | | Cs-134 | <3.76E+00 | 0.00E+00 | 3.76E+00 |
| | | Cs-137 | <3.80E+00 | 0.00E+00 | 3.80E+00 |
| | | BaLa-140 | <7.97E+00 | 0.00E+00 | 7.97E+00 |
| | | Be-7 | <3.79E+01 | 0.00E+00 | 3.79E+01 |
| | | K-40 | 1.56E+03 | 1.78E+02 | 6.21E+01 |
| 351062 | 7/28/2014 - 7/28/2014 | LLI-131 | <6.15E-01 | 0.00E+00 | 6.15E-01 |
| | | I-131 | <1.27E+01 | 0.00E+00 | 1.27E+01 |
| | | Cs-134 | <7.74E+00 | 0.00E+00 | 7.74E+00 |
| | | Cs-137 | <1.04E+01 | 0.00E+00 | 1.04E+01 |
| | | BaLa-140 | <8.99E+00 | 0.00E+00 | 8.99E+00 |
| | | Be-7 | <6.08E+01 | 0.00E+00 | 6.08E+01 |
| | | K-40 | 1.65E+03 | 2.79E+02 | 1.37E+02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 141 [CONTROL - WNW @ 14.8 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|----------|-----------|--------------------------|----------|
| 352232 | 8/11/2014 - 8/11/2014 | LLI-131 | <6.27E-01 | 0.00E+00 | 6.27E-01 |
| | | I-131 | <7.59E+00 | 0.00E+00 | 7.59E+00 |
| | | Cs-134 | <6.58E+00 | 0.00E+00 | 6.58E+00 |
| | | Cs-137 | <7.67E+00 | 0.00E+00 | 7.67E+00 |
| | | BaLa-140 | <8.70E+00 | 0.00E+00 | 8.70E+00 |
| | | Be-7 | <5.36E+01 | 0.00E+00 | 5.36E+01 |
| | | K-40 | 1.60E+03 | 2.22E+02 | 1.15E+02 |
| 354204 | 8/25/2014 - 8/25/2014 | LLI-131 | <5.68E-01 | 0.00E+00 | 5.68E-01 |
| | | I-131 | <9.63E+00 | 0.00E+00 | 9.63E+00 |
| | | Cs-134 | <1.19E+01 | 0.00E+00 | 1.19E+01 |
| | | Cs-137 | <1.06E+01 | 0.00E+00 | 1.06E+01 |
| | | BaLa-140 | <2.71E+00 | 0.00E+00 | 2.71E+00 |
| | | Be-7 | <6.98E+01 | 0.00E+00 | 6.98E+01 |
| | | K-40 | 1.52E+03 | 2.71E+02 | 1.64E+02 |
| 354821 | 9/8/2014 - 9/8/2014 | LLI-131 | <6.47E-01 | 0.00E+00 | 6.47E-01 |
| | | I-131 | <6.11E+00 | 0.00E+00 | 6.11E+00 |
| | | Cs-134 | <8.56E+00 | 0.00E+00 | 8.56E+00 |
| | | Cs-137 | <8.42E+00 | 0.00E+00 | 8.42E+00 |
| | | BaLa-140 | <6.27E+00 | 0.00E+00 | 6.27E+00 |
| | | Be-7 | <5.25E+01 | 0.00E+00 | 5.25E+01 |
| | | K-40 | 1.49E+03 | 2.07E+02 | 1.06E+02 |
| 355631 | 9/22/2014 - 9/22/2014 | LLI-131 | <6.11E-01 | 0.00E+00 | 6.11E-01 |
| | | I-131 | <8.59E+00 | 0.00E+00 | 8.59E+00 |
| | | Cs-134 | <1.03E+01 | 0.00E+00 | 1.03E+01 |
| | | Cs-137 | <1.06E+01 | 0.00E+00 | 1.06E+01 |
| | | BaLa-140 | <1.13E+01 | 0.00E+00 | 1.13E+01 |
| | | Be-7 | <7.62E+01 | 0.00E+00 | 7.62E+01 |
| | | K-40 | 1.47E+03 | 2.65E+02 | 1.60E+02 |
| 357046 | 10/6/2014 - 10/6/2014 | LLI-131 | <6.39E-01 | 0.00E+00 | 6.39E-01 |
| | | I-131 | <9.84E+00 | 0.00E+00 | 9.84E+00 |
| | | Cs-134 | <1.12E+01 | 0.00E+00 | 1.12E+01 |
| | | Cs-137 | <8.78E+00 | 0.00E+00 | 8.78E+00 |
| | | BaLa-140 | <9.96E+00 | 0.00E+00 | 9.96E+00 |
| | | Be-7 | <6.87E+01 | 0.00E+00 | 6.87E+01 |
| | | K-40 | 1.16E+03 | 2.24E+02 | 8.67E+01 |
| 358653 | 10/20/2014 - 10/20/2014 | LLI-131 | <5.61E-01 | 0.00E+00 | 5.61E-01 |
| | | I-131 | <4.37E+00 | 0.00E+00 | 4.37E+00 |
| | | Cs-134 | <5.04E+00 | 0.00E+00 | 5.04E+00 |
| | | Cs-137 | <4.06E+00 | 0.00E+00 | 4.06E+00 |
| | | BaLa-140 | <4.58E+00 | 0.00E+00 | 4.58E+00 |
| | | Be-7 | <2.95E+01 | 0.00E+00 | 2.95E+01 |
| | | K-40 | 1.49E+03 | 1.68E+02 | 5.79E+01 |
| 360027 | 11/3/2014 - 11/3/2014 | LLI-131 | <6.38E-01 | 0.00E+00 | 6.38E-01 |
| | | I-131 | <6.63E+00 | 0.00E+00 | 6.63E+00 |
| | | Cs-134 | <8.83E+00 | 0.00E+00 | 8.83E+00 |
| | | Cs-137 | <7.39E+00 | 0.00E+00 | 7.39E+00 |
| | | BaLa-140 | <6.62E+00 | 0.00E+00 | 6.62E+00 |
| | | Be-7 | <5.20E+01 | 0.00E+00 | 5.20E+01 |
| | | K-40 | 1.50E+03 | 2.11E+02 | 1.06E+02 |
| 361571 | 11/17/2014 - 11/17/2014 | LLI-131 | <6.06E-01 | 0.00E+00 | 6.06E-01 |
| | | I-131 | <9.03E+00 | 0.00E+00 | 9.03E+00 |
| | | Cs-134 | <8.23E+00 | 0.00E+00 | 8.23E+00 |
| | | Cs-137 | <9.11E+00 | 0.00E+00 | 9.11E+00 |
| | | BaLa-140 | <8.16E+00 | 0.00E+00 | 8.16E+00 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 141 [CONTROL - WNW @ 14.8 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|----------|-----------|--------------------------|----------|
| 361571 | 11/17/2014 - 11/17/2014 | Be-7 | <7.15E+01 | 0.00E+00 | 7.15E+01 |
| | | K-40 | 1.75E+03 | 2.90E+02 | 1.44E+02 |
| | | | | | |
| 362780 | 12/1/2014 - 12/1/2014 | LLI-131 | <6.43E-01 | 0.00E+00 | 6.43E-01 |
| | | I-131 | <7.20E+00 | 0.00E+00 | 7.20E+00 |
| | | Cs-134 | <7.61E+00 | 0.00E+00 | 7.61E+00 |
| | | Cs-137 | <3.52E+00 | 0.00E+00 | 3.52E+00 |
| | | BaLa-140 | <8.06E+00 | 0.00E+00 | 8.06E+00 |
| | | Be-7 | <5.64E+01 | 0.00E+00 | 5.64E+01 |
| | | K-40 | 1.20E+03 | 2.03E+02 | 7.17E+01 |
| 363967 | 12/15/2014 - 12/15/2014 | LLI-131 | <6.31E-01 | 0.00E+00 | 6.31E-01 |
| | | I-131 | <8.96E+00 | 0.00E+00 | 8.96E+00 |
| | | Cs-134 | <9.83E+00 | 0.00E+00 | 9.83E+00 |
| | | Cs-137 | <7.28E+00 | 0.00E+00 | 7.28E+00 |
| | | BaLa-140 | <1.01E+01 | 0.00E+00 | 1.01E+01 |
| | | Be-7 | <7.42E+01 | 0.00E+00 | 7.42E+01 |
| | | K-40 | 1.43E+03 | 2.58E+02 | 9.93E+01 |
| 364931 | 12/29/2014 - 12/29/2014 | LLI-131 | <6.43E-01 | 0.00E+00 | 6.43E-01 |
| | | I-131 | <6.81E+00 | 0.00E+00 | 6.81E+00 |
| | | Cs-134 | <9.85E+00 | 0.00E+00 | 9.85E+00 |
| | | Cs-137 | <7.68E+00 | 0.00E+00 | 7.68E+00 |
| | | BaLa-140 | <6.58E+00 | 0.00E+00 | 6.58E+00 |
| | | Be-7 | <5.83E+01 | 0.00E+00 | 5.83E+01 |
| | | K-40 | 1.62E+03 | 2.52E+02 | 1.78E+02 |

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

Sample Point 129 [INDICATOR - ENE @ 0.51 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------|--------------------------|----------|
| 287059 | 4/14/2014 - 4/14/2014 | Mn-54 | <2.23E+01 | 0.00E+00 | 2.23E+01 |
| | | Co-58 | <1.52E+01 | 0.00E+00 | 1.52E+01 |
| | | Fe-59 | <3.72E+01 | 0.00E+00 | 3.72E+01 |
| | | Co-60 | <2.11E+01 | 0.00E+00 | 2.11E+01 |
| | | Zn-65 | <4.72E+01 | 0.00E+00 | 4.72E+01 |
| | | Zr-95 | <3.41E+01 | 0.00E+00 | 3.41E+01 |
| | | Nb-95 | <2.28E+01 | 0.00E+00 | 2.28E+01 |
| | | I-131 | <2.94E+01 | 0.00E+00 | 2.94E+01 |
| | | Cs-134 | <1.65E+01 | 0.00E+00 | 1.65E+01 |
| | | Cs-137 | <2.00E+01 | 0.00E+00 | 2.00E+01 |
| | | Be-7 | <2.04E+02 | 0.00E+00 | 2.04E+02 |
| | | K-40 | 5.79E+03 | 2.58E+02 | 1.74E+01 |
| | | Co-57 | <1.70E+01 | 0.00E+00 | 1.70E+01 |
| | | Mo-99 | <7.58E+02 | 0.00E+00 | 7.58E+02 |
| | | Ag-110M | <1.86E+01 | 0.00E+00 | 1.86E+01 |
| | | Sb-122 | <1.48E+02 | 0.00E+00 | 1.48E+02 |
| | | Sb-125 | <5.52E+01 | 0.00E+00 | 5.52E+01 |
| 357301 | 10/6/2014 - 10/6/2014 | Mn-54 | <9.10E+00 | 0.00E+00 | 9.10E+00 |
| | | Co-58 | <8.26E+00 | 0.00E+00 | 8.26E+00 |
| | | Fe-59 | <2.05E+01 | 0.00E+00 | 2.05E+01 |
| | | Co-60 | <1.01E+01 | 0.00E+00 | 1.01E+01 |
| | | Zn-65 | <2.04E+01 | 0.00E+00 | 2.04E+01 |
| | | Zr-95 | <1.80E+01 | 0.00E+00 | 1.80E+01 |
| | | Nb-95 | <1.27E+01 | 0.00E+00 | 1.27E+01 |
| | | I-131 | <2.50E+01 | 0.00E+00 | 2.50E+01 |
| | | Cs-134 | <1.55E+01 | 0.00E+00 | 1.55E+01 |
| | | Cs-137 | <9.57E+00 | 0.00E+00 | 9.57E+00 |
| | | Be-7 | 2.07E+02 | 1.23E+02 | 1.96E+02 |
| | | K-40 | 4.29E+03 | 4.21E+02 | 1.46E+02 |
| | | Co-57 | <8.05E+00 | 0.00E+00 | 8.05E+00 |
| Mo-99 | <2.52E+03 | 0.00E+00 | 2.52E+03 | | |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 129 [INDICATOR - ENE @ 0.51 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 357301 | 10/6/2014 - 10/6/2014 | Ag-110M | <7.86E+00 | 0.00E+00 | 7.86E+00 |
| | | Sb-122 | <4.35E+02 | 0.00E+00 | 4.35E+02 |
| | | Sb-125 | <2.60E+01 | 0.00E+00 | 2.60E+01 |

Sample Point 130 [INDICATOR - SW @ 0.52 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 287061 | 4/14/2014 - 4/14/2014 | Mn-54 | <1.53E+01 | 0.00E+00 | 1.53E+01 |
| | | Co-58 | <1.33E+01 | 0.00E+00 | 1.33E+01 |
| | | Fe-59 | <2.88E+01 | 0.00E+00 | 2.88E+01 |
| | | Co-60 | <1.42E+01 | 0.00E+00 | 1.42E+01 |
| | | Zn-65 | <3.04E+01 | 0.00E+00 | 3.04E+01 |
| | | Zr-95 | <2.90E+01 | 0.00E+00 | 2.90E+01 |
| | | Nb-95 | <1.77E+01 | 0.00E+00 | 1.77E+01 |
| | | I-131 | <2.40E+01 | 0.00E+00 | 2.40E+01 |
| | | Cs-134 | <1.33E+01 | 0.00E+00 | 1.33E+01 |
| | | Cs-137 | 2.08E+02 | 8.98E+00 | 1.48E+01 |
| | | Be-7 | <1.32E+02 | 0.00E+00 | 1.32E+02 |
| | | K-40 | 1.33E+04 | 2.18E+02 | 1.13E+02 |
| | | Co-57 | <1.28E+01 | 0.00E+00 | 1.28E+01 |
| | | Mo-99 | <6.54E+02 | 0.00E+00 | 6.54E+02 |
| | | Ag-110M | <1.32E+01 | 0.00E+00 | 1.32E+01 |
| | | Sb-122 | <1.21E+02 | 0.00E+00 | 1.21E+02 |
| | | Sb-125 | <3.80E+01 | 0.00E+00 | 3.80E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 357302 | 10/6/2014 - 10/6/2014 | Mn-54 | <1.77E+01 | 0.00E+00 | 1.77E+01 |
| | | Co-58 | <1.45E+01 | 0.00E+00 | 1.45E+01 |
| | | Fe-59 | <3.54E+01 | 0.00E+00 | 3.54E+01 |
| | | Co-60 | <1.57E+01 | 0.00E+00 | 1.57E+01 |
| | | Zn-65 | <3.60E+01 | 0.00E+00 | 3.60E+01 |
| | | Zr-95 | <2.90E+01 | 0.00E+00 | 2.90E+01 |
| | | Nb-95 | <1.99E+01 | 0.00E+00 | 1.99E+01 |
| | | I-131 | <4.26E+01 | 0.00E+00 | 4.26E+01 |
| | | Cs-134 | <2.23E+01 | 0.00E+00 | 2.23E+01 |
| | | Cs-137 | 1.55E+02 | 3.48E+01 | 1.79E+01 |
| | | Be-7 | <1.40E+02 | 0.00E+00 | 1.40E+02 |
| | | K-40 | 1.36E+04 | 1.21E+03 | 2.58E+02 |
| | | Co-57 | <1.31E+01 | 0.00E+00 | 1.31E+01 |
| | | Mo-99 | <4.94E+03 | 0.00E+00 | 4.94E+03 |
| | | Ag-110M | <1.37E+01 | 0.00E+00 | 1.37E+01 |
| | | Sb-122 | <8.29E+02 | 0.00E+00 | 8.29E+02 |
| | | Sb-125 | <3.87E+01 | 0.00E+00 | 3.87E+01 |

Sample Point 137 [CONTROL - N @ 12 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 287060 | 4/14/2014 - 4/14/2014 | Mn-54 | <2.01E+01 | 0.00E+00 | 2.01E+01 |
| | | Co-58 | <1.94E+01 | 0.00E+00 | 1.94E+01 |
| | | Fe-59 | <5.57E+01 | 0.00E+00 | 5.57E+01 |
| | | Co-60 | <2.53E+01 | 0.00E+00 | 2.53E+01 |
| | | Zn-65 | <5.34E+01 | 0.00E+00 | 5.34E+01 |
| | | Zr-95 | <3.26E+01 | 0.00E+00 | 3.26E+01 |
| | | Nb-95 | <2.39E+01 | 0.00E+00 | 2.39E+01 |
| | | I-131 | <2.65E+01 | 0.00E+00 | 2.65E+01 |
| | | Cs-134 | <1.68E+01 | 0.00E+00 | 1.68E+01 |
| | | Cs-137 | <2.02E+01 | 0.00E+00 | 2.02E+01 |
| | | Be-7 | <1.53E+02 | 0.00E+00 | 1.53E+02 |
| | | K-40 | 1.36E+04 | 4.06E+02 | 1.68E+02 |
| | | Co-57 | <1.34E+01 | 0.00E+00 | 1.34E+01 |
| | | Mo-99 | <8.07E+02 | 0.00E+00 | 8.07E+02 |
| | | Ag-110M | <1.55E+01 | 0.00E+00 | 1.55E+01 |
| | | Sb-122 | <1.25E+02 | 0.00E+00 | 1.25E+02 |
| | | Sb-125 | <3.91E+01 | 0.00E+00 | 3.91E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 357304 | 10/6/2014 - 10/6/2014 | Mn-54 | <2.36E+01 | 0.00E+00 | 2.36E+01 |
| | | Co-58 | <2.32E+01 | 0.00E+00 | 2.32E+01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 137 [CONTROL - N @ 12 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 357304 | 10/6/2014 - 10/6/2014 | Fe-59 | <5.65E+01 | 0.00E+00 | 5.65E+01 |
| | | Co-60 | <2.25E+01 | 0.00E+00 | 2.25E+01 |
| | | Zn-65 | <5.92E+01 | 0.00E+00 | 5.92E+01 |
| | | Zr-95 | <3.85E+01 | 0.00E+00 | 3.85E+01 |
| | | Nb-95 | <2.53E+01 | 0.00E+00 | 2.53E+01 |
| | | I-131 | <2.94E+01 | 0.00E+00 | 2.94E+01 |
| | | Cs-134 | <2.36E+01 | 0.00E+00 | 2.36E+01 |
| | | Cs-137 | <1.80E+01 | 0.00E+00 | 1.80E+01 |
| | | Be-7 | <1.69E+02 | 0.00E+00 | 1.69E+02 |
| | | K-40 | 1.59E+04 | 1.58E+03 | 2.70E+02 |
| | | Co-57 | <1.61E+01 | 0.00E+00 | 1.61E+01 |
| | | Mo-99 | <9.00E+02 | 0.00E+00 | 9.00E+02 |
| | | Ag-110M | <1.67E+01 | 0.00E+00 | 1.67E+01 |
| | | Sb-122 | <1.58E+02 | 0.00E+00 | 1.58E+02 |
| | | Sb-125 | <4.97E+01 | 0.00E+00 | 4.97E+01 |

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

Sample Point 128 [INDICATOR - NE @ 0.45 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|----------|-----------|--------------------------|----------|
| 280866 | 12/9/2013 - 1/6/2014 | Mn-54 | <3.66E+00 | 0.00E+00 | 3.66E+00 |
| | | Co-58 | <3.72E+00 | 0.00E+00 | 3.72E+00 |
| | | Fe-59 | <8.54E+00 | 0.00E+00 | 8.54E+00 |
| | | Co-60 | <4.21E+00 | 0.00E+00 | 4.21E+00 |
| | | Zn-65 | <8.27E+00 | 0.00E+00 | 8.27E+00 |
| | | Zr-95 | <6.62E+00 | 0.00E+00 | 6.62E+00 |
| | | Nb-95 | <4.68E+00 | 0.00E+00 | 4.68E+00 |
| | | I-131 | <1.17E+01 | 0.00E+00 | 1.17E+01 |
| | | Cs-134 | <3.34E+00 | 0.00E+00 | 3.34E+00 |
| | | Cs-137 | <3.53E+00 | 0.00E+00 | 3.53E+00 |
| | | BaLa-140 | <8.15E+00 | 0.00E+00 | 8.15E+00 |
| | | Be-7 | <3.01E+01 | 0.00E+00 | 3.01E+01 |
| | | K-40 | 2.11E+02 | 2.18E+01 | 3.68E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|-----------|--------------------------|----------|
| 282981 | 1/6/2014 - 2/3/2014 | Mn-54 | <3.23E+00 | 0.00E+00 | 3.23E+00 |
| | | Co-58 | <3.43E+00 | 0.00E+00 | 3.43E+00 |
| | | Fe-59 | <8.24E+00 | 0.00E+00 | 8.24E+00 |
| | | Co-60 | <3.86E+00 | 0.00E+00 | 3.86E+00 |
| | | Zn-65 | <7.08E+00 | 0.00E+00 | 7.08E+00 |
| | | Zr-95 | <5.45E+00 | 0.00E+00 | 5.45E+00 |
| | | Nb-95 | <3.84E+00 | 0.00E+00 | 3.84E+00 |
| | | I-131 | <1.09E+01 | 0.00E+00 | 1.09E+01 |
| | | Cs-134 | <3.27E+00 | 0.00E+00 | 3.27E+00 |
| | | Cs-137 | <3.42E+00 | 0.00E+00 | 3.42E+00 |
| | | BaLa-140 | <9.89E+00 | 0.00E+00 | 9.89E+00 |
| | | Be-7 | <3.37E+01 | 0.00E+00 | 3.37E+01 |
| | | K-40 | 6.89E+01 | 1.73E+01 | 3.74E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|----------|--------------------------|----------|
| 284703 | 12/9/2013 - 3/3/2014 | H3SW | 9.52E+02 | 7.20E+01 | 1.89E+02 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|-----------|--------------------------|----------|
| 285761 | 2/3/2014 - 3/3/2014 | Mn-54 | <2.76E+00 | 0.00E+00 | 2.76E+00 |
| | | Co-58 | <3.25E+00 | 0.00E+00 | 3.25E+00 |
| | | Fe-59 | <6.11E+00 | 0.00E+00 | 6.11E+00 |
| | | Co-60 | <3.04E+00 | 0.00E+00 | 3.04E+00 |
| | | Zn-65 | <7.12E+00 | 0.00E+00 | 7.12E+00 |
| | | Zr-95 | <5.43E+00 | 0.00E+00 | 5.43E+00 |
| | | Nb-95 | <4.43E+00 | 0.00E+00 | 4.43E+00 |
| | | I-131 | <1.22E+01 | 0.00E+00 | 1.22E+01 |
| | | Cs-134 | <2.67E+00 | 0.00E+00 | 2.67E+00 |
| | | Cs-137 | <2.95E+00 | 0.00E+00 | 2.95E+00 |
| | | BaLa-140 | <6.91E+00 | 0.00E+00 | 6.91E+00 |
| | | Be-7 | <2.93E+01 | 0.00E+00 | 2.93E+01 |
| | | K-40 | 1.61E+02 | 2.05E+01 | 2.83E+01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 128 [INDICATOR - NE @ 0.45 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------------------|--------------------------|-----------|
| 289125 | 3/3/2014 - 3/31/2014 | Mn-54 | <2.88E+00 | 0.00E+00 | 2.88E+00 |
| | | Co-58 | <3.09E+00 | 0.00E+00 | 3.09E+00 |
| | | Fe-59 | <5.86E+00 | 0.00E+00 | 5.86E+00 |
| | | Co-60 | <4.04E+00 | 0.00E+00 | 4.04E+00 |
| | | Zn-65 | <5.89E+00 | 0.00E+00 | 5.89E+00 |
| | | Zr-95 | <6.14E+00 | 0.00E+00 | 6.14E+00 |
| | | Nb-95 | <3.33E+00 | 0.00E+00 | 3.33E+00 |
| | | I-131 | <1.09E+01 | 0.00E+00 | 1.09E+01 |
| | | Cs-134 | <2.50E+00 | 0.00E+00 | 2.50E+00 |
| | | Cs-137 | <3.67E+00 | 0.00E+00 | 3.67E+00 |
| | | BaLa-140 | <7.45E+00 | 0.00E+00 | 7.45E+00 |
| | | Be-7 | <2.92E+01 | 0.00E+00 | 2.92E+01 |
| | | K-40 | 4.84E+01 | 1.66E+01 | 3.24E+01 |
| | | 292820 | 3/31/2014 - 4/28/2014 | Mn-54 | <3.41E+00 |
| Co-58 | <4.21E+00 | | | 0.00E+00 | 4.21E+00 |
| Fe-59 | <1.09E+01 | | | 0.00E+00 | 1.09E+01 |
| Co-60 | <4.39E+00 | | | 0.00E+00 | 4.39E+00 |
| Zn-65 | <8.40E+00 | | | 0.00E+00 | 8.40E+00 |
| Zr-95 | <8.05E+00 | | | 0.00E+00 | 8.05E+00 |
| Nb-95 | <4.73E+00 | | | 0.00E+00 | 4.73E+00 |
| I-131 | <1.29E+01 | | | 0.00E+00 | 1.29E+01 |
| Cs-134 | <3.10E+00 | | | 0.00E+00 | 3.10E+00 |
| Cs-137 | <3.99E+00 | | | 0.00E+00 | 3.99E+00 |
| BaLa-140 | <9.59E+00 | | | 0.00E+00 | 9.59E+00 |
| Be-7 | <3.48E+01 | | | 0.00E+00 | 3.48E+01 |
| K-40 | 9.06E+01 | | | 2.11E+01 | 3.35E+01 |
| 295221 | 3/3/2014 - 5/27/2014 | | | H3SW | 1.28E+03 |
| | | | | | |
| 295483 | 4/28/2014 - 5/27/2014 | Mn-54 | <2.91E+00 | 0.00E+00 | 2.91E+00 |
| | | Co-58 | <3.39E+00 | 0.00E+00 | 3.39E+00 |
| | | Fe-59 | <6.85E+00 | 0.00E+00 | 6.85E+00 |
| | | Co-60 | <3.69E+00 | 0.00E+00 | 3.69E+00 |
| | | Zn-65 | <6.89E+00 | 0.00E+00 | 6.89E+00 |
| | | Zr-95 | <6.15E+00 | 0.00E+00 | 6.15E+00 |
| | | Nb-95 | <3.94E+00 | 0.00E+00 | 3.94E+00 |
| | | I-131 | <1.30E+01 | 0.00E+00 | 1.30E+01 |
| | | Cs-134 | <2.61E+00 | 0.00E+00 | 2.61E+00 |
| | | Cs-137 | <3.30E+00 | 0.00E+00 | 3.30E+00 |
| | | BaLa-140 | <6.54E+00 | 0.00E+00 | 6.54E+00 |
| | | Be-7 | <2.90E+01 | 0.00E+00 | 2.90E+01 |
| | | K-40 | 1.52E+02 | 2.34E+01 | 2.77E+01 |
| | | 296991 | 5/27/2014 - 6/23/2014 | Mn-54 | <4.63E+00 |
| Co-58 | <3.75E+00 | | | 0.00E+00 | 3.75E+00 |
| Fe-59 | <1.01E+01 | | | 0.00E+00 | 1.01E+01 |
| Co-60 | <6.09E+00 | | | 0.00E+00 | 6.09E+00 |
| Zn-65 | <8.76E+00 | | | 0.00E+00 | 8.76E+00 |
| Zr-95 | <7.09E+00 | | | 0.00E+00 | 7.09E+00 |
| Nb-95 | <5.44E+00 | | | 0.00E+00 | 5.44E+00 |
| I-131 | <1.40E+01 | | | 0.00E+00 | 1.40E+01 |
| Cs-134 | <3.56E+00 | | | 0.00E+00 | 3.56E+00 |
| Cs-137 | <4.70E+00 | | | 0.00E+00 | 4.70E+00 |
| BaLa-140 | <1.22E+01 | | | 0.00E+00 | 1.22E+01 |
| Be-7 | <4.18E+01 | | | 0.00E+00 | 4.18E+01 |
| K-40 | 7.59E+01 | | | 2.74E+01 | 4.20E+01 |
| 350545 | 6/23/2014 - 7/21/2014 | | | Mn-54 | <2.48E+00 |
| | | Co-58 | <2.56E+00 | 0.00E+00 | 2.56E+00 |
| | | Fe-59 | <7.24E+00 | 0.00E+00 | 7.24E+00 |
| | | Co-60 | <3.26E+00 | 0.00E+00 | 3.26E+00 |
| | | | | | |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 128 [INDICATOR - NE @ 0.45 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|----------|------------------------|--------------------------|-----------|
| 350545 | 6/23/2014 - 7/21/2014 | Zn-65 | <4.17E+00 | 0.00E+00 | 4.17E+00 |
| | | Zr-95 | <4.87E+00 | 0.00E+00 | 4.87E+00 |
| | | Nb-95 | <3.92E+00 | 0.00E+00 | 3.92E+00 |
| | | I-131 | <1.19E+01 | 0.00E+00 | 1.19E+01 |
| | | Cs-134 | <2.56E+00 | 0.00E+00 | 2.56E+00 |
| | | Cs-137 | <2.67E+00 | 0.00E+00 | 2.67E+00 |
| | | BaLa-140 | <6.11E+00 | 0.00E+00 | 6.11E+00 |
| | | Be-7 | <2.32E+01 | 0.00E+00 | 2.32E+01 |
| | | K-40 | 8.20E+01 | 2.64E+01 | 3.04E+01 |
| | | 352241 | 7/21/2014 - 8/18/2014 | Mn-54 | <3.12E+00 |
| Co-58 | <3.28E+00 | | | 0.00E+00 | 3.28E+00 |
| Fe-59 | <8.49E+00 | | | 0.00E+00 | 8.49E+00 |
| Co-60 | <3.23E+00 | | | 0.00E+00 | 3.23E+00 |
| Zn-65 | <7.51E+00 | | | 0.00E+00 | 7.51E+00 |
| Zr-95 | <6.86E+00 | | | 0.00E+00 | 6.86E+00 |
| Nb-95 | <4.38E+00 | | | 0.00E+00 | 4.38E+00 |
| I-131 | <1.08E+01 | | | 0.00E+00 | 1.08E+01 |
| Cs-134 | <4.09E+00 | | | 0.00E+00 | 4.09E+00 |
| Cs-137 | <4.46E+00 | | | 0.00E+00 | 4.46E+00 |
| BaLa-140 | <9.52E+00 | | | 0.00E+00 | 9.52E+00 |
| Be-7 | <2.91E+01 | | | 0.00E+00 | 2.91E+01 |
| K-40 | 1.40E+02 | | | 3.94E+01 | 3.92E+01 |
| 354205 | 5/27/2014 - 8/18/2014 | | | H3SW | 8.27E+02 |
| | | | | | |
| 355153 | 8/18/2014 - 9/15/2014 | Mn-54 | <3.51E+00 | 0.00E+00 | 3.51E+00 |
| | | Co-58 | <3.42E+00 | 0.00E+00 | 3.42E+00 |
| | | Fe-59 | <8.13E+00 | 0.00E+00 | 8.13E+00 |
| | | Co-60 | <3.22E+00 | 0.00E+00 | 3.22E+00 |
| | | Zn-65 | <4.97E+00 | 0.00E+00 | 4.97E+00 |
| | | Zr-95 | <7.25E+00 | 0.00E+00 | 7.25E+00 |
| | | Nb-95 | <4.49E+00 | 0.00E+00 | 4.49E+00 |
| | | I-131 | <1.15E+01 | 0.00E+00 | 1.15E+01 |
| | | Cs-134 | <4.13E+00 | 0.00E+00 | 4.13E+00 |
| | | Cs-137 | <3.28E+00 | 0.00E+00 | 3.28E+00 |
| | | BaLa-140 | <7.16E+00 | 0.00E+00 | 7.16E+00 |
| | | Be-7 | <3.59E+01 | 0.00E+00 | 3.59E+01 |
| | | K-40 | 1.72E+02 | 4.25E+01 | 3.92E+01 |
| | | 358043 | 9/15/2014 - 10/13/2014 | Mn-54 | <2.48E+00 |
| Co-58 | <2.69E+00 | | | 0.00E+00 | 2.69E+00 |
| Fe-59 | <4.64E+00 | | | 0.00E+00 | 4.64E+00 |
| Co-60 | <2.23E+00 | | | 0.00E+00 | 2.23E+00 |
| Zn-65 | <4.95E+00 | | | 0.00E+00 | 4.95E+00 |
| Zr-95 | <5.12E+00 | | | 0.00E+00 | 5.12E+00 |
| Nb-95 | <3.09E+00 | | | 0.00E+00 | 3.09E+00 |
| I-131 | <1.00E+01 | | | 0.00E+00 | 1.00E+01 |
| Cs-134 | <2.88E+00 | | | 0.00E+00 | 2.88E+00 |
| Cs-137 | <2.68E+00 | | | 0.00E+00 | 2.68E+00 |
| BaLa-140 | <4.95E+00 | | | 0.00E+00 | 4.95E+00 |
| Be-7 | <2.57E+01 | | | 0.00E+00 | 2.57E+01 |
| K-40 | 4.46E+01 | | | 2.52E+01 | 3.52E+01 |
| 360707 | 10/13/2014 - 11/10/2014 | | | Mn-54 | <2.54E+00 |
| | | Co-58 | <3.04E+00 | 0.00E+00 | 3.04E+00 |
| | | Fe-59 | <6.39E+00 | 0.00E+00 | 6.39E+00 |
| | | Co-60 | <2.77E+00 | 0.00E+00 | 2.77E+00 |
| | | Zn-65 | <5.14E+00 | 0.00E+00 | 5.14E+00 |
| | | Zr-95 | <4.89E+00 | 0.00E+00 | 4.89E+00 |
| | | Nb-95 | <4.12E+00 | 0.00E+00 | 4.12E+00 |
| | | I-131 | <1.20E+01 | 0.00E+00 | 1.20E+01 |
| | | | | | |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 128 [INDICATOR - NE @ 0.45 miles]

| Sample ID: | 360707 | Sample Dates: | 10/13/2014 - 11/10/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|-------------------------|----------|-----------|--------------------------|----------|
| | | | | Cs-134 | <3.22E+00 | 0.00E+00 | 3.22E+00 |
| | | | | Cs-137 | <2.65E+00 | 0.00E+00 | 2.65E+00 |
| | | | | BaLa-140 | <5.94E+00 | 0.00E+00 | 5.94E+00 |
| | | | | Be-7 | <2.82E+01 | 0.00E+00 | 2.82E+01 |
| | | | | K-40 | 2.06E+02 | 9.41E+01 | 1.47E+02 |

| Sample ID: | 363518 | Sample Dates: | 11/10/2014 - 12/8/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|------------------------|----------|-----------|--------------------------|----------|
| | | | | Mn-54 | <1.24E+00 | 0.00E+00 | 1.24E+00 |
| | | | | Co-58 | <1.42E+00 | 0.00E+00 | 1.42E+00 |
| | | | | Fe-59 | <3.05E+00 | 0.00E+00 | 3.05E+00 |
| | | | | Co-60 | <1.11E+00 | 0.00E+00 | 1.11E+00 |
| | | | | Zn-65 | <2.52E+00 | 0.00E+00 | 2.52E+00 |
| | | | | Zr-95 | <2.82E+00 | 0.00E+00 | 2.82E+00 |
| | | | | Nb-95 | <1.97E+00 | 0.00E+00 | 1.97E+00 |
| | | | | I-131 | <1.10E+01 | 0.00E+00 | 1.10E+01 |
| | | | | Cs-134 | <1.34E+00 | 0.00E+00 | 1.34E+00 |
| | | | | Cs-137 | <1.16E+00 | 0.00E+00 | 1.16E+00 |
| | | | | BaLa-140 | <4.42E+00 | 0.00E+00 | 4.42E+00 |
| | | | | Be-7 | <1.31E+01 | 0.00E+00 | 1.31E+01 |
| | | | | K-40 | 1.80E+02 | 2.25E+01 | 1.89E+01 |

| Sample ID: | 364501 | Sample Dates: | 8/18/2014 - 12/8/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|-----------------------|---------|----------|--------------------------|----------|
| | | | | H3SW | 1.04E+03 | 1.47E+02 | 1.99E+02 |

Sample Point 131 [INDICATOR - WNW @ 0.64 miles]

| Sample ID: | 280867 | Sample Dates: | 12/9/2013 - 1/6/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|----------------------|----------|-----------|--------------------------|----------|
| | | | | Mn-54 | <3.27E+00 | 0.00E+00 | 3.27E+00 |
| | | | | Co-58 | <3.49E+00 | 0.00E+00 | 3.49E+00 |
| | | | | Fe-59 | <7.72E+00 | 0.00E+00 | 7.72E+00 |
| | | | | Co-60 | <3.45E+00 | 0.00E+00 | 3.45E+00 |
| | | | | Zn-65 | <7.71E+00 | 0.00E+00 | 7.71E+00 |
| | | | | Zr-95 | <7.30E+00 | 0.00E+00 | 7.30E+00 |
| | | | | Nb-95 | <4.57E+00 | 0.00E+00 | 4.57E+00 |
| | | | | I-131 | <1.25E+01 | 0.00E+00 | 1.25E+01 |
| | | | | Cs-134 | <3.17E+00 | 0.00E+00 | 3.17E+00 |
| | | | | Cs-137 | <3.38E+00 | 0.00E+00 | 3.38E+00 |
| | | | | BaLa-140 | <6.02E+00 | 0.00E+00 | 6.02E+00 |
| | | | | Be-7 | <3.26E+01 | 0.00E+00 | 3.26E+01 |
| | | | | K-40 | 9.54E+01 | 2.09E+01 | 3.87E+01 |

| Sample ID: | 282982 | Sample Dates: | 1/6/2014 - 2/3/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|---------------------|----------|-----------|--------------------------|----------|
| | | | | Mn-54 | <4.21E+00 | 0.00E+00 | 4.21E+00 |
| | | | | Co-58 | <4.37E+00 | 0.00E+00 | 4.37E+00 |
| | | | | Fe-59 | <1.09E+01 | 0.00E+00 | 1.09E+01 |
| | | | | Co-60 | <4.50E+00 | 0.00E+00 | 4.50E+00 |
| | | | | Zn-65 | <6.39E+00 | 0.00E+00 | 6.39E+00 |
| | | | | Zr-95 | <9.34E+00 | 0.00E+00 | 9.34E+00 |
| | | | | Nb-95 | <5.58E+00 | 0.00E+00 | 5.58E+00 |
| | | | | I-131 | <1.33E+01 | 0.00E+00 | 1.33E+01 |
| | | | | Cs-134 | <3.73E+00 | 0.00E+00 | 3.73E+00 |
| | | | | Cs-137 | <4.17E+00 | 0.00E+00 | 4.17E+00 |
| | | | | BaLa-140 | <1.22E+01 | 0.00E+00 | 1.22E+01 |
| | | | | Be-7 | <4.50E+01 | 0.00E+00 | 4.50E+01 |
| | | | | K-40 | 2.41E+02 | 2.73E+01 | 3.24E+01 |

| Sample ID: | 284704 | Sample Dates: | 12/9/2013 - 3/3/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|----------------------|---------|----------|--------------------------|----------|
| | | | | H3SW | 4.28E+02 | 6.42E+01 | 1.89E+02 |

| Sample ID: | 285762 | Sample Dates: | 2/3/2014 - 3/3/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|--------|---------------|---------------------|---------|-----------|--------------------------|----------|
| | | | | Mn-54 | <3.53E+00 | 0.00E+00 | 3.53E+00 |
| | | | | Co-58 | <3.64E+00 | 0.00E+00 | 3.64E+00 |
| | | | | Fe-59 | <7.85E+00 | 0.00E+00 | 7.85E+00 |
| | | | | Co-60 | <4.96E+00 | 0.00E+00 | 4.96E+00 |
| | | | | Zn-65 | <6.57E+00 | 0.00E+00 | 6.57E+00 |
| | | | | Zr-95 | <6.56E+00 | 0.00E+00 | 6.56E+00 |
| | | | | Nb-95 | <4.59E+00 | 0.00E+00 | 4.59E+00 |
| | | | | I-131 | <1.20E+01 | 0.00E+00 | 1.20E+01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 131 [INDICATOR - WNW @ 0.64 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------|--------------------------|----------|
| 285762 | 2/3/2014 - 3/3/2014 | Cs-134 | <2.59E+00 | 0.00E+00 | 2.59E+00 |
| | | Cs-137 | <3.62E+00 | 0.00E+00 | 3.62E+00 |
| | | BaLa-140 | <1.05E+01 | 0.00E+00 | 1.05E+01 |
| | | Be-7 | <2.98E+01 | 0.00E+00 | 2.98E+01 |
| | | K-40 | 6.73E+01 | 1.66E+01 | 3.32E+01 |
| | | | | | |
| 289126 | 3/3/2014 - 3/31/2014 | Mn-54 | <2.87E+00 | 0.00E+00 | 2.87E+00 |
| | | Co-58 | <2.79E+00 | 0.00E+00 | 2.79E+00 |
| | | Fe-59 | <8.42E+00 | 0.00E+00 | 8.42E+00 |
| | | Co-60 | <3.00E+00 | 0.00E+00 | 3.00E+00 |
| | | Zn-65 | <7.12E+00 | 0.00E+00 | 7.12E+00 |
| | | Zr-95 | <6.59E+00 | 0.00E+00 | 6.59E+00 |
| | | Nb-95 | <4.45E+00 | 0.00E+00 | 4.45E+00 |
| | | I-131 | <1.32E+01 | 0.00E+00 | 1.32E+01 |
| | | Cs-134 | <2.73E+00 | 0.00E+00 | 2.73E+00 |
| | | Cs-137 | <3.62E+00 | 0.00E+00 | 3.62E+00 |
| | | BaLa-140 | <5.82E+00 | 0.00E+00 | 5.82E+00 |
| | | Be-7 | <3.56E+01 | 0.00E+00 | 3.56E+01 |
| | | K-40 | 2.27E+02 | 2.73E+01 | 3.20E+01 |
| 292821 | 3/31/2014 - 4/28/2014 | Mn-54 | <3.70E+00 | 0.00E+00 | 3.70E+00 |
| | | Co-58 | <3.60E+00 | 0.00E+00 | 3.60E+00 |
| | | Fe-59 | <9.18E+00 | 0.00E+00 | 9.18E+00 |
| | | Co-60 | <3.97E+00 | 0.00E+00 | 3.97E+00 |
| | | Zn-65 | <8.40E+00 | 0.00E+00 | 8.40E+00 |
| | | Zr-95 | <7.73E+00 | 0.00E+00 | 7.73E+00 |
| | | Nb-95 | <4.66E+00 | 0.00E+00 | 4.66E+00 |
| | | I-131 | <1.35E+01 | 0.00E+00 | 1.35E+01 |
| | | Cs-134 | <2.85E+00 | 0.00E+00 | 2.85E+00 |
| | | Cs-137 | <4.57E+00 | 0.00E+00 | 4.57E+00 |
| | | BaLa-140 | <8.10E+00 | 0.00E+00 | 8.10E+00 |
| | | Be-7 | <3.51E+01 | 0.00E+00 | 3.51E+01 |
| | | K-40 | 7.68E+01 | 2.05E+01 | 2.89E+01 |
| 295222 | 3/3/2014 - 5/27/2014 | H3SW | 4.01E+02 | 6.36E+01 | 1.88E+02 |
| | | | | | |
| 295484 | 4/28/2014 - 5/27/2014 | Mn-54 | <2.28E+00 | 0.00E+00 | 2.28E+00 |
| | | Co-58 | <2.47E+00 | 0.00E+00 | 2.47E+00 |
| | | Fe-59 | <5.61E+00 | 0.00E+00 | 5.61E+00 |
| | | Co-60 | <2.14E+00 | 0.00E+00 | 2.14E+00 |
| | | Zn-65 | <4.59E+00 | 0.00E+00 | 4.59E+00 |
| | | Zr-95 | <4.61E+00 | 0.00E+00 | 4.61E+00 |
| | | Nb-95 | <3.04E+00 | 0.00E+00 | 3.04E+00 |
| | | I-131 | <1.45E+01 | 0.00E+00 | 1.45E+01 |
| | | Cs-134 | <2.10E+00 | 0.00E+00 | 2.10E+00 |
| | | Cs-137 | <2.00E+00 | 0.00E+00 | 2.00E+00 |
| | | BaLa-140 | <7.24E+00 | 0.00E+00 | 7.24E+00 |
| | | Be-7 | <2.41E+01 | 0.00E+00 | 2.41E+01 |
| | | K-40 | 1.90E+02 | 1.63E+01 | 1.93E+01 |
| 296992 | 5/27/2014 - 6/23/2014 | Mn-54 | <4.43E+00 | 0.00E+00 | 4.43E+00 |
| | | Co-58 | <4.81E+00 | 0.00E+00 | 4.81E+00 |
| | | Fe-59 | <1.10E+01 | 0.00E+00 | 1.10E+01 |
| | | Co-60 | <3.30E+00 | 0.00E+00 | 3.30E+00 |
| | | Zn-65 | <8.52E+00 | 0.00E+00 | 8.52E+00 |
| | | Zr-95 | <7.75E+00 | 0.00E+00 | 7.75E+00 |
| | | Nb-95 | <5.37E+00 | 0.00E+00 | 5.37E+00 |
| | | I-131 | <1.36E+01 | 0.00E+00 | 1.36E+01 |
| | | Cs-134 | <4.08E+00 | 0.00E+00 | 4.08E+00 |
| | | Cs-137 | <5.07E+00 | 0.00E+00 | 5.07E+00 |
| | | BaLa-140 | <1.17E+01 | 0.00E+00 | 1.17E+01 |
| | | Be-7 | <5.06E+01 | 0.00E+00 | 5.06E+01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 131 [INDICATOR - WNW @ 0.64 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|----------|-----------|--------------------------|----------|
| 296992 | 5/27/2014 - 6/23/2014 | K-40 | 1.34E+02 | 3.23E+01 | 4.74E+01 |
| 350546 | 6/23/2014 - 7/21/2014 | Mn-54 | <2.06E+00 | 0.00E+00 | 2.06E+00 |
| | | Co-58 | <2.57E+00 | 0.00E+00 | 2.57E+00 |
| | | Fe-59 | <5.39E+00 | 0.00E+00 | 5.39E+00 |
| | | Co-60 | <2.23E+00 | 0.00E+00 | 2.23E+00 |
| | | Zn-65 | <5.22E+00 | 0.00E+00 | 5.22E+00 |
| | | Zr-95 | <5.31E+00 | 0.00E+00 | 5.31E+00 |
| | | Nb-95 | <3.20E+00 | 0.00E+00 | 3.20E+00 |
| | | I-131 | <1.20E+01 | 0.00E+00 | 1.20E+01 |
| | | Cs-134 | <1.91E+00 | 0.00E+00 | 1.91E+00 |
| | | Cs-137 | <2.03E+00 | 0.00E+00 | 2.03E+00 |
| | | BaLa-140 | <7.63E+00 | 0.00E+00 | 7.63E+00 |
| | | Be-7 | <2.15E+01 | 0.00E+00 | 2.15E+01 |
| | | K-40 | 1.66E+02 | 3.44E+01 | 3.90E+01 |
| 352242 | 7/21/2014 - 8/18/2014 | Mn-54 | <3.26E+00 | 0.00E+00 | 3.26E+00 |
| | | Co-58 | <3.05E+00 | 0.00E+00 | 3.05E+00 |
| | | Fe-59 | <6.88E+00 | 0.00E+00 | 6.88E+00 |
| | | Co-60 | <3.23E+00 | 0.00E+00 | 3.23E+00 |
| | | Zn-65 | <6.33E+00 | 0.00E+00 | 6.33E+00 |
| | | Zr-95 | <6.61E+00 | 0.00E+00 | 6.61E+00 |
| | | Nb-95 | <3.75E+00 | 0.00E+00 | 3.75E+00 |
| | | I-131 | <1.17E+01 | 0.00E+00 | 1.17E+01 |
| | | Cs-134 | <3.47E+00 | 0.00E+00 | 3.47E+00 |
| | | Cs-137 | <2.98E+00 | 0.00E+00 | 2.98E+00 |
| | | BaLa-140 | <4.18E+00 | 0.00E+00 | 4.18E+00 |
| | | Be-7 | <2.98E+01 | 0.00E+00 | 2.98E+01 |
| | | K-40 | 1.39E+02 | 3.76E+01 | 4.06E+01 |
| 354206 | 5/27/2014 - 8/18/2014 | H3SW | 3.92E+02 | 1.22E+02 | 1.89E+02 |
| 355155 | 8/18/2014 - 9/15/2014 | Mn-54 | <4.22E+00 | 0.00E+00 | 4.22E+00 |
| | | Co-58 | <4.20E+00 | 0.00E+00 | 4.20E+00 |
| | | Fe-59 | <9.97E+00 | 0.00E+00 | 9.97E+00 |
| | | Co-60 | <4.80E+00 | 0.00E+00 | 4.80E+00 |
| | | Zn-65 | <9.91E+00 | 0.00E+00 | 9.91E+00 |
| | | Zr-95 | <8.63E+00 | 0.00E+00 | 8.63E+00 |
| | | Nb-95 | <5.19E+00 | 0.00E+00 | 5.19E+00 |
| | | I-131 | <1.16E+01 | 0.00E+00 | 1.16E+01 |
| | | Cs-134 | <5.29E+00 | 0.00E+00 | 5.29E+00 |
| | | Cs-137 | <3.89E+00 | 0.00E+00 | 3.89E+00 |
| | | BaLa-140 | <8.45E+00 | 0.00E+00 | 8.45E+00 |
| | | Be-7 | <2.93E+01 | 0.00E+00 | 2.93E+01 |
| | | K-40 | <5.63E+01 | 0.00E+00 | 5.63E+01 |
| 358044 | 9/15/2014 - 10/13/2014 | Mn-54 | <3.00E+00 | 0.00E+00 | 3.00E+00 |
| | | Co-58 | <4.03E+00 | 0.00E+00 | 4.03E+00 |
| | | Fe-59 | <8.85E+00 | 0.00E+00 | 8.85E+00 |
| | | Co-60 | <4.03E+00 | 0.00E+00 | 4.03E+00 |
| | | Zn-65 | <8.95E+00 | 0.00E+00 | 8.95E+00 |
| | | Zr-95 | <7.15E+00 | 0.00E+00 | 7.15E+00 |
| | | Nb-95 | <3.97E+00 | 0.00E+00 | 3.97E+00 |
| | | I-131 | <1.17E+01 | 0.00E+00 | 1.17E+01 |
| | | Cs-134 | <4.59E+00 | 0.00E+00 | 4.59E+00 |
| | | Cs-137 | <4.34E+00 | 0.00E+00 | 4.34E+00 |
| | | BaLa-140 | <8.14E+00 | 0.00E+00 | 8.14E+00 |
| | | Be-7 | <3.04E+01 | 0.00E+00 | 3.04E+01 |
| | | K-40 | 7.15E+01 | 3.70E+01 | 4.66E+01 |
| 360708 | 10/13/2014 - 11/10/2014 | Mn-54 | <2.66E+00 | 0.00E+00 | 2.66E+00 |
| | | Co-58 | <3.01E+00 | 0.00E+00 | 3.01E+00 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 131 [INDICATOR - WNW @ 0.64 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|----------|-----------|--------------------------|----------|
| 360708 | 10/13/2014 - 11/10/2014 | Fe-59 | <6.74E+00 | 0.00E+00 | 6.74E+00 |
| | | Co-60 | <2.91E+00 | 0.00E+00 | 2.91E+00 |
| | | Zn-65 | <5.75E+00 | 0.00E+00 | 5.75E+00 |
| | | Zr-95 | <5.59E+00 | 0.00E+00 | 5.59E+00 |
| | | Nb-95 | <3.62E+00 | 0.00E+00 | 3.62E+00 |
| | | I-131 | <1.02E+01 | 0.00E+00 | 1.02E+01 |
| | | Cs-134 | <3.26E+00 | 0.00E+00 | 3.26E+00 |
| | | Cs-137 | <2.62E+00 | 0.00E+00 | 2.62E+00 |
| | | BaLa-140 | <7.78E+00 | 0.00E+00 | 7.78E+00 |
| | | Be-7 | <2.22E+01 | 0.00E+00 | 2.22E+01 |
| | | K-40 | <5.30E+01 | 0.00E+00 | 5.30E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|------------------------|----------|-----------|--------------------------|----------|
| 363519 | 11/10/2014 - 12/8/2014 | Mn-54 | <1.25E+00 | 0.00E+00 | 1.25E+00 |
| | | Co-58 | <1.48E+00 | 0.00E+00 | 1.48E+00 |
| | | Fe-59 | <2.54E+00 | 0.00E+00 | 2.54E+00 |
| | | Co-60 | <1.20E+00 | 0.00E+00 | 1.20E+00 |
| | | Zn-65 | <2.71E+00 | 0.00E+00 | 2.71E+00 |
| | | Zr-95 | <2.84E+00 | 0.00E+00 | 2.84E+00 |
| | | Nb-95 | <1.93E+00 | 0.00E+00 | 1.93E+00 |
| | | I-131 | <1.17E+01 | 0.00E+00 | 1.17E+01 |
| | | Cs-134 | <1.18E+00 | 0.00E+00 | 1.18E+00 |
| | | Cs-137 | <1.22E+00 | 0.00E+00 | 1.22E+00 |
| | | BaLa-140 | <4.68E+00 | 0.00E+00 | 4.68E+00 |
| | | Be-7 | <1.22E+01 | 0.00E+00 | 1.22E+01 |
| K-40 | 4.92E+01 | 1.48E+01 | 1.94E+01 | | |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|----------|--------------------------|----------|
| 364502 | 8/18/2014 - 12/8/2014 | H3SW | 5.36E+02 | 1.33E+02 | 1.99E+02 |

Sample Point 135 [CONTROL - N @ 11.9 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|----------|-----------|--------------------------|----------|
| 280868 | 12/9/2013 - 1/6/2014 | Mn-54 | <3.73E+00 | 0.00E+00 | 3.73E+00 |
| | | Co-58 | <3.69E+00 | 0.00E+00 | 3.69E+00 |
| | | Fe-59 | <1.01E+01 | 0.00E+00 | 1.01E+01 |
| | | Co-60 | <4.04E+00 | 0.00E+00 | 4.04E+00 |
| | | Zn-65 | <5.88E+00 | 0.00E+00 | 5.88E+00 |
| | | Zr-95 | <7.51E+00 | 0.00E+00 | 7.51E+00 |
| | | Nb-95 | <3.87E+00 | 0.00E+00 | 3.87E+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 | <3.05E+00 | 0.00E+00 | 3.05E+00 |
| | | BaLa-140 | <1.00E+01 | 0.00E+00 | 1.00E+01 |
| | | Be-7 | <3.29E+01 | 0.00E+00 | 3.29E+01 |
| | | K-40 | 6.22E+01 | 2.26E+01 | 4.25E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|-----------|--------------------------|----------|
| 282983 | 1/6/2014 - 2/3/2014 | Mn-54 | <3.82E+00 | 0.00E+00 | 3.82E+00 |
| | | Co-58 | <4.31E+00 | 0.00E+00 | 4.31E+00 |
| | | Fe-59 | <1.04E+01 | 0.00E+00 | 1.04E+01 |
| | | Co-60 | <5.26E+00 | 0.00E+00 | 5.26E+00 |
| | | Zn-65 | <8.88E+00 | 0.00E+00 | 8.88E+00 |
| | | Zr-95 | <6.79E+00 | 0.00E+00 | 6.79E+00 |
| | | Nb-95 | <3.82E+00 | 0.00E+00 | 3.82E+00 |
| | | I-131 | <1.44E+01 | 0.00E+00 | 1.44E+01 |
| | | Cs-134 | <3.69E+00 | 0.00E+00 | 3.69E+00 |
| | | Cs-137 | <4.41E+00 | 0.00E+00 | 4.41E+00 |
| | | BaLa-140 | <1.26E+01 | 0.00E+00 | 1.26E+01 |
| | | Be-7 | <4.16E+01 | 0.00E+00 | 4.16E+01 |
| | | K-40 | 1.67E+02 | 2.50E+01 | 4.24E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 284705 | 12/9/2013 - 3/3/2014 | H3SW | <3.06E+01 | 0.00E+00 | 1.89E+02 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|---------|-----------|--------------------------|----------|
| 285763 | 2/3/2014 - 3/3/2014 | Mn-54 | <3.36E+00 | 0.00E+00 | 3.36E+00 |
| | | Co-58 | <3.34E+00 | 0.00E+00 | 3.34E+00 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 135 [CONTROL - N @ 11.9 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|-----------|--------------------------|----------|
| 285763 | 2/3/2014 - 3/3/2014 | Fe-59 | <8.36E+00 | 0.00E+00 | 8.36E+00 |
| | | Co-60 | <4.90E+00 | 0.00E+00 | 4.90E+00 |
| | | Zn-65 | <6.15E+00 | 0.00E+00 | 6.15E+00 |
| | | Zr-95 | <8.01E+00 | 0.00E+00 | 8.01E+00 |
| | | Nb-95 | <4.34E+00 | 0.00E+00 | 4.34E+00 |
| | | I-131 | <1.40E+01 | 0.00E+00 | 1.40E+01 |
| | | Cs-134 | <2.51E+00 | 0.00E+00 | 2.51E+00 |
| | | Cs-137 | <3.34E+00 | 0.00E+00 | 3.34E+00 |
| | | BaLa-140 | <1.18E+01 | 0.00E+00 | 1.18E+01 |
| | | Be-7 | <3.19E+01 | 0.00E+00 | 3.19E+01 |
| | | K-40 | 9.44E+01 | 1.95E+01 | 2.80E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|----------|-----------|--------------------------|----------|
| 289127 | 3/3/2014 - 3/31/2014 | Mn-54 | <3.04E+00 | 0.00E+00 | 3.04E+00 |
| | | Co-58 | <3.56E+00 | 0.00E+00 | 3.56E+00 |
| | | Fe-59 | <6.56E+00 | 0.00E+00 | 6.56E+00 |
| | | Co-60 | <3.76E+00 | 0.00E+00 | 3.76E+00 |
| | | Zn-65 | <7.32E+00 | 0.00E+00 | 7.32E+00 |
| | | Zr-95 | <6.23E+00 | 0.00E+00 | 6.23E+00 |
| | | Nb-95 | <4.07E+00 | 0.00E+00 | 4.07E+00 |
| | | I-131 | <1.12E+01 | 0.00E+00 | 1.12E+01 |
| | | Cs-134 | <3.65E+00 | 0.00E+00 | 3.65E+00 |
| | | Cs-137 | <3.82E+00 | 0.00E+00 | 3.82E+00 |
| | | BaLa-140 | <8.98E+00 | 0.00E+00 | 8.98E+00 |
| | | Be-7 | <3.09E+01 | 0.00E+00 | 3.09E+01 |
| | | K-40 | 6.00E+01 | 1.54E+01 | 3.51E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------|--------------------------|----------|
| 292822 | 3/31/2014 - 4/28/2014 | Mn-54 | <4.24E+00 | 0.00E+00 | 4.24E+00 |
| | | Co-58 | <4.51E+00 | 0.00E+00 | 4.51E+00 |
| | | Fe-59 | <9.74E+00 | 0.00E+00 | 9.74E+00 |
| | | Co-60 | <4.17E+00 | 0.00E+00 | 4.17E+00 |
| | | Zn-65 | <8.86E+00 | 0.00E+00 | 8.86E+00 |
| | | Zr-95 | <8.25E+00 | 0.00E+00 | 8.25E+00 |
| | | Nb-95 | <4.50E+00 | 0.00E+00 | 4.50E+00 |
| | | I-131 | <1.34E+01 | 0.00E+00 | 1.34E+01 |
| | | Cs-134 | <4.07E+00 | 0.00E+00 | 4.07E+00 |
| | | Cs-137 | <4.82E+00 | 0.00E+00 | 4.82E+00 |
| | | BaLa-140 | <1.02E+01 | 0.00E+00 | 1.02E+01 |
| | | Be-7 | <4.21E+01 | 0.00E+00 | 4.21E+01 |
| | | K-40 | 4.38E+01 | 2.30E+01 | 5.02E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 295223 | 3/3/2014 - 5/27/2014 | H3SW | <-8.9E+01 | 0.00E+00 | 1.88E+02 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|-----------|--------------------------|----------|
| 295485 | 4/28/2014 - 5/27/2014 | Mn-54 | <3.14E+00 | 0.00E+00 | 3.14E+00 |
| | | Co-58 | <3.40E+00 | 0.00E+00 | 3.40E+00 |
| | | Fe-59 | <6.41E+00 | 0.00E+00 | 6.41E+00 |
| | | Co-60 | <3.25E+00 | 0.00E+00 | 3.25E+00 |
| | | Zn-65 | <6.12E+00 | 0.00E+00 | 6.12E+00 |
| | | Zr-95 | <6.00E+00 | 0.00E+00 | 6.00E+00 |
| | | Nb-95 | <4.07E+00 | 0.00E+00 | 4.07E+00 |
| | | I-131 | <1.23E+01 | 0.00E+00 | 1.23E+01 |
| | | Cs-134 | <2.83E+00 | 0.00E+00 | 2.83E+00 |
| | | Cs-137 | <3.30E+00 | 0.00E+00 | 3.30E+00 |
| | | BaLa-140 | <8.31E+00 | 0.00E+00 | 8.31E+00 |
| | | Be-7 | <2.64E+01 | 0.00E+00 | 2.64E+01 |
| | | K-40 | 1.20E+02 | 1.64E+01 | 2.79E+01 |

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 296993 | 5/27/2014 - 6/23/2014 | Mn-54 | <4.27E+00 | 0.00E+00 | 4.27E+00 |
| | | Co-58 | <4.24E+00 | 0.00E+00 | 4.24E+00 |
| | | Fe-59 | <9.33E+00 | 0.00E+00 | 9.33E+00 |
| | | Co-60 | <6.12E+00 | 0.00E+00 | 6.12E+00 |
| | | Zn-65 | <8.54E+00 | 0.00E+00 | 8.54E+00 |
| | | Zr-95 | <8.84E+00 | 0.00E+00 | 8.84E+00 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 135 [CONTROL - N @ 11.9 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|------------------------|----------|-----------|--------------------------|----------|
| 296993 | 5/27/2014 - 6/23/2014 | Nb-95 | <5.73E+00 | 0.00E+00 | 5.73E+00 |
| | | I-131 | <1.34E+01 | 0.00E+00 | 1.34E+01 |
| | | Cs-134 | <4.59E+00 | 0.00E+00 | 4.59E+00 |
| | | Cs-137 | <5.65E+00 | 0.00E+00 | 5.65E+00 |
| | | BaLa-140 | <1.02E+01 | 0.00E+00 | 1.02E+01 |
| | | Be-7 | <3.50E+01 | 0.00E+00 | 3.50E+01 |
| | | K-40 | 9.16E+01 | 2.65E+01 | 5.53E+01 |
| | | | | | |
| 350547 | 6/23/2014 - 7/21/2014 | Mn-54 | <2.34E+00 | 0.00E+00 | 2.34E+00 |
| | | Co-58 | <2.66E+00 | 0.00E+00 | 2.66E+00 |
| | | Fe-59 | <5.41E+00 | 0.00E+00 | 5.41E+00 |
| | | Co-60 | <2.78E+00 | 0.00E+00 | 2.78E+00 |
| | | Zn-65 | <5.07E+00 | 0.00E+00 | 5.07E+00 |
| | | Zr-95 | <4.63E+00 | 0.00E+00 | 4.63E+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 | <2.01E+00 | 0.00E+00 | 2.01E+00 |
| | | Cs-137 | <2.83E+00 | 0.00E+00 | 2.83E+00 |
| | | BaLa-140 | <8.11E+00 | 0.00E+00 | 8.11E+00 |
| | | Be-7 | <2.33E+01 | 0.00E+00 | 2.33E+01 |
| | | K-40 | 5.21E+01 | 3.07E+01 | 4.59E+01 |
| | | | | | |
| 352243 | 7/21/2014 - 8/18/2014 | Mn-54 | <3.37E+00 | 0.00E+00 | 3.37E+00 |
| | | Co-58 | <3.54E+00 | 0.00E+00 | 3.54E+00 |
| | | Fe-59 | <9.22E+00 | 0.00E+00 | 9.22E+00 |
| | | Co-60 | <2.93E+00 | 0.00E+00 | 2.93E+00 |
| | | Zn-65 | <7.04E+00 | 0.00E+00 | 7.04E+00 |
| | | Zr-95 | <5.94E+00 | 0.00E+00 | 5.94E+00 |
| | | Nb-95 | <4.33E+00 | 0.00E+00 | 4.33E+00 |
| | | I-131 | <1.18E+01 | 0.00E+00 | 1.18E+01 |
| | | Cs-134 | <3.56E+00 | 0.00E+00 | 3.56E+00 |
| | | Cs-137 | <4.61E+00 | 0.00E+00 | 4.61E+00 |
| | | BaLa-140 | <7.77E+00 | 0.00E+00 | 7.77E+00 |
| | | Be-7 | <2.83E+01 | 0.00E+00 | 2.83E+01 |
| | | K-40 | <6.63E+01 | 0.00E+00 | 6.63E+01 |
| | | | | | |
| 354207 | 5/27/2014 - 8/18/2014 | Nuclide | Activity | Sigma Error ¹ | LLD |
| | | H3SW | 2.57E+02 | 1.18E+02 | 1.88E+02 |
| 355157 | 8/18/2014 - 9/15/2014 | Mn-54 | <3.11E+00 | 0.00E+00 | 3.11E+00 |
| | | Co-58 | <3.60E+00 | 0.00E+00 | 3.60E+00 |
| | | Fe-59 | <4.76E+00 | 0.00E+00 | 4.76E+00 |
| | | Co-60 | <3.96E+00 | 0.00E+00 | 3.96E+00 |
| | | Zn-65 | <6.34E+00 | 0.00E+00 | 6.34E+00 |
| | | Zr-95 | <8.16E+00 | 0.00E+00 | 8.16E+00 |
| | | Nb-95 | <4.36E+00 | 0.00E+00 | 4.36E+00 |
| | | I-131 | <1.14E+01 | 0.00E+00 | 1.14E+01 |
| | | Cs-134 | <4.38E+00 | 0.00E+00 | 4.38E+00 |
| | | Cs-137 | <3.58E+00 | 0.00E+00 | 3.58E+00 |
| | | BaLa-140 | <9.80E+00 | 0.00E+00 | 9.80E+00 |
| | | Be-7 | <3.04E+01 | 0.00E+00 | 3.04E+01 |
| | | K-40 | 5.35E+01 | 3.96E+01 | 5.88E+01 |
| | | | | | |
| 358045 | 9/15/2014 - 10/13/2014 | Mn-54 | <3.77E+00 | 0.00E+00 | 3.77E+00 |
| | | Co-58 | <4.01E+00 | 0.00E+00 | 4.01E+00 |
| | | Fe-59 | <5.33E+00 | 0.00E+00 | 5.33E+00 |
| | | Co-60 | <3.49E+00 | 0.00E+00 | 3.49E+00 |
| | | Zn-65 | <8.90E+00 | 0.00E+00 | 8.90E+00 |
| | | Zr-95 | <6.77E+00 | 0.00E+00 | 6.77E+00 |
| | | Nb-95 | <5.27E+00 | 0.00E+00 | 5.27E+00 |
| | | I-131 | <1.18E+01 | 0.00E+00 | 1.18E+01 |
| | | Cs-134 | <4.18E+00 | 0.00E+00 | 4.18E+00 |
| | | Cs-137 | <3.14E+00 | 0.00E+00 | 3.14E+00 |
| | | | | | |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 135 [CONTROL - N @ 11.9 miles]

| Sample ID: | Sample Dates: | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-------------------------|----------|-----------|--------------------------|----------|
| 358045 | 9/15/2014 - 10/13/2014 | BaLa-140 | <8.78E+00 | 0.00E+00 | 8.78E+00 |
| | | Be-7 | <3.28E+01 | 0.00E+00 | 3.28E+01 |
| | | K-40 | 4.83E+01 | 3.24E+01 | 4.39E+01 |
| | | | | | |
| 360709 | 10/13/2014 - 11/10/2014 | Mn-54 | <2.52E+00 | 0.00E+00 | 2.52E+00 |
| | | Co-58 | <2.06E+00 | 0.00E+00 | 2.06E+00 |
| | | Fe-59 | <5.43E+00 | 0.00E+00 | 5.43E+00 |
| | | Co-60 | <2.00E+00 | 0.00E+00 | 2.00E+00 |
| | | Zn-65 | <4.24E+00 | 0.00E+00 | 4.24E+00 |
| | | Zr-95 | <3.47E+00 | 0.00E+00 | 3.47E+00 |
| | | Nb-95 | <2.91E+00 | 0.00E+00 | 2.91E+00 |
| | | I-131 | <1.09E+01 | 0.00E+00 | 1.09E+01 |
| | | Cs-134 | <3.19E+00 | 0.00E+00 | 3.19E+00 |
| | | Cs-137 | <2.73E+00 | 0.00E+00 | 2.73E+00 |
| | | BaLa-140 | <7.14E+00 | 0.00E+00 | 7.14E+00 |
| | | Be-7 | <2.49E+01 | 0.00E+00 | 2.49E+01 |
| | | K-40 | <3.47E+01 | 0.00E+00 | 3.47E+01 |
| 363520 | 11/10/2014 - 12/8/2014 | Mn-54 | <1.47E+00 | 0.00E+00 | 1.47E+00 |
| | | Co-58 | <1.71E+00 | 0.00E+00 | 1.71E+00 |
| | | Fe-59 | <4.08E+00 | 0.00E+00 | 4.08E+00 |
| | | Co-60 | <1.59E+00 | 0.00E+00 | 1.59E+00 |
| | | Zn-65 | <3.05E+00 | 0.00E+00 | 3.05E+00 |
| | | Zr-95 | <3.25E+00 | 0.00E+00 | 3.25E+00 |
| | | Nb-95 | <2.34E+00 | 0.00E+00 | 2.34E+00 |
| | | I-131 | <1.20E+01 | 0.00E+00 | 1.20E+01 |
| | | Cs-134 | <1.86E+00 | 0.00E+00 | 1.86E+00 |
| | | Cs-137 | <1.51E+00 | 0.00E+00 | 1.51E+00 |
| | | BaLa-140 | <5.96E+00 | 0.00E+00 | 5.96E+00 |
| | | Be-7 | <1.50E+01 | 0.00E+00 | 1.50E+01 |
| | | K-40 | 1.08E+02 | 2.03E+01 | 2.28E+01 |
| 364503 | 8/18/2014 - 12/8/2014 | H3SW | <-1.5E+01 | 0.00E+00 | 1.99E+02 |
| | | | | | |

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 |
|------------|------------------------|------------|----------|
| 286496 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 16.65 |
| 296444 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 14.58 |
| 365593 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 15.47 |
| 362502 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 17.27 |

Sample Point 144 [INDICATOR - NNE @ 0.46 miles]

TLD RING TLD_INNER

| Sample ID: | Sample Dates: | Nuclide | Activity |
|------------|------------------------|------------|----------|
| 286497 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 17.57 |
| 296445 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 16.48 |
| 365594 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 14.58 |
| 362503 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 15.48 |

Sample Point 145 [INDICATOR - NE @ 0.47 miles]

TLD RING TLD_INNER

| Sample ID: | Sample Dates: | Nuclide | Activity |
|------------|------------------------|------------|----------|
| 286498 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 18.65 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 145 [INDICATOR - NE @ 0.47 miles]

TLD RING TLD_INNER

| Sample ID: | Sample Dates: | Nuclide | Activity |
|------------|------------------------|------------|----------|
| 296446 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 13.44 |
| 365595 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 14.58 |
| 362504 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 17.39 |

Sample Point 146 [INDICATOR - ENE @ 0.42 miles]

TLD RING TLD_INNER

| Sample ID: | Sample Dates: | Nuclide | Activity |
|------------|------------------------|------------|----------|
| 286499 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 14.71 |
| 296447 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 11.89 |
| 365596 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 13.40 |
| 362505 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 15.04 |

Sample Point 147 [INDICATOR - E @ 0.44 miles]

TLD RING TLD_INNER

| Sample ID: | Sample Dates: | Nuclide | Activity |
|------------|------------------------|------------|----------|
| 286500 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 17.95 |
| 296448 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 14.55 |
| 365597 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 14.86 |
| 362506 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 16.85 |

Sample Point 148 [INDICATOR - ESE @ 0.46 miles]

TLD RING TLD_INNER

| Sample ID: | Sample Dates: | Nuclide | Activity |
|------------|------------------------|------------|----------|
| 286501 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 14.45 |
| 296449 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 11.28 |
| 365598 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 13.38 |
| 362507 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 13.85 |

Sample Point 149 [INDICATOR - SE @ 0.5 miles]

TLD RING TLD_INNER

| Sample ID: | Sample Dates: | Nuclide | Activity |
|------------|------------------------|------------|----------|
| 286502 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 13.94 |
| 296450 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 11.57 |
| 365599 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 12.00 |
| 362508 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 11.13 |

Sample Point 151 [INDICATOR - S @ 0.37 miles]

TLD RING TLD_INNER

| Sample ID: | Sample Dates: | Nuclide | Activity |
|------------|------------------------|------------|----------|
| 286503 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 16.02 |
| 296451 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 12.07 |
| 365600 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 14.97 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (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 |
|------------|------------------------|------------|----------|
| 362509 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 14.8 |

Sample Point 152 [INDICATOR - SSW @ 0.44 miles]

TLD RING TLD_INNER

| Sample ID: | Sample Dates: | Nuclide | Activity |
|------------|------------------------|------------|----------|
| 286504 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 13.29 |
| 296452 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 13.33 |
| 365601 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 14.19 |
| 362510 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 13.84 |

Sample Point 153 [INDICATOR - SW @ 0.47 miles]

TLD RING TLD_INNER

| Sample ID: | Sample Dates: | Nuclide | Activity |
|------------|------------------------|------------|----------|
| 286505 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 19.41 |
| 296453 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 16.59 |
| 365602 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 18.17 |
| 362511 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 20.68 |

Sample Point 154 [INDICATOR - W @ 0.45 miles]

TLD RING TLD_INNER

| Sample ID: | Sample Dates: | Nuclide | Activity |
|------------|------------------------|------------|----------|
| 286506 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 24.73 |
| 296454 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 16.67 |
| 365603 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 18.55 |
| 362512 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 22.84 |

Sample Point 156 [INDICATOR - WNW @ 0.44 miles]

TLD RING TLD_INNER

| Sample ID: | Sample Dates: | Nuclide | Activity |
|------------|------------------------|------------|----------|
| 286507 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 17.97 |
| 296455 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 18.12 |
| 365604 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 14.57 |
| 362513 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 19.90 |

Sample Point 157 [INDICATOR - N @ 4.69 miles]

TLD RING TLD_OUTER

| Sample ID: | Sample Dates: | Nuclide | Activity |
|------------|------------------------|------------|----------|
| 286508 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 15.89 |
| 296456 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 14.36 |
| 365605 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 16.81 |
| 362514 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 14.41 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 158 [INDICATOR - NNE @ 4.33 miles]

TLD RING TLD_OUTER

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286509 | Sample Dates: | 12/18/2013 - 3/19/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 16.09 |
| Sample ID: | 296457 | Sample Dates: | 3/19/2014 - 6/18/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 12.65 |
| Sample ID: | 365606 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 14.16 |
| Sample ID: | 362515 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 14.22 |

Sample Point 159 [INDICATOR - NE @ 4.73 miles]

TLD RING TLD_OUTER

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286510 | Sample Dates: | 12/18/2013 - 3/19/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 24.05 |
| Sample ID: | 362516 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 15.60 |

Sample Point 160 [INDICATOR - ENE @ 4.89 miles]

TLD RING TLD_OUTER

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286511 | Sample Dates: | 12/18/2013 - 3/19/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 17.15 |
| Sample ID: | 296459 | Sample Dates: | 3/19/2014 - 6/18/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 14.56 |
| Sample ID: | 365608 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 15.45 |
| Sample ID: | 362517 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 18.13 |

Sample Point 161 [INDICATOR - E @ 4.7 miles]

TLD RING TLD_OUTER

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286512 | Sample Dates: | 12/18/2013 - 3/19/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 17.0 |
| Sample ID: | 296460 | Sample Dates: | 3/19/2014 - 6/18/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 13.54 |
| Sample ID: | 365609 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 16.49 |
| Sample ID: | 362518 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 14.94 |

Sample Point 162 [INDICATOR - ESE @ 4.53 miles]

TLD RING TLD_OUTER

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286513 | Sample Dates: | 12/18/2013 - 3/19/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 12.14 |
| Sample ID: | 296461 | Sample Dates: | 3/19/2014 - 6/18/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 10.29 |
| Sample ID: | 365610 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 11.06 |
| Sample ID: | 362519 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 12 |

Sample Point 163 [INDICATOR - SE @ 4.94 miles]

TLD RING TLD_OUTER

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286514 | Sample Dates: | 12/18/2013 - 3/19/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 14.60 |
| Sample ID: | 296462 | Sample Dates: | 3/19/2014 - 6/18/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 10.38 |
| Sample ID: | 365611 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 10.25 |
| Sample ID: | 362520 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 11.11 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 164 [INDICATOR - SSE @ 4.64 miles]

TLD RING TLD_OUTER

| Sample ID | Sample Dates | Nuclide | Activity |
|-----------|------------------------|------------|----------|
| 286515 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 11.52 |
| 296463 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 14.60 |
| 365612 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 11.19 |
| 362521 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 12.69 |

Sample Point 165 [INDICATOR - S @ 4.57 miles]

TLD RING TLD_OUTER

| Sample ID | Sample Dates | Nuclide | Activity |
|-----------|------------------------|------------|----------|
| 286516 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 21.24 |
| 296464 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 17.22 |
| 365613 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 17.71 |
| 362522 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 20.27 |

Sample Point 166 [INDICATOR - SSW @ 4.44 miles]

TLD RING TLD_OUTER

| Sample ID | Sample Dates | Nuclide | Activity |
|-----------|------------------------|------------|----------|
| 286517 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 19.09 |
| 296465 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 15.89 |
| 365614 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 16.68 |
| 362523 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 18.10 |

Sample Point 167 [INDICATOR - SW @ 4.87 miles]

TLD RING TLD_OUTER

| Sample ID | Sample Dates | Nuclide | Activity |
|-----------|------------------------|------------|----------|
| 286518 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 22.47 |
| 296466 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 16.63 |
| 365615 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 19.68 |
| 362524 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 28.34 |

Sample Point 168 [INDICATOR - WSW @ 4.6 miles]

TLD RING TLD_OUTER

| Sample ID | Sample Dates | Nuclide | Activity |
|-----------|------------------------|------------|----------|
| 286519 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 17.90 |
| 296467 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 14.40 |
| 365616 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 15.66 |
| 362525 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 18.29 |

Sample Point 169 [INDICATOR - W @ 4.03 miles]

TLD RING TLD_OUTER

| Sample ID | Sample Dates | Nuclide | Activity |
|-----------|------------------------|------------|----------|
| 286520 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 14.62 |
| 296468 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 13.99 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 169 [INDICATOR - W @ 4.03 miles]

TLD RING TLD_OUTER

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 365617 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 13.08 |
| Sample ID: | 362526 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 14.26 |

Sample Point 170 [INDICATOR - WNW @ 4.32 miles]

TLD RING TLD_OUTER

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286530 | Sample Dates: | 12/18/2013 - 3/19/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 21.30 |
| Sample ID: | 296478 | Sample Dates: | 3/19/2014 - 6/18/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 17.49 |
| Sample ID: | 365618 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 20.50 |
| Sample ID: | 362527 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 20.24 |

Sample Point 171 [INDICATOR - NW @ 3.95 miles]

TLD RING TLD_OUTER

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286521 | Sample Dates: | 12/18/2013 - 3/19/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 18.78 |
| Sample ID: | 296469 | Sample Dates: | 3/19/2014 - 6/18/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 15.37 |
| Sample ID: | 365619 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 16.91 |

Sample Point 172 [INDICATOR - NNW @ 4.69 miles]

TLD RING TLD_OUTER

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286522 | Sample Dates: | 12/18/2013 - 3/19/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 18.90 |
| Sample ID: | 296470 | Sample Dates: | 3/19/2014 - 6/18/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 13.20 |
| Sample ID: | 365620 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 14.13 |
| Sample ID: | 362529 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 15.67 |

Sample Point 173 [INDICATOR - NNW @ 8.39 miles]

TLD RING TLD_SPEC

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286523 | Sample Dates: | 12/18/2013 - 3/19/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 25.02 |
| Sample ID: | 296471 | Sample Dates: | 3/19/2014 - 6/18/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 25.25 |
| Sample ID: | 365621 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 23.39 |
| Sample ID: | 362530 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 20.46 |

Sample Point 174 [INDICATOR - WNW @ 8.85 miles]

TLD RING TLD_SPEC

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286524 | Sample Dates: | 12/18/2013 - 3/19/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 25.32 |
| Sample ID: | 296472 | Sample Dates: | 3/19/2014 - 6/18/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 21.03 |
| Sample ID: | 365622 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 23.06 |
| Sample ID: | 362531 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 22.65 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 175 [CONTROL - WNW @ 15.5 miles]

TLD RING TLD_CTRL

| Sample ID | Sample Dates | Nuclide | Activity |
|-----------|------------------------|------------|----------|
| 286525 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 22.27 |
| 296473 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 21.85 |
| 365623 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 23.06 |
| 362532 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 23.08 |

Sample Point 177 [INDICATOR - S @ 8.77 miles]

TLD RING TLD_SPEC

| Sample ID | Sample Dates | Nuclide | Activity |
|-----------|------------------------|------------|----------|
| 286526 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 14.39 |
| 296474 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 11.67 |
| 365624 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 15.00 |
| 362533 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 13.83 |

Sample Point 178 [INDICATOR - SE @ 9.36 miles]

TLD RING TLD_SPEC

| Sample ID | Sample Dates | Nuclide | Activity |
|-----------|------------------------|------------|----------|
| 286527 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 16.71 |
| 296475 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 11.69 |
| 365625 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 16.10 |
| 362534 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 14.94 |

Sample Point 180 [INDICATOR - NNE @ 12.7 miles]

TLD RING TLD_SPEC

| Sample ID | Sample Dates | Nuclide | Activity |
|-----------|------------------------|------------|----------|
| 286564 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 26.51 |
| 296512 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 22.41 |
| 365626 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 25.98 |
| 362535 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 29.04 |

Sample Point 181 [INDICATOR - NE @ 7.02 miles]

TLD RING TLD_SPEC

| Sample ID | Sample Dates | Nuclide | Activity |
|-----------|------------------------|------------|----------|
| 286565 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 17.91 |
| 296513 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 14.14 |
| 365627 | 6/18/2014 - 9/17/2014 | mR/Std Qtr | 15.44 |
| 362536 | 9/17/2014 - 12/17/2014 | mR/Std Qtr | 16.48 |

Sample Point 182 [INDICATOR - ENE @ 6.23 miles]

TLD RING TLD_SPEC

| Sample ID | Sample Dates | Nuclide | Activity |
|-----------|------------------------|------------|----------|
| 286566 | 12/18/2013 - 3/19/2014 | mR/Std Qtr | 15.01 |
| 296514 | 3/19/2014 - 6/18/2014 | mR/Std Qtr | 12.98 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 182 [INDICATOR - ENE @ 6.23 miles]

TLD RING TLD_SPEC

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 365628 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 16.76 |
| Sample ID: | 362537 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 19.36 |

Sample Point 186 [INDICATOR - NNW @ 0.24 miles]

TLD RING TLD_SPEC

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286567 | Sample Dates: | 12/18/2013 - 3/19/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 17.11 |
| Sample ID: | 296515 | Sample Dates: | 3/19/2014 - 6/18/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 14.92 |
| Sample ID: | 365629 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 18.10 |
| Sample ID: | 362538 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 16.22 |

Sample Point 187 [INDICATOR - N @ 0.19 miles]

TLD RING TLD_SPEC

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286568 | Sample Dates: | 12/18/2013 - 3/19/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 21.33 |
| Sample ID: | 296516 | Sample Dates: | 3/19/2014 - 6/18/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 13.58 |
| Sample ID: | 365630 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 19.20 |
| Sample ID: | 362539 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 15.49 |

Sample Point 189 [INDICATOR - SSE @ 0.43 miles]

TLD RING TLD_INNER

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286569 | Sample Dates: | 12/18/2013 - 3/19/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 15.67 |
| Sample ID: | 296517 | Sample Dates: | 3/19/2014 - 6/18/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 14.12 |
| Sample ID: | 365631 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 14.83 |
| Sample ID: | 362540 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 14.94 |

Sample Point 190 [INDICATOR - WSW @ 0.37 miles]

TLD RING TLD_INNER

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286570 | Sample Dates: | 12/18/2013 - 3/19/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 19.21 |
| Sample ID: | 296518 | Sample Dates: | 3/19/2014 - 6/18/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 17.92 |
| Sample ID: | 365632 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 18.96 |
| Sample ID: | 362541 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 19.24 |

Sample Point 191 [INDICATOR - NNE @ 2.84 miles]

TLD RING TLD_SPEC

| | | | | | |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286571 | Sample Dates: | 12/18/2013 - 3/19/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 17.61 |
| Sample ID: | 296519 | Sample Dates: | 3/19/2014 - 6/18/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 15.01 |
| Sample ID: | 365633 | Sample Dates: | 6/18/2014 - 9/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 14.92 |
| Sample ID: | 362542 | Sample Dates: | 9/17/2014 - 12/17/2014 | Nuclide | Activity |
| | | | | mR/Std Qtr | 16.08 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD | | |
|------------|---------------------|----------|----------|-----------|--------------------------|----------|--|--|
| 279581 | 1/6/2014 - 1/6/2014 | MIXEDBLV | I-131 | <3.87E+01 | 0.00E+00 | 3.87E+01 | | |
| | | | Cs-134 | <3.36E+01 | 0.00E+00 | 3.36E+01 | | |
| | | | Cs-137 | <4.27E+01 | 0.00E+00 | 4.27E+01 | | |
| | | | Be-7 | 1.23E+03 | 2.10E+02 | 3.18E+02 | | |
| | | | K-40 | 2.36E+03 | 3.31E+02 | 5.33E+02 | | |
| | | | | | | | | |
| 281218 | 2/3/2014 - 2/3/2014 | MIXEDBLV | I-131 | <2.33E+01 | 0.00E+00 | 2.33E+01 | | |
| | | | Cs-134 | <1.92E+01 | 0.00E+00 | 1.92E+01 | | |
| | | | Cs-137 | <1.89E+01 | 0.00E+00 | 1.89E+01 | | |
| | | | Be-7 | 1.72E+03 | 1.38E+02 | 1.78E+02 | | |
| | | | K-40 | 3.23E+03 | 2.28E+02 | 1.73E+02 | | |
| | | | | | | | | |
| 284399 | 3/3/2014 - 3/3/2014 | MIXEDBLV | I-131 | <3.02E+01 | 0.00E+00 | 3.02E+01 | | |
| | | | Cs-134 | <2.94E+01 | 0.00E+00 | 2.94E+01 | | |
| | | | Cs-137 | <3.61E+01 | 0.00E+00 | 3.61E+01 | | |
| | | | Be-7 | 1.17E+03 | 1.77E+02 | 2.50E+02 | | |
| | | | K-40 | 4.39E+03 | 3.19E+02 | 2.68E+02 | | |
| | | | | | | | | |
| 287036 | 4/7/2014 - 4/7/2014 | MIXEDBLV | I-131 | <1.13E+01 | 0.00E+00 | 1.13E+01 | | |
| | | | Cs-134 | <1.19E+01 | 0.00E+00 | 1.19E+01 | | |
| | | | Cs-137 | <1.48E+01 | 0.00E+00 | 1.48E+01 | | |
| | | | Be-7 | 6.40E+02 | 7.78E+01 | 1.02E+02 | | |
| | | | K-40 | 3.24E+03 | 1.58E+02 | 1.27E+02 | | |
| | | | | | | | | |
| 289837 | 5/5/2014 - 5/5/2014 | MIXEDBLV | I-131 | <3.11E+01 | 0.00E+00 | 3.11E+01 | | |
| | | | Cs-134 | <3.63E+01 | 0.00E+00 | 3.63E+01 | | |
| | | | Cs-137 | <4.33E+01 | 0.00E+00 | 4.33E+01 | | |
| | | | Be-7 | 2.70E+02 | 1.57E+02 | 3.18E+02 | | |
| | | | K-40 | 4.46E+03 | 4.16E+02 | 4.25E+02 | | |
| | | | | | | | | |
| 294841 | 6/2/2014 - 6/2/2014 | MIXEDBLV | I-131 | <2.41E+01 | 0.00E+00 | 2.41E+01 | | |
| | | | Cs-134 | <2.22E+01 | 0.00E+00 | 2.22E+01 | | |
| | | | Cs-137 | <2.56E+01 | 0.00E+00 | 2.56E+01 | | |
| | | | Be-7 | 3.50E+02 | 9.10E+01 | 1.99E+02 | | |
| | | | K-40 | 4.03E+03 | 3.35E+02 | 1.91E+02 | | |
| | | | | | | | | |
| 296609 | 7/7/2014 - 7/7/2014 | MIXEDBLV | I-131 | <3.30E+01 | 0.00E+00 | 3.30E+01 | | |
| | | | Cs-134 | <2.87E+01 | 0.00E+00 | 2.87E+01 | | |
| | | | Cs-137 | <4.11E+01 | 0.00E+00 | 4.11E+01 | | |
| | | | Be-7 | 7.14E+02 | 1.64E+02 | 2.93E+02 | | |
| | | | K-40 | 4.45E+03 | 4.03E+02 | 3.28E+02 | | |
| | | | | | | | | |
| 298128 | 8/4/2014 - 8/4/2014 | MIXEDBLV | Mn-54 | <3.17E+01 | 0.00E+00 | 3.17E+01 | | |
| | | | Co-58 | <3.14E+01 | 0.00E+00 | 3.14E+01 | | |
| | | | Fe-59 | <5.54E+01 | 0.00E+00 | 5.54E+01 | | |
| | | | Co-60 | <2.97E+01 | 0.00E+00 | 2.97E+01 | | |
| | | | Zn-65 | <5.44E+01 | 0.00E+00 | 5.44E+01 | | |
| | | | Zr-95 | <4.50E+01 | 0.00E+00 | 4.50E+01 | | |
| | | | Nb-95 | <2.81E+01 | 0.00E+00 | 2.81E+01 | | |
| | | | I-131 | <2.61E+01 | 0.00E+00 | 2.61E+01 | | |
| | | | Cs-134 | <2.43E+01 | 0.00E+00 | 2.43E+01 | | |
| | | | Cs-137 | <3.13E+01 | 0.00E+00 | 3.13E+01 | | |
| | | | BaLa-140 | <2.76E+01 | 0.00E+00 | 2.76E+01 | | |
| | | | Be-7 | 3.58E+03 | 5.13E+02 | 3.84E+02 | | |
| | | | K-40 | 5.63E+03 | 8.33E+02 | 2.99E+02 | | |
| | | | | | | | | |
| 354439 | 9/2/2014 - 9/2/2014 | MIXEDBLV | Mn-54 | <1.67E+01 | 0.00E+00 | 1.67E+01 | | |
| | | | Co-58 | <1.29E+01 | 0.00E+00 | 1.29E+01 | | |
| | | | Fe-59 | <4.10E+01 | 0.00E+00 | 4.10E+01 | | |
| | | | Co-60 | <1.80E+01 | 0.00E+00 | 1.80E+01 | | |
| | | | | | | | | |
| | | | | | | | | |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 102 [CONTROL - WNW @ 9.89 miles]

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|----------|-----------|--------------------------|----------|
| 354439 | 9/2/2014 - 9/2/2014 | MIXEDBLV | Zn-65 | <3.97E+01 | 0.00E+00 | 3.97E+01 |
| | | | Zr-95 | <2.87E+01 | 0.00E+00 | 2.87E+01 |
| | | | Nb-95 | <2.14E+01 | 0.00E+00 | 2.14E+01 |
| | | | I-131 | <4.12E+01 | 0.00E+00 | 4.12E+01 |
| | | | Cs-134 | <2.35E+01 | 0.00E+00 | 2.35E+01 |
| | | | Cs-137 | <1.53E+01 | 0.00E+00 | 1.53E+01 |
| | | | BaLa-140 | <3.23E+01 | 0.00E+00 | 3.23E+01 |
| | | | Be-7 | 1.03E+03 | 2.01E+02 | 2.19E+02 |
| | | | K-40 | 4.86E+03 | 5.68E+02 | 1.73E+02 |

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|----------|-----------|--------------------------|----------|
| 357035 | 10/6/2014 - 10/6/2014 | MIXEDBLV | Mn-54 | <4.27E+01 | 0.00E+00 | 4.27E+01 |
| | | | Co-58 | <3.05E+01 | 0.00E+00 | 3.05E+01 |
| | | | Fe-59 | <8.95E+01 | 0.00E+00 | 8.95E+01 |
| | | | Co-60 | <2.60E+01 | 0.00E+00 | 2.60E+01 |
| | | | Zn-65 | <6.52E+01 | 0.00E+00 | 6.52E+01 |
| | | | Zr-95 | <6.68E+01 | 0.00E+00 | 6.68E+01 |
| | | | Nb-95 | <3.88E+01 | 0.00E+00 | 3.88E+01 |
| | | | I-131 | <2.72E+01 | 0.00E+00 | 2.72E+01 |
| | | | Cs-134 | <4.60E+01 | 0.00E+00 | 4.60E+01 |
| | | | Cs-137 | <3.75E+01 | 0.00E+00 | 3.75E+01 |
| | | | BaLa-140 | <1.25E+01 | 0.00E+00 | 1.25E+01 |
| | | | Be-7 | 1.92E+03 | 4.44E+02 | 4.51E+02 |
| | | | K-40 | 4.88E+03 | 9.77E+02 | 5.93E+02 |

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|----------|-----------|--------------------------|----------|
| 360022 | 11/3/2014 - 11/3/2014 | MIXEDBLV | Mn-54 | <3.11E+01 | 0.00E+00 | 3.11E+01 |
| | | | Co-58 | <2.96E+01 | 0.00E+00 | 2.96E+01 |
| | | | Fe-59 | <5.26E+01 | 0.00E+00 | 5.26E+01 |
| | | | Co-60 | <2.31E+01 | 0.00E+00 | 2.31E+01 |
| | | | Zn-65 | <4.83E+01 | 0.00E+00 | 4.83E+01 |
| | | | Zr-95 | <3.71E+01 | 0.00E+00 | 3.71E+01 |
| | | | Nb-95 | <1.80E+01 | 0.00E+00 | 1.80E+01 |
| | | | I-131 | <1.66E+01 | 0.00E+00 | 1.66E+01 |
| | | | Cs-134 | <3.42E+01 | 0.00E+00 | 3.42E+01 |
| | | | Cs-137 | <2.33E+01 | 0.00E+00 | 2.33E+01 |
| | | | BaLa-140 | <2.07E+01 | 0.00E+00 | 2.07E+01 |
| | | | Be-7 | 2.17E+03 | 3.49E+02 | 2.67E+02 |
| | | | K-40 | 4.37E+03 | 6.98E+02 | 3.93E+02 |

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|----------|-----------|--------------------------|----------|
| 362775 | 12/1/2014 - 12/1/2014 | MIXEDBLV | Mn-54 | <3.72E+01 | 0.00E+00 | 3.72E+01 |
| | | | Co-58 | <2.68E+01 | 0.00E+00 | 2.68E+01 |
| | | | Fe-59 | <6.09E+01 | 0.00E+00 | 6.09E+01 |
| | | | Co-60 | <2.20E+01 | 0.00E+00 | 2.20E+01 |
| | | | Zn-65 | <7.15E+01 | 0.00E+00 | 7.15E+01 |
| | | | Zr-95 | <5.42E+01 | 0.00E+00 | 5.42E+01 |
| | | | Nb-95 | <2.70E+01 | 0.00E+00 | 2.70E+01 |
| | | | I-131 | <2.27E+01 | 0.00E+00 | 2.27E+01 |
| | | | Cs-134 | <3.88E+01 | 0.00E+00 | 3.88E+01 |
| | | | Cs-137 | <3.25E+01 | 0.00E+00 | 3.25E+01 |
| | | | BaLa-140 | <2.25E+01 | 0.00E+00 | 2.25E+01 |
| | | | Be-7 | 2.08E+03 | 3.89E+02 | 3.34E+02 |
| | | | K-40 | 3.18E+03 | 6.64E+02 | 4.97E+02 |

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|---------|-----------|--------------------------|----------|
| 279594 | 1/6/2014 - 1/6/2014 | MIXEDBLV | I-131 | <3.74E+01 | 0.00E+00 | 3.74E+01 |
| | | | Cs-134 | <3.62E+01 | 0.00E+00 | 3.62E+01 |
| | | | Cs-137 | <3.80E+01 | 0.00E+00 | 3.80E+01 |
| | | | Be-7 | 8.49E+02 | 1.48E+02 | 2.40E+02 |
| | | | K-40 | 3.27E+03 | 3.76E+02 | 3.39E+02 |

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|---------|-----------|--------------------------|----------|
| 281237 | 2/3/2014 - 2/3/2014 | MIXEDBLV | I-131 | <4.43E+01 | 0.00E+00 | 4.43E+01 |
| | | | Cs-134 | <3.77E+01 | 0.00E+00 | 3.77E+01 |
| | | | Cs-137 | <3.39E+01 | 0.00E+00 | 3.39E+01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

| Sample ID | Sample Dates | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|-----------|---------------------|----------|----------|---------------------|--------------------------|----------|
| 281237 | 2/3/2014 - 2/3/2014 | MIXEDBLV | Be-7 | 7.96E+02 | 1.43E+02 | 2.15E+02 |
| | | | K-40 | 3.92E+03 | 4.32E+02 | 3.63E+02 |
| | | | | | | |
| 284434 | 3/3/2014 - 3/3/2014 | MIXEDBLV | I-131 | <1.50E+01 | 0.00E+00 | 1.50E+01 |
| | | | Cs-134 | <1.46E+01 | 0.00E+00 | 1.46E+01 |
| | | | Cs-137 | <1.76E+01 | 0.00E+00 | 1.76E+01 |
| | | | Be-7 | 2.41E+02 | 8.25E+01 | 1.30E+02 |
| | | | K-40 | 1.22E+03 | 1.63E+02 | 2.04E+02 |
| 287078 | 4/7/2014 - 4/7/2014 | MIXEDBLV | I-131 | <1.97E+01 | 0.00E+00 | 1.97E+01 |
| | | | Cs-134 | <1.77E+01 | 0.00E+00 | 1.77E+01 |
| | | | Cs-137 | <2.49E+01 | 0.00E+00 | 2.49E+01 |
| | | | Be-7 | <2.34E+02 | 0.00E+00 | 2.34E+02 |
| | | | K-40 | 3.51E+03 | 2.62E+02 | 1.82E+02 |
| 289850 | 5/5/2014 - 5/5/2014 | MIXEDBLV | I-131 | <2.58E+01 | 0.00E+00 | 2.58E+01 |
| | | | Cs-134 | <2.46E+01 | 0.00E+00 | 2.46E+01 |
| | | | Cs-137 | <3.51E+01 | 0.00E+00 | 3.51E+01 |
| | | | Be-7 | 4.14E+02 | 1.28E+02 | 2.10E+02 |
| | | | K-40 | 4.74E+03 | 3.90E+02 | 4.40E+02 |
| 294854 | 6/2/2014 - 6/2/2014 | MIXEDBLV | I-131 | <2.85E+01 | 0.00E+00 | 2.85E+01 |
| | | | Cs-134 | <3.07E+01 | 0.00E+00 | 3.07E+01 |
| | | | Cs-137 | <2.80E+01 | 0.00E+00 | 2.80E+01 |
| | | | Be-7 | 1.70E+02 | 9.62E+01 | 2.33E+02 |
| | | | K-40 | 4.04E+03 | 3.87E+02 | 3.53E+02 |
| 296622 | 7/7/2014 - 7/7/2014 | MIXEDBLV | I-131 | <4.04E+01 | 0.00E+00 | 4.04E+01 |
| | | | Cs-134 | <3.78E+01 | 0.00E+00 | 3.78E+01 |
| | | | Cs-137 | <4.55E+01 | 0.00E+00 | 4.55E+01 |
| | | | Be-7 | 4.95E+02 | 1.80E+02 | 2.97E+02 |
| | | | K-40 | 3.06E+03 | 4.08E+02 | 6.76E+02 |
| 298141 | 8/4/2014 - 8/4/2014 | MIXEDBLV | Mn-54 | <4.01E+01 | 0.00E+00 | 4.01E+01 |
| | | | Co-58 | <3.52E+01 | 0.00E+00 | 3.52E+01 |
| | | | Fe-59 | <7.57E+01 | 0.00E+00 | 7.57E+01 |
| | | | Co-60 | <4.08E+01 | 0.00E+00 | 4.08E+01 |
| | | | Zn-65 | <6.04E+01 | 0.00E+00 | 6.04E+01 |
| | | | Zr-95 | <6.08E+01 | 0.00E+00 | 6.08E+01 |
| | | | Nb-95 | <4.51E+01 | 0.00E+00 | 4.51E+01 |
| | | | I-131 | <3.64E+01 | 0.00E+00 | 3.64E+01 |
| | | | Cs-134 | <3.53E+01 | 0.00E+00 | 3.53E+01 |
| | | | Cs-137 | <4.86E+01 | 0.00E+00 | 4.86E+01 |
| | | | BaLa-140 | <6.52E+01 | 0.00E+00 | 6.52E+01 |
| | | | Be-7 | 9.31E+02 | 3.37E+02 | 4.14E+02 |
| | | | K-40 | 3.76E+03 | 9.28E+02 | 8.11E+02 |
| | | | 354440 | 9/2/2014 - 9/2/2014 | MIXEDBLV | Mn-54 |
| Co-58 | <2.62E+01 | 0.00E+00 | | | | 2.62E+01 |
| Fe-59 | <4.76E+01 | 0.00E+00 | | | | 4.76E+01 |
| Co-60 | <4.01E+01 | 0.00E+00 | | | | 4.01E+01 |
| Zn-65 | <5.43E+01 | 0.00E+00 | | | | 5.43E+01 |
| Zr-95 | <4.66E+01 | 0.00E+00 | | | | 4.66E+01 |
| Nb-95 | <2.35E+01 | 0.00E+00 | | | | 2.35E+01 |
| I-131 | <1.80E+01 | 0.00E+00 | | | | 1.80E+01 |
| Cs-134 | <2.72E+01 | 0.00E+00 | | | | 2.72E+01 |
| Cs-137 | <3.13E+01 | 0.00E+00 | | | | 3.13E+01 |
| BaLa-140 | <2.98E+01 | 0.00E+00 | | | | 2.98E+01 |
| Be-7 | 7.66E+02 | 3.51E+02 | | | | 5.29E+02 |
| K-40 | 4.92E+03 | 7.82E+02 | | | | 5.03E+02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 120 [INDICATOR - NNE @ 0.46 miles]

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|----------|-----------|--------------------------|----------|
| 357036 | 10/6/2014 - 10/6/2014 | | Mn-54 | <2.64E+01 | 0.00E+00 | 2.64E+01 |
| | | | Co-58 | <2.41E+01 | 0.00E+00 | 2.41E+01 |
| | | | Fe-59 | <4.60E+01 | 0.00E+00 | 4.60E+01 |
| | | | Co-60 | <2.60E+01 | 0.00E+00 | 2.60E+01 |
| | | | Zn-65 | <6.78E+01 | 0.00E+00 | 6.78E+01 |
| | | | Zr-95 | <4.29E+01 | 0.00E+00 | 4.29E+01 |
| | | | Nb-95 | <2.70E+01 | 0.00E+00 | 2.70E+01 |
| | | | I-131 | <2.56E+01 | 0.00E+00 | 2.56E+01 |
| | | | Cs-134 | <3.20E+01 | 0.00E+00 | 3.20E+01 |
| | | | Cs-137 | <2.29E+01 | 0.00E+00 | 2.29E+01 |
| | | | BaLa-140 | <2.85E+01 | 0.00E+00 | 2.85E+01 |
| | | | Be-7 | 1.20E+03 | 2.71E+02 | 3.29E+02 |
| | | | K-40 | 4.09E+03 | 6.24E+02 | 3.85E+02 |

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|----------|-----------|--------------------------|----------|
| 360023 | 11/3/2014 - 11/3/2014 | | Mn-54 | <8.69E+00 | 0.00E+00 | 8.69E+00 |
| | | | Co-58 | <8.71E+00 | 0.00E+00 | 8.71E+00 |
| | | | Fe-59 | <2.12E+01 | 0.00E+00 | 2.12E+01 |
| | | | Co-60 | <9.39E+00 | 0.00E+00 | 9.39E+00 |
| | | | Zn-65 | <2.14E+01 | 0.00E+00 | 2.14E+01 |
| | | | Zr-95 | <1.37E+01 | 0.00E+00 | 1.37E+01 |
| | | | Nb-95 | <8.57E+00 | 0.00E+00 | 8.57E+00 |
| | | | I-131 | <8.11E+00 | 0.00E+00 | 8.11E+00 |
| | | | Cs-134 | <1.17E+01 | 0.00E+00 | 1.17E+01 |
| | | | Cs-137 | <8.22E+00 | 0.00E+00 | 8.22E+00 |
| | | | BaLa-140 | <8.36E+00 | 0.00E+00 | 8.36E+00 |
| | | | Be-7 | 1.16E+03 | 1.40E+02 | 7.93E+01 |
| | | | K-40 | 3.10E+03 | 3.43E+02 | 1.11E+02 |

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|----------|-----------|--------------------------|----------|
| 362776 | 12/1/2014 - 12/1/2014 | | Mn-54 | <2.91E+01 | 0.00E+00 | 2.91E+01 |
| | | | Co-58 | <3.06E+01 | 0.00E+00 | 3.06E+01 |
| | | | Fe-59 | <5.79E+01 | 0.00E+00 | 5.79E+01 |
| | | | Co-60 | <3.99E+01 | 0.00E+00 | 3.99E+01 |
| | | | Zn-65 | <8.19E+01 | 0.00E+00 | 8.19E+01 |
| | | | Zr-95 | <5.58E+01 | 0.00E+00 | 5.58E+01 |
| | | | Nb-95 | <3.27E+01 | 0.00E+00 | 3.27E+01 |
| | | | I-131 | <3.31E+01 | 0.00E+00 | 3.31E+01 |
| | | | Cs-134 | <2.85E+01 | 0.00E+00 | 2.85E+01 |
| | | | Cs-137 | <4.21E+01 | 0.00E+00 | 4.21E+01 |
| | | | BaLa-140 | <6.03E+01 | 0.00E+00 | 6.03E+01 |
| | | | Be-7 | 1.90E+02 | 2.02E+02 | 3.24E+02 |
| | | | K-40 | 4.26E+03 | 8.15E+02 | 4.67E+02 |

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|---------|-----------|--------------------------|----------|
| 279584 | 1/6/2014 - 1/6/2014 | | I-131 | <3.43E+01 | 0.00E+00 | 3.43E+01 |
| | | | Cs-134 | <3.50E+01 | 0.00E+00 | 3.50E+01 |
| | | | Cs-137 | <4.96E+01 | 0.00E+00 | 4.96E+01 |
| | | | Be-7 | 9.65E+02 | 1.88E+02 | 2.62E+02 |
| | | | K-40 | 3.45E+03 | 4.78E+02 | 7.38E+02 |

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|---------|-----------|--------------------------|----------|
| 281221 | 2/3/2014 - 2/3/2014 | | I-131 | <3.50E+01 | 0.00E+00 | 3.50E+01 |
| | | | Cs-134 | <3.51E+01 | 0.00E+00 | 3.51E+01 |
| | | | Cs-137 | <3.62E+01 | 0.00E+00 | 3.62E+01 |
| | | | Be-7 | 5.72E+02 | 1.72E+02 | 3.12E+02 |
| | | | K-40 | 3.80E+03 | 4.62E+02 | 4.30E+02 |

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|---------|-----------|--------------------------|----------|
| 284404 | 3/3/2014 - 3/3/2014 | | I-131 | <3.73E+01 | 0.00E+00 | 3.73E+01 |
| | | | Cs-134 | <2.28E+01 | 0.00E+00 | 2.28E+01 |
| | | | Cs-137 | <4.00E+01 | 0.00E+00 | 4.00E+01 |
| | | | Be-7 | 4.23E+02 | 1.44E+02 | 3.03E+02 |
| | | | K-40 | 3.46E+03 | 3.76E+02 | 3.62E+02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|----------|-----------|--------------------------|----------|
| 287041 | 4/7/2014 - 4/7/2014 | MIXEDBLV | I-131 | <3.53E+01 | 0.00E+00 | 3.53E+01 |
| | | | Cs-134 | <3.40E+01 | 0.00E+00 | 3.40E+01 |
| | | | Cs-137 | <4.29E+01 | 0.00E+00 | 4.29E+01 |
| | | | Be-7 | 5.36E+02 | 1.46E+02 | 2.64E+02 |
| | | | K-40 | 3.02E+03 | 3.62E+02 | 5.16E+02 |
| 289842 | 5/5/2014 - 5/5/2014 | MIXEDBLV | I-131 | <2.12E+01 | 0.00E+00 | 2.12E+01 |
| | | | Cs-134 | <2.38E+01 | 0.00E+00 | 2.38E+01 |
| | | | Cs-137 | <2.58E+01 | 0.00E+00 | 2.58E+01 |
| | | | Be-7 | <2.78E+02 | 0.00E+00 | 2.78E+02 |
| | | | K-40 | 4.39E+03 | 3.27E+02 | 2.83E+02 |
| 294846 | 6/2/2014 - 6/2/2014 | MIXEDBLV | I-131 | <2.63E+01 | 0.00E+00 | 2.63E+01 |
| | | | Cs-134 | <2.44E+01 | 0.00E+00 | 2.44E+01 |
| | | | Cs-137 | <3.38E+01 | 0.00E+00 | 3.38E+01 |
| | | | Be-7 | 4.09E+02 | 1.35E+02 | 2.28E+02 |
| | | | K-40 | 4.30E+03 | 3.95E+02 | 3.54E+02 |
| 296614 | 7/7/2014 - 7/7/2014 | MIXEDBLV | I-131 | <4.32E+01 | 0.00E+00 | 4.32E+01 |
| | | | Cs-134 | <4.14E+01 | 0.00E+00 | 4.14E+01 |
| | | | Cs-137 | <5.54E+01 | 0.00E+00 | 5.54E+01 |
| | | | Be-7 | 8.98E+02 | 1.98E+02 | 2.81E+02 |
| | | | K-40 | 3.70E+03 | 4.24E+02 | 4.74E+02 |
| 298133 | 8/4/2014 - 8/4/2014 | MIXEDBLV | Mn-54 | <4.24E+01 | 0.00E+00 | 4.24E+01 |
| | | | Co-58 | <3.30E+01 | 0.00E+00 | 3.30E+01 |
| | | | Fe-59 | <8.20E+01 | 0.00E+00 | 8.20E+01 |
| | | | Co-60 | <5.00E+01 | 0.00E+00 | 5.00E+01 |
| | | | Zn-65 | <8.58E+01 | 0.00E+00 | 8.58E+01 |
| | | | Zr-95 | <7.87E+01 | 0.00E+00 | 7.87E+01 |
| | | | Nb-95 | <3.63E+01 | 0.00E+00 | 3.63E+01 |
| | | | I-131 | <3.11E+01 | 0.00E+00 | 3.11E+01 |
| | | | Cs-134 | <2.76E+01 | 0.00E+00 | 2.76E+01 |
| | | | Cs-137 | <3.19E+01 | 0.00E+00 | 3.19E+01 |
| | | | BaLa-140 | <6.00E+01 | 0.00E+00 | 6.00E+01 |
| | | | Be-7 | 7.58E+02 | 3.37E+02 | 4.57E+02 |
| | | | K-40 | 3.30E+03 | 8.01E+02 | 4.95E+02 |
| 354441 | 9/2/2014 - 9/2/2014 | MIXEDBLV | Mn-54 | <1.45E+01 | 0.00E+00 | 1.45E+01 |
| | | | Co-58 | <1.53E+01 | 0.00E+00 | 1.53E+01 |
| | | | Fe-59 | <3.23E+01 | 0.00E+00 | 3.23E+01 |
| | | | Co-60 | <1.95E+01 | 0.00E+00 | 1.95E+01 |
| | | | Zn-65 | <3.36E+01 | 0.00E+00 | 3.36E+01 |
| | | | Zr-95 | <3.09E+01 | 0.00E+00 | 3.09E+01 |
| | | | Nb-95 | <1.87E+01 | 0.00E+00 | 1.87E+01 |
| | | | I-131 | <4.49E+01 | 0.00E+00 | 4.49E+01 |
| | | | Cs-134 | <2.31E+01 | 0.00E+00 | 2.31E+01 |
| | | | Cs-137 | <1.69E+01 | 0.00E+00 | 1.69E+01 |
| | | | BaLa-140 | <2.70E+01 | 0.00E+00 | 2.70E+01 |
| | | | Be-7 | 1.11E+03 | 2.18E+02 | 2.62E+02 |
| | | | K-40 | 3.95E+03 | 4.78E+02 | 2.37E+02 |
| 357037 | 10/6/2014 - 10/6/2014 | MIXEDBLV | Mn-54 | <2.51E+01 | 0.00E+00 | 2.51E+01 |
| | | | Co-58 | <2.48E+01 | 0.00E+00 | 2.48E+01 |
| | | | Fe-59 | <4.94E+01 | 0.00E+00 | 4.94E+01 |
| | | | Co-60 | <3.81E+01 | 0.00E+00 | 3.81E+01 |
| | | | Zn-65 | <7.70E+01 | 0.00E+00 | 7.70E+01 |
| | | | Zr-95 | <4.30E+01 | 0.00E+00 | 4.30E+01 |
| | | | Nb-95 | <3.16E+01 | 0.00E+00 | 3.16E+01 |
| | | | I-131 | <2.09E+01 | 0.00E+00 | 2.09E+01 |
| | | | Cs-134 | <2.93E+01 | 0.00E+00 | 2.93E+01 |
| | | | Cs-137 | <2.87E+01 | 0.00E+00 | 2.87E+01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 125 [INDICATOR - SW @ 0.38 miles]

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|----------|-----------|--------------------------|----------|
| 357037 | 10/6/2014 - 10/6/2014 | | BaLa-140 | <2.75E+01 | 0.00E+00 | 2.75E+01 |
| | | | Be-7 | 1.74E+03 | 3.20E+02 | 2.56E+02 |
| | | | K-40 | 3.91E+03 | 6.95E+02 | 4.54E+02 |

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|----------|-----------|--------------------------|----------|
| 360024 | 11/3/2014 - 11/3/2014 | | Mn-54 | <1.89E+01 | 0.00E+00 | 1.89E+01 |
| | | | Co-58 | <2.02E+01 | 0.00E+00 | 2.02E+01 |
| | | | Fe-59 | <3.66E+01 | 0.00E+00 | 3.66E+01 |
| | | | Co-60 | <1.70E+01 | 0.00E+00 | 1.70E+01 |
| | | | Zn-65 | <4.13E+01 | 0.00E+00 | 4.13E+01 |
| | | | Zr-95 | <4.17E+01 | 0.00E+00 | 4.17E+01 |
| | | | Nb-95 | <2.31E+01 | 0.00E+00 | 2.31E+01 |
| | | | I-131 | <1.51E+01 | 0.00E+00 | 1.51E+01 |
| | | | Cs-134 | <2.60E+01 | 0.00E+00 | 2.60E+01 |
| | | | Cs-137 | <2.37E+01 | 0.00E+00 | 2.37E+01 |
| | | | BaLa-140 | <1.46E+01 | 0.00E+00 | 1.46E+01 |
| | | | Be-7 | 1.08E+03 | 2.31E+02 | 2.22E+02 |
| | | | K-40 | 3.78E+03 | 6.02E+02 | 2.82E+02 |

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|----------|-----------|--------------------------|----------|
| 362777 | 12/1/2014 - 12/1/2014 | | Mn-54 | <2.61E+01 | 0.00E+00 | 2.61E+01 |
| | | | Co-58 | <1.93E+01 | 0.00E+00 | 1.93E+01 |
| | | | Fe-59 | <4.64E+01 | 0.00E+00 | 4.64E+01 |
| | | | Co-60 | <2.51E+01 | 0.00E+00 | 2.51E+01 |
| | | | Zn-65 | <6.04E+01 | 0.00E+00 | 6.04E+01 |
| | | | Zr-95 | <4.38E+01 | 0.00E+00 | 4.38E+01 |
| | | | Nb-95 | <2.59E+01 | 0.00E+00 | 2.59E+01 |
| | | | I-131 | <2.01E+01 | 0.00E+00 | 2.01E+01 |
| | | | Cs-134 | <2.76E+01 | 0.00E+00 | 2.76E+01 |
| | | | Cs-137 | <2.53E+01 | 0.00E+00 | 2.53E+01 |
| | | | BaLa-140 | <3.14E+01 | 0.00E+00 | 3.14E+01 |
| | | | Be-7 | 3.41E+02 | 1.58E+02 | 2.12E+02 |
| | | | K-40 | 3.14E+03 | 5.77E+02 | 3.80E+02 |

Sample Point 193 [INDICATOR - N @ 0.19 miles]

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|---------|-----------|--------------------------|----------|
| 279582 | 1/6/2014 - 1/6/2014 | | I-131 | <1.73E+01 | 0.00E+00 | 1.73E+01 |
| | | | Cs-134 | <1.40E+01 | 0.00E+00 | 1.40E+01 |
| | | | Cs-137 | <1.65E+01 | 0.00E+00 | 1.65E+01 |
| | | | Be-7 | 8.98E+02 | 9.50E+01 | 1.24E+02 |
| | | | K-40 | 3.21E+03 | 2.05E+02 | 1.18E+02 |

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|---------|-----------|--------------------------|----------|
| 281219 | 2/3/2014 - 2/3/2014 | | I-131 | <1.88E+01 | 0.00E+00 | 1.88E+01 |
| | | | Cs-134 | <1.93E+01 | 0.00E+00 | 1.93E+01 |
| | | | Cs-137 | <1.79E+01 | 0.00E+00 | 1.79E+01 |
| | | | Be-7 | 7.47E+02 | 1.10E+02 | 1.52E+02 |
| | | | K-40 | 3.85E+03 | 2.60E+02 | 2.03E+02 |

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|---------|-----------|--------------------------|----------|
| 284400 | 3/3/2014 - 3/3/2014 | | I-131 | <2.23E+01 | 0.00E+00 | 2.23E+01 |
| | | | Cs-134 | <2.58E+01 | 0.00E+00 | 2.58E+01 |
| | | | Cs-137 | <2.76E+01 | 0.00E+00 | 2.76E+01 |
| | | | Be-7 | 7.15E+02 | 1.40E+02 | 1.85E+02 |
| | | | K-40 | 3.07E+03 | 3.24E+02 | 3.54E+02 |

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|---------|-----------|--------------------------|----------|
| 287037 | 4/7/2014 - 4/7/2014 | | I-131 | <2.02E+01 | 0.00E+00 | 2.02E+01 |
| | | | Cs-134 | <1.71E+01 | 0.00E+00 | 1.71E+01 |
| | | | Cs-137 | <3.04E+01 | 0.00E+00 | 3.04E+01 |
| | | | Be-7 | 3.53E+02 | 1.17E+02 | 1.75E+02 |
| | | | K-40 | 3.03E+03 | 2.78E+02 | 1.82E+02 |

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|---------------------|----------|---------|-----------|--------------------------|----------|
| 289838 | 5/5/2014 - 5/5/2014 | | I-131 | <2.01E+01 | 0.00E+00 | 2.01E+01 |
| | | | Cs-134 | <2.38E+01 | 0.00E+00 | 2.38E+01 |
| | | | Cs-137 | <2.83E+01 | 0.00E+00 | 2.83E+01 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 193 [INDICATOR - N @ 0.19 miles]

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD | | | |
|------------|-----------------------|----------|----------|-----------------------|--------------------------|----------|-----------|----------|----------|
| 289838 | 5/5/2014 - 5/5/2014 | MIXEDBLV | Be-7 | 4.87E+02 | 1.21E+02 | 1.74E+02 | | | |
| | | | K-40 | 5.44E+03 | 3.22E+02 | 3.17E+02 | | | |
| | | | | | | | | | |
| 294842 | 6/2/2014 - 6/2/2014 | MIXEDBLV | I-131 | <2.05E+01 | 0.00E+00 | 2.05E+01 | | | |
| | | | Cs-134 | <2.05E+01 | 0.00E+00 | 2.05E+01 | | | |
| | | | Cs-137 | <2.63E+01 | 0.00E+00 | 2.63E+01 | | | |
| | | | Be-7 | 4.84E+02 | 8.24E+01 | 1.66E+02 | | | |
| | | | K-40 | 4.74E+03 | 3.71E+02 | 2.62E+02 | | | |
| 296610 | 7/7/2014 - 7/7/2014 | MIXEDBLV | I-131 | <2.76E+01 | 0.00E+00 | 2.76E+01 | | | |
| | | | Cs-134 | <2.71E+01 | 0.00E+00 | 2.71E+01 | | | |
| | | | Cs-137 | <3.20E+01 | 0.00E+00 | 3.20E+01 | | | |
| | | | Be-7 | 7.73E+02 | 1.25E+02 | 2.39E+02 | | | |
| | | | K-40 | 5.42E+03 | 4.14E+02 | 2.91E+02 | | | |
| 298129 | 8/4/2014 - 8/4/2014 | MIXEDBLV | Mn-54 | <2.12E+01 | 0.00E+00 | 2.12E+01 | | | |
| | | | Co-58 | <1.82E+01 | 0.00E+00 | 1.82E+01 | | | |
| | | | Fe-59 | <3.77E+01 | 0.00E+00 | 3.77E+01 | | | |
| | | | Co-60 | <3.10E+01 | 0.00E+00 | 3.10E+01 | | | |
| | | | Zn-65 | <5.22E+01 | 0.00E+00 | 5.22E+01 | | | |
| | | | Zr-95 | <3.75E+01 | 0.00E+00 | 3.75E+01 | | | |
| | | | Nb-95 | <2.37E+01 | 0.00E+00 | 2.37E+01 | | | |
| | | | I-131 | <1.76E+01 | 0.00E+00 | 1.76E+01 | | | |
| | | | Cs-134 | <2.04E+01 | 0.00E+00 | 2.04E+01 | | | |
| | | | Cs-137 | <2.46E+01 | 0.00E+00 | 2.46E+01 | | | |
| | | | BaLa-140 | <2.59E+01 | 0.00E+00 | 2.59E+01 | | | |
| | | | Be-7 | 8.52E+02 | 2.03E+02 | 2.09E+02 | | | |
| | | | K-40 | 5.27E+03 | 7.33E+02 | 2.80E+02 | | | |
| | | | 354442 | 9/2/2014 - 9/2/2014 | MIXEDBLV | Mn-54 | <1.69E+01 | 0.00E+00 | 1.69E+01 |
| | | | | | | Co-58 | <2.02E+01 | 0.00E+00 | 2.02E+01 |
| Fe-59 | <4.58E+01 | 0.00E+00 | | | | 4.58E+01 | | | |
| Co-60 | <2.61E+01 | 0.00E+00 | | | | 2.61E+01 | | | |
| Zn-65 | <6.71E+01 | 0.00E+00 | | | | 6.71E+01 | | | |
| Zr-95 | <4.10E+01 | 0.00E+00 | | | | 4.10E+01 | | | |
| Nb-95 | <2.01E+01 | 0.00E+00 | | | | 2.01E+01 | | | |
| I-131 | <1.76E+01 | 0.00E+00 | | | | 1.76E+01 | | | |
| Cs-134 | <2.77E+01 | 0.00E+00 | | | | 2.77E+01 | | | |
| Cs-137 | <2.20E+01 | 0.00E+00 | | | | 2.20E+01 | | | |
| BaLa-140 | <2.49E+01 | 0.00E+00 | | | | 2.49E+01 | | | |
| Be-7 | 1.07E+03 | 2.48E+02 | | | | 2.68E+02 | | | |
| K-40 | 4.04E+03 | 6.96E+02 | | | | 5.81E+02 | | | |
| 357038 | 10/6/2014 - 10/6/2014 | MIXEDBLV | | | | Mn-54 | <3.35E+01 | 0.00E+00 | 3.35E+01 |
| | | | | | | Co-58 | <2.93E+01 | 0.00E+00 | 2.93E+01 |
| | | | Fe-59 | <6.75E+01 | 0.00E+00 | 6.75E+01 | | | |
| | | | Co-60 | <3.80E+01 | 0.00E+00 | 3.80E+01 | | | |
| | | | Zn-65 | <9.04E+01 | 0.00E+00 | 9.04E+01 | | | |
| | | | Zr-95 | <5.38E+01 | 0.00E+00 | 5.38E+01 | | | |
| | | | Nb-95 | <3.46E+01 | 0.00E+00 | 3.46E+01 | | | |
| | | | I-131 | <2.71E+01 | 0.00E+00 | 2.71E+01 | | | |
| | | | Cs-134 | <4.60E+01 | 0.00E+00 | 4.60E+01 | | | |
| | | | Cs-137 | <3.51E+01 | 0.00E+00 | 3.51E+01 | | | |
| | | | BaLa-140 | <1.10E+01 | 0.00E+00 | 1.10E+01 | | | |
| | | | Be-7 | 5.34E+02 | 2.84E+02 | 4.10E+02 | | | |
| | | | K-40 | 4.45E+03 | 8.64E+02 | 4.03E+02 | | | |
| | | | 360025 | 11/3/2014 - 11/3/2014 | MIXEDBLV | Mn-54 | <2.49E+01 | 0.00E+00 | 2.49E+01 |
| | | | | | | Co-58 | <2.39E+01 | 0.00E+00 | 2.39E+01 |
| Fe-59 | <5.29E+01 | 0.00E+00 | | | | 5.29E+01 | | | |
| Co-60 | <2.86E+01 | 0.00E+00 | | | | 2.86E+01 | | | |
| Zn-65 | <6.50E+01 | 0.00E+00 | | | | 6.50E+01 | | | |
| | | | | | | | | | |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



MCGUIRE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 193 [INDICATOR - N @ 0.19 miles]

| Sample ID: | Sample Dates: | MIXEDBLV | Nuclide | Activity | Sigma Error ¹ | LLD |
|------------|-----------------------|----------|----------|-----------------------|--------------------------|----------|
| 360025 | 11/3/2014 - 11/3/2014 | | Zr-95 | <4.58E+01 | 0.00E+00 | 4.58E+01 |
| | | | Nb-95 | <2.29E+01 | 0.00E+00 | 2.29E+01 |
| | | | I-131 | <2.28E+01 | 0.00E+00 | 2.28E+01 |
| | | | Cs-134 | <2.87E+01 | 0.00E+00 | 2.87E+01 |
| | | | Cs-137 | <2.12E+01 | 0.00E+00 | 2.12E+01 |
| | | | BaLa-140 | <3.26E+01 | 0.00E+00 | 3.26E+01 |
| | | | Be-7 | 3.01E+02 | 1.94E+02 | 2.96E+02 |
| | | | K-40 | 5.00E+03 | 7.25E+02 | 2.74E+02 |
| | | | 362778 | 12/1/2014 - 12/1/2014 | | Mn-54 |
| Co-58 | <2.98E+01 | 0.00E+00 | | | | 2.98E+01 |
| Fe-59 | <6.92E+01 | 0.00E+00 | | | | 6.92E+01 |
| Co-60 | <3.18E+01 | 0.00E+00 | | | | 3.18E+01 |
| Zn-65 | <7.07E+01 | 0.00E+00 | | | | 7.07E+01 |
| Zr-95 | <4.71E+01 | 0.00E+00 | | | | 4.71E+01 |
| Nb-95 | <3.67E+01 | 0.00E+00 | | | | 3.67E+01 |
| I-131 | <3.17E+01 | 0.00E+00 | | | | 3.17E+01 |
| Cs-134 | <2.75E+01 | 0.00E+00 | | | | 2.75E+01 |
| Cs-137 | <3.46E+01 | 0.00E+00 | | | | 3.46E+01 |
| BaLa-140 | <5.06E+01 | 0.00E+00 | | | | 5.06E+01 |
| Be-7 | 8.11E+02 | 2.68E+02 | | | | 2.86E+02 |
| K-40 | 4.04E+03 | 8.66E+02 | | | | 5.46E+02 |

(1) Effective 10JUL2014, analytical samples indicating detectable activity are reported with 2 Sigma error.



APPENDIX F

**ERRATA TO
PREVIOUS REPORTS**

APPENDIX F

ERRATA TO THE 2014 AREOR

I. McGuire AREORs: 2009, 2011, and 2013

Report titled "Environmental TLD Dose Report" used by the Dosimetry Laboratory to communicate final TLD results was found to have an error in the calculation of dose per standard quarter. The error would have existed since the report's first use for 2nd quarter 2009 and only applies to quarters where date ranges were other than a standard quarter (not equal to 91 days). McGuire environmental TLD data were evaluated and it was determined the quarters affected were McGuire 3Q2009, McGuire 2Q2011, and McGuire 1Q2013. McGuire environmental TLD results were updated during 2015 in the EnRad Sample Manager database to indicate the corrected dose per standard quarter values derived from the new Dosimetry Laboratory reporting mechanism. (PIP G-14-02451).

2009 McGuire AREOR entities affected:

- Section 3.9, Figure 3.9
- Section 3.9, Table 3.9
- 2009 inner ring average updated from 66.7 mR/yr to 67.7 mR/yr
- 2009 outer ring average updated from 65.3 mR/yr to 66.4 mR/yr
- 2009 control average updated from 91.2 mR/yr to 92.4 mR/yr

2009 Appendix B, Direct Radiation TLD section

2009 TLD Appendix B section as originally reported

| All Indicator Locations | Location with Highest Annual Mean | | Control Location |
|--------------------------|-----------------------------------|--------------------------|--------------------------|
| Mean (Fraction) Range | Location Code | Mean (Fraction) Range | Mean (Fraction) Range |
| 17.1 (158 / 158) | 180 | 27.0 (4 / 4) | 22.8 (4 / 4) |
| 9.30 – 30.7 | (12.7 mi NNE) | 23.2 – 30.7 | 19.5 – 26.5 |

Updated 2009 TLD Appendix B section

| All Indicator Locations | Location with Highest Annual Mean | | Control Location |
|--------------------------|-----------------------------------|--------------------------|--------------------------|
| Mean (Fraction) Range | Location Code | Mean (Fraction) Range | Mean (Fraction) Range |
| 17.4 (158 / 158) | 180 | 27.4 (4 / 4) | 23.1 (4 / 4) |
| 10.2 – 30.7 | (12.7 mi NNE) | 25.1 – 30.7 | 20.1 – 26.5 |

2011 McGuire AREOR entities affected:

- Section 3.9, Figure 3.9-1, Figure 3.9-2, Figure 3.9-3
- Section 3.9, Table 3.9-A, Table 3.9-B, Table 3.9-C
- 2011 inner ring average updated from 65.1 mR/yr to 65.1 mR/yr
- 2011 outer ring average updated from 66.4 mR/yr to 66.5 mR/yr
- 2011 control average updated from 94.0 mR/yr to 94.4 mR/yr

2011 Appendix B, Direct Radiation TLD section

2011 TLD Appendix B section as originally reported

| All Indicator Locations | Location with Highest Annual Mean | | Control Location |
|--------------------------|-----------------------------------|--------------------------|--------------------------|
| Mean (Fraction) Range | Location Code | Mean (Fraction) Range | Mean (Fraction) Range |
| 17.2 (159 / 159) | 180 | 26.5 (4 / 4) | 23.5 (4 / 4) |
| 9.00 – 36.0 | (12.7 mi NNE) | 25.0 – 29.0 | 22.0 – 25.0 |

Updated 2011 TLD Appendix B section

| All Indicator Locations | Location with Highest Annual Mean | | Control Location |
|--------------------------|-----------------------------------|--------------------------|--------------------------|
| Mean (Fraction) Range | Location Code | Mean (Fraction) Range | Mean (Fraction) Range |
| 17.2 (159 / 159) | 180 | 26.5 (4 / 4) | 23.6 (4 / 4) |
| 9.00 – 36.0 | (12.7 mi NNE) | 25.0 – 29.0 | 22.0 – 25.0 |

2013 McGuire AREOR entities affected:

- Section 3.9, Figure 3.9
- Section 3.9, Table 3.9
- 2013 inner ring average updated from 62.9 mR/yr to 64.1 mR/yr
- 2013 outer ring average updated from 64.4 mR/yr to 65.6 mR/yr
- 2013 control average updated from 92.4 mR/yr to 94.4 mR/yr

2013 Appendix B, Direct Radiation TLD section

2013 TLD Appendix B section as originally reported

| All Indicator Locations | Location with Highest Annual Mean | | Control Location |
|--------------------------|-----------------------------------|--------------------------|--------------------------|
| Mean (Fraction) Range | Location Code | Mean (Fraction) Range | Mean (Fraction) Range |
| 16.5 (160 / 160) | 180 | 26.3 (4 / 4) | 23.1 (4 / 4) |
| 9.00 – 31.0 | (12.7 mi NNE) | 22.0 – 31.0 | 21.0 – 24.4 |

Updated 2013 TLD Appendix B section

| All Indicator Locations | Location with Highest Annual Mean | | Control Location |
|--------------------------|-----------------------------------|--------------------------|--------------------------|
| Mean (Fraction) Range | Location Code | Mean (Fraction) Range | Mean (Fraction) Range |
| 16.8 (160 / 160) | 180 | 26.8 (4 / 4) | 23.6 (4 / 4) |
| 9.00 – 33.4 | (12.7 mi NNE) | 22.0 – 33.4 | 21.0 – 26.4 |

II. McGuire AREOR: 2013

The Section 3, Interpretation of Results, subsection 3.8, Shoreline Sediment, Table 3.8, Mean Concentrations of Radionuclides in Shoreline Sediment (pCi/kg) Cs-137 column for year 2013 incorrectly indicated a Cs-137 activity of 0.00 pCi/kg activity. The Table 3.8 Cs-137 column for year 2013 was updated to indicate a Cs-137 activity of 1.41E2 pCi/kg. The corresponding Figure 3.8 of the 2013 AREOR was correct and did not require an update.