



---

# **ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT**

---

**DUKE ENERGY CORPORATION  
OCONEE NUCLEAR STATION  
Units 1, 2, and 3**

**2014**



---

# TABLE OF CONTENTS

---

|  |      |
|--|------|
| <b>1.0 Executive Summary</b>                                   | 1-1  |
| <b>2.0 Introduction</b>  | 2-1  |
| 2.1 Site Description and Sample Locations                      | 2-1  |
| 2.2 Scope and Requirements of the REMP                         | 2-1  |
| 2.3 Statistical and Calculational Methodology                  | 2-2  |
| 2.3.1 Estimation of the Mean Value                             | 2-2  |
| 2.3.2 Lower Level of Detection and Minimum Detectable Activity | 2-3  |
| 2.3.3 Trend Identification                                     | 2-3  |
| <b>3.0 Interpretation of Results</b>                           | 3-1  |
| 3.1 Airborne Radioiodine and Particulates                      | 3-2  |
| 3.2 Drinking Water   | 3-5  |
| 3.3 Surface Water  | 3-7  |
| 3.4 Milk   | 3-10 |
| 3.5 Broadleaf Vegetation                                       | 3-12 |
| 3.6 Fish   | 3-14 |
| 3.7 Shoreline Sediment   | 3-17 |
| 3.8 Direct Gamma Radiation                                     | 3-19 |
| 3.8.1 Environmental TLD  | 3-19 |
| 3.8.2 ISFSI  | 3-20 |
| 3.9 Land Use Census  | 3-24 |
| <b>4.0 Evaluation of Dose</b>                                  | 4-1  |
| 4.1 Dose from Environmental Measurements                       | 4-1  |
| 4.2 Estimated Dose from Releases                               | 4-1  |
| 4.3 Comparison of Doses  | 4-2  |
| <b>5.0 Quality Assurance</b>                                   | 5-1  |
| 5.1 Sample Collection  | 5-1  |
| 5.2 Sample Analysis  | 5-1  |
| 5.3 Dosimetry Analysis   | 5-1  |
| 5.4 Laboratory Equipment Quality Assurance                     | 5-1  |
| 5.4.1 Daily Quality Control                                    | 5-1  |
| 5.4.2 Calibration Verification                                 | 5-1  |
| 5.4.3 Batch Processing   | 5-1  |
| 5.5 Duke Energy Interlaboratory Comparison Program             | 5-1  |
| 5.5.1 Duke Energy Intercomparison Program                      | 5-2  |
| 5.5.2 Eckert & Ziegler Analytics Cross Check Program           | 5-2  |
| 5.5.3 ERA Proficiency Testing                                  | 5-2  |
| 5.6 Duke Energy Audits   | 5-3  |
| 5.7 U.S. Nuclear Regulatory Commission Inspections             | 5-3  |
| 5.8 Intercomparison Program                                    | 5-3  |
| 5.9 TLD Intercomparison Program                                | 5-3  |
| 5.9.1 Nuclear Technology Services Intercomparison Program      | 5-3  |
| 5.9.2 Internal Crosscheck (Duke Energy)                        | 5-3  |
| <br><b>Appendices</b>  |      |
| Appendix A: Environmental Sampling and Analysis Procedures     | A-1  |
| I. Change of Sampling Procedures                               | A-2  |
| II. Description of Analysis Procedures                         | A-2  |

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

## LIST OF FIGURES

|       |   |      |
|-------|---|------|
| 2.1-1 | Sampling Locations Map (One Mile Radius) . . . . .        | 2-4  |
| 2.1-2 | Sampling Locations Map (Ten Mile Radius) . . . . .        | 2-5  |
| 3.1   | Concentration of Gross Beta in Air Particulate . . . . .  | 3-4  |
| 3.2   | Concentration of Tritium in Drinking Water . . . . .      | 3-5  |
| 3.3   | Concentration of Tritium in Surface Water . . . . .       | 3-8  |
| 3.5   | Concentration of Cs-137 in Broadleaf Vegetation . . . . . | 3-12 |
| 3.6-1 | Concentration of Cs-137 in Fish . . . . .                 | 3-15 |
| 3.6-2 | Concentration of Cs-134 in Fish . . . . .                 | 3-15 |
| 3.7   | Concentration of Cs-137 in Shoreline Sediment . . . . .   | 3-18 |
| 3.8   | Direct Gamma Radiation (TLD) Results . . . . .            | 3-20 |
| 3.9   | 2014 Land Use Census Map . . . . .                        | 3-25 |

## LIST OF TABLES

|       |   |      |
|-------|---|------|
| 2.1-A | Radiological Monitoring Program Sampling Locations . . . . .                            | 2-6  |
| 2.1-B | Radiological Monitoring Program Sampling Locations (TLD Sites) . . . . .                | 2-7  |
| 2.2-A | Reporting Levels for Radioactivity Concentrations in<br>Environmental Samples . . . . . | 2-8  |
| 2.2-B | REMP Analysis Frequency . . . . .   | 2-8  |
| 2.2-C | Maximum Values for the Lower Limits of Detection . . . . .                              | 2-9  |
| 3.1-A | Mean Concentration of Air Radioiodine (I-131) . . . . .                                 | 3-3  |
| 3.1-B | Mean Concentration of Gross Beta in Air Particulate . . . . .                           | 3-4  |
| 3.2   | Mean Concentrations of Radionuclides in Drinking Water . . . . .                        | 3-6  |
| 3.3   | Mean Concentrations of Radionuclides in Surface Water . . . . .                         | 3-9  |
| 3.4   | Mean Concentration of Radionuclides in Milk . . . . .                                   | 3-11 |

|       |   |      |
|-------|---|------|
| 3.5   | Mean Concentration of Radionuclides in Vegetation . . . . .   | 3-13 |
| 3.6   | Mean Concentrations of Radionuclides in Fish . . . . .  | 3-16 |
| 3.7   | Mean Concentrations of Radionuclides in Shoreline Sediment . . . . .  | 3-18 |
| 3.8-A | Direct Gamma Radiation (TLD) Results . . . . .  | 3-21 |
| 3.8-B | Direct Gamma Radiation (TLD) Oconee 2014 Investigation Level . . . . .  | 3-22 |
| 3.9   | Oconee 2014 Land Use Census Results . . . . .   | 3-24 |
| 4.1-A | 2014 Environmental and Effluent Dose Comparison . . . . .   | 4-3  |
| 4.1-B | Maximum Individual Dose for 2014 based on Environmental<br>Measurements (mrem) for Oconee Nuclear Station . . . . . | 4-5  |
| 5.0-A | Duke Energy Interlaboratory Comparison Program . . . . .  | 5-4  |
| 5.0-B | Eckert & Ziegler Analytics Cross Check Program . . . . .  | 5-6  |
| 5.0-C | Environmental Resource Associates (ERA) Proficiency Testing . . . . .   | 5-8  |
| 5.0-D | 2014 Environmental Dosimeter Cross-Check Results . . . . .  | 5-9  |

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

|                    |  |
|--------------------|--|
| BW                 | BiWeekly                                       |
| C                  | Control  |
| 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                    |
| MOA                | Memorandum of Agreement                        |
| mrem               | Millirem                                       |
| NIST               | National Institute of Standards and Technology |
| NRC                | Nuclear Regulatory Commission                  |
| ODCM               | Offsite Dose Calculation Manual                |
| ONS                | Oconee Nuclear Station                         |
| pCi/kg             | picocurie per kilogram                         |
| pCi/l              | picocurie per liter                            |
| pCi/m <sup>3</sup> | 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 Oconee 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 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. Nine-hundred ninety-two samples were analyzed comprising 1,057 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 Oconee Nuclear Station is sufficient.

Concentrations observed in the environment in 2014 for station related radionuclides were within the ranges of concentrations observed in the past. Inspection of data showed that radioactivity concentrations in drinking water, surface water, fish, and shoreline sediment are higher than the activities reported for samples collected at control locations. 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 3.71E-02 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).<sup>1</sup> It is therefore concluded that station operations has had no significant radiological impact on the health and safety of the public or the environment.

<sup>1</sup>NCRP (2009). National Council on Radiation Protection and Measurements. *Ionizing Radiation Exposure of the Population of the United States*, NCRP Report No. 160 (National Council on Radiation Protection and Measurements, Bethesda, Maryland).

---

## 2.0 INTRODUCTION

---

### 2.1 SITE DESCRIPTION AND SAMPLE LOCATIONS

Oconee Nuclear Station (ONS) is located in Oconee County, South Carolina, approximately 8 miles northeast of Seneca, South Carolina, on the shore of Lake Keowee. This lake was formed by damming the Keowee and Little Rivers in that location. Immediately to the south is the U.S. Government Hartwell Project. The Keowee Hydroelectric Plant near the station joins Lake Keowee and the upper reaches of Lake Hartwell. To the north, the Jocassee Hydroelectric Plant joins Lake Jocassee and Lake Keowee. Jocassee is a pumped storage plant.

ONS consists of three pressurized water reactors. Each unit has an output of 846 megawatts net. Unit 1 license for operation was issued 2/6/1973. Unit 2 license for operation was issued 10/6/1973. Unit 3 license for operation was issued 7/19/1974. An independent spent fuel storage installation is also located at the site.

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

### 2.2 SCOPE AND REQUIREMENTS OF THE REMP

An environmental monitoring program has been in effect at Oconee Nuclear Station since 1969, four years prior to operation of Unit 1 in 1973. 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 Oconee Nuclear Station. This program satisfies the requirements of Section IV.B.2 of Appendix I to 10CFR50 and 10CFR72.44(d)(2) 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 3.9.

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:

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

Where:

$\overline{x}$  = estimate of the mean,

i = individual sample,

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

$x_i$  = 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 or the Fukushima 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

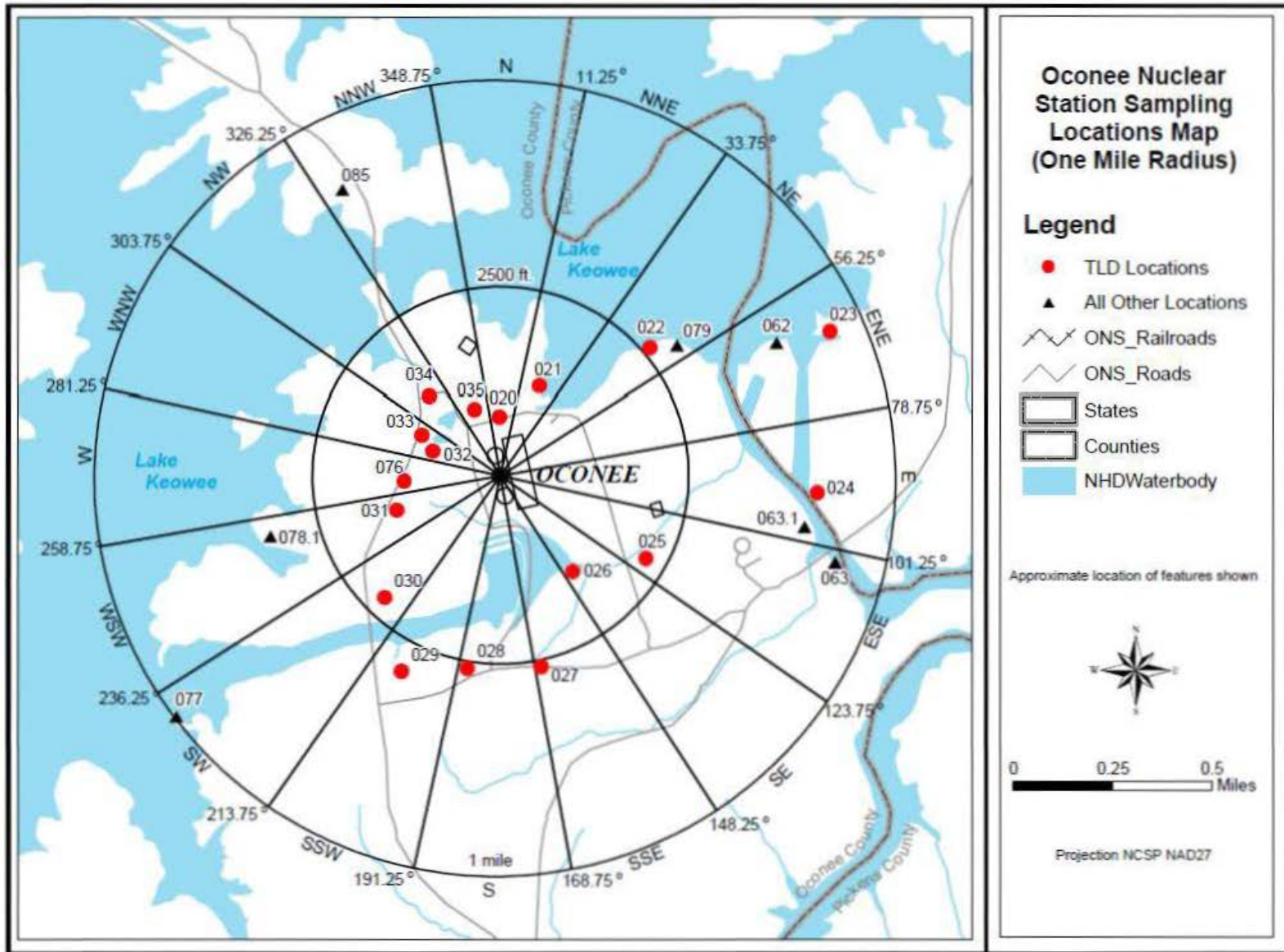
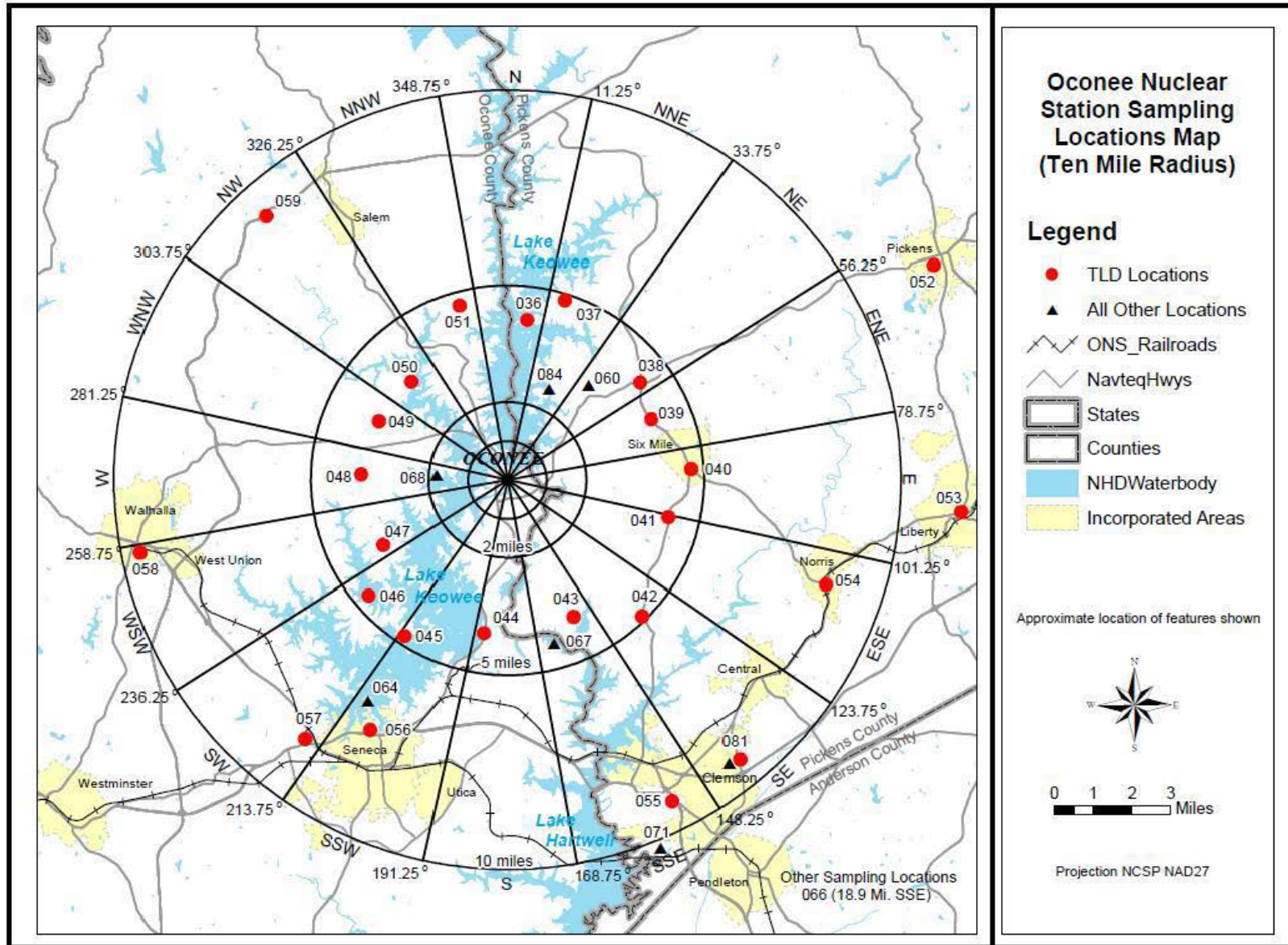


Figure 2.1-2



**TABLE 2.1-A**

**OCONEE 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. & Particulate | Surface Water | Drinking Water | Shoreline Sediment | Fish | Milk | Broadleaf Vegetation |
|--------|--------------|---|------------------------|---------------|----------------|--------------------|------|------|----------------------|
| 060    | I            | Greenville Water Intake Road (3.23 NE)              |                        |               | M              |                    |      |      |                      |
| 060    | C**          | Greenville Water Intake Road (2.28 NE)              |                        |               |                |                    | SA   |      |                      |
| 062    | C            | Lake Keowee Hydro Intake (0.85 mi ENE)              |                        | M             |                |                    |      |      |                      |
| 063    | I            | Lake Hartwell Hwy 183 Bridge (0.80 mi ESE) [000.7]  |                        |               |                | SA                 | SA   |      |                      |
| 063.1  | I            | Lake Hartwell Hwy 183 (0.79 mi E)                   |                        | M             |                |                    |      |      |                      |
| 064    | C            | Seneca Municipal Water Supply(6.67 mi SSW) [004.1]  |                        |               | M              |                    |      |      |                      |
| 066    | I            | Anderson Municipal Water Supply (18.9 mi SSE) [012] |                        |               | M              |                    |      |      |                      |
| 067    | I            | Lawrence Ramsey Bridge Hwy 27 (4.34 mi SSE) [005.2] |                        |               |                | SA                 | SA   |      |                      |
| 068    | C            | High Falls County Park (1.82 mi W)                  |                        |               |                | SA                 |      |      |                      |
| 071    | C            | Clemson Dairy (10.2 mi SSE) [006.3]                 |                        |               |                |                    |      | SM   |                      |
| 077    | I            | Skimmer Wall (1.00 mi SW)                           | W                      |               |                |                    |      |      | M                    |
| 078.1  | I            | Recreation Site (0.53 mi WSW)                       | W                      |               |                |                    |      |      |                      |
| 079    | I            | Keowee Dam (0.56 mi NE)                             | W                      |               |                |                    |      |      | M                    |
| 081    | C            | Clemson Operations Center (9.33 mi SE)              | W                      |               |                |                    |      |      | M                    |
| 084    | I            | Sue Craig Road (2.58 mi NNE)                        | W                      |               |                |                    |      |      | M                    |
| 085    | I            | Lake Services / Building B9125 (0.88 mi NNW)        | W                      |               |                |                    |      |      |                      |

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

\*\* Control for Fish Only

[ ] Location Numbers prior to 1984

**TABLE 2.1-B**

**OCONEE 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 |
|--------|--------------|---|------------------|--------|--------|--------------|--------------------------------------|------------------|--------|
| 020    | IR           | SITE BOUNDARY                             | 0.16             | N      | 040    | OR           | MICROWAVE TOWER, SIX MILE            | 4.74             | E      |
| 021    | IR           | SITE BOUNDARY                             | 0.25             | NNE    | 041    | OR           | JCT HWY 101 & 133                    | 4.25             | ESE    |
| 022    | IR           | SITE BOUNDARY                             | 0.53             | NE     | 042    | OR           | LAWRENCE CHAPEL CHURCH, HWY 133      | 4.93             | SE     |
| 023    | IR           | SITE BOUNDARY                             | 0.93             | ENE    | 043    | OR           | HWY 291 AT ISSAQUEENA PARK           | 4.09             | SSE    |
| 024    | IR           | SITE BOUNDARY                             | 0.79             | E      | 044    | OR           | HWY 130 AT LITTLE RIVER DAM          | 3.96             | S      |
| 025    | IR           | SITE BOUNDARY                             | 0.42             | ESE    | 045    | OR           | TERMINUS OF HWY 588 AT CROOKED CREEK | 4.78             | SSW    |
| 026    | IR           | SITE BOUNDARY                             | 0.34             | SE     | 046    | OR           | HWY 188 AT CROOKED CREEK             | 4.61             | SW     |
| 027    | IR           | SITE BOUNDARY                             | 0.49             | SSE    | 047    | OR           | NEW HOPE CHURCH, HWY 188             | 3.58             | WSW    |
| 028    | IR           | SITE BOUNDARY                             | 0.46             | S      | 048    | OR           | JCT HWY 175 & 188                    | 3.64             | W      |
| 029    | IR           | SITE BOUNDARY                             | 0.56             | SSW    | 049    | OR           | JCT HWY 201 & 92                     | 3.60             | WNW    |
| 030    | IR           | SITE BOUNDARY                             | 0.42             | SW     | 050    | OR           | STAMP CREEK LANDING, END OF HWY 92   | 3.53             | NW     |
| 031    | IR           | SITE BOUNDARY                             | 0.27             | WSW    | 051    | OR           | HWY 128, 1 MILE N OF HWY 130         | 4.64             | NNW    |
| 076    | IR           | SITE BOUNDARY                             | 0.19             | W      | 052    | SI           | DPC BRANCH OFFICE SITE - PICKENS     | 12.4             | ENE    |
| 032    | IR           | SITE BOUNDARY                             | 0.19             | WNW    | 053    | SI           | DPC BRANCH OFFICE SITE - LIBERTY     | 11.7             | E      |
| 033    | IR           | SITE BOUNDARY                             | 0.21             | WNW    | 054    | SI           | POST OFFICE - HWY 93 NORRIS          | 8.60             | ESE    |
| 034    | IR           | SITE BOUNDARY                             | 0.22             | NW     | 055    | SI           | CLEMSON METEOROLOGY PLOT             | 9.27             | SSE    |
| 035    | IR           | SITE BOUNDARY                             | 0.17             | NNW    | 056    | SI           | WATER TOWER - SENECA                 | 7.30             | SSW    |
| 036    | OR           | MILE CREEK LANDING                        | 4.18             | N      | 057    | SI           | OCONEE MEMORIAL HOSPITAL             | 8.42             | SW     |
| 037    | OR           | KEOWEE CHURCH, HWY 327                    | 4.85             | NNE    | 058    | C            | BRANCH RD SUBSTATION, WALHALLA       | 9.39             | WSW    |
| 038    | OR           | CONVENIENCE MART, JCT HWY 183 & 133       | 4.24             | NE     | 059    | SI           | TAMASSEE DAR SCHOOL                  | 9.20             | NW     |
| 039    | OR           | HWY 133, 1 MILE EAST OF JCT HWY 183 & 133 | 4.02             | ENE    | 081    | C            | CLEMSON OPERATIONS CENTER            | 9.33             | 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<br>(pCi/liter)  | Air Particulates<br>or Gases<br>(pCi/m <sup>3</sup> ) | Fish<br>(pCi/kg-wet) | Milk<br>(pCi/liter) | Broadleaf<br>Vegetation<br>(pCi/kg-wet) |
|-----------|-----------------------|---|----------------------|---------------------|---|
| H-3       | 20,000 <sup>(a)</sup> | ---   | ---                  | ---                 | ---                                     |
| 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 <sup>(b)</sup>      | 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) For drinking water samples only. This is 40CFR Part 141 value.

(b) If low-level I-131 analyses are performed.

**TABLE 2.2-B**

**REMP ANALYSIS FREQUENCY**

| Sample<br>Medium     | Analysis<br>Schedule | Gamma<br>Isotopic | Tritium | Low Level<br>I-131 | Gross<br>Beta | TLD |
|----------------------|----------------------|-------------------|---------|--------------------|---------------|-----|
| Air Radioiodine      | Weekly               | X                 | ---     | ---                | ---           | --- |
| AirParticulate       | Weekly               | ---               | ---     | ---                | X             | --- |
|                      | Quarterly Composite  | X                 | ---     | ---                | ---           | --- |
| Direct Radiation     | Quarterly            | ---               | ---     | ---                | ---           | X   |
| Surface<br>Water     | Monthly              | X                 | ---     | ---                | ---           | --- |
|                      | Quarterly Composite  | ---               | X       | ---                | ---           | --- |
| Drinking<br>Water    | Monthly              | X                 | ---     | (a)                | X             | --- |
|                      | Quarterly Composite  | ---               | X       | ---                | ---           | --- |
| Shoreline Sediment   | Semiannually         | X                 | ---     | ---                | ---           | --- |
| Milk                 | Semimonthly          | X                 | ---     | X                  | ---           | --- |
| Fish                 | Semiannually         | X                 | ---     | ---                | ---           | --- |
| Broadleaf Vegetation | Monthly              | X                 | ---     | ---                | ---           | --- |

(a) Low level I-131 analysis will be performed if abnormal releases occur which could reasonably result in > 1 pCi/liter of I-131 in drinking water. An LLD of 1 pCi/liter will be required for this analysis.

**TABLE 2.2-C****MAXIMUM VALUES FOR THE LOWER LIMITS OF DETECTION**

| Analysis   | Water<br>(pCi/liter) | Air<br>Particulates<br>or Gases<br>(pCi/m <sup>3</sup> ) | Fish<br>(pCi/kg-wet) | Milk<br>(pCi/liter) | Broadleaf<br>Vegetation<br>(pCi/kg-wet) | Sediment<br>(pCi/kg-dry) |
|------------|----------------------|--|----------------------|---------------------|---|--------------------------|
| Gross Beta | 4                    | 0.01   | ---                  | ---                 | ---                                     | ---                      |
| H-3        | 2000                 | ---  | ---                  | ---                 | ---                                     | ---                      |
| Mn-54      | 15                   | ---  | 130                  | ---                 | ---                                     | ---                      |
| Fe-59      | 30                   | ---  | 260                  | ---                 | ---                                     | ---                      |
| Co-58, 60  | 15                   | ---  | 130                  | ---                 | ---                                     | ---                      |
| Zn-65      | 30                   | ---  | 260                  | ---                 | ---                                     | ---                      |
| Zr-95      | 15                   | ---  | ---                  | ---                 | ---                                     | ---                      |
| Nb-95      | 15                   | ---  | ---                  | ---                 | ---                                     | ---                      |
| I-131      | 15 <sup>(a)</sup>    | 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) LLD for low-level I-131 analyses is 1 pCi/liter if performed

---

## 3.0 INTERPRETATION OF RESULTS

---

Review of 2014 REMP analysis results was performed to identify changes in environmental levels as a result of station operations. The review is summarized in this section. Data from 2014 was compared to preoperational and historical data. Sample data for some media is not directly comparable to preoperational and earlier operational sample results because of either significant changes in the analysis methods or changes in the reporting of the results. Summary tables containing 2014 information required by Technical Specification Administrative Control 5.6.2 are located in Appendix B. REMP results for 2014 are located in Appendix E.

Evaluation for significant trends was performed for the radionuclides that have required LLDs listed in Selected Licensee Commitment 16.11.6. These radionuclides are collectively referred to as "Selected Licensee Commitments radionuclides" and include H-3, Mn-54, Fe-59, Co-58, Co-60, Zn-65, Zr-95, Nb-95, I-131, Cs-134, Cs-137, Ba-140, and La-140. Drinking water gross beta results are routinely trended. Trending of air particulate gross beta results was initiated in 1996 when the analysis was resumed. Trending is also performed for other radionuclides that are detected and could have been the result of station effluents. Only Selected Licensee Commitment radionuclides were detected in 2014.

Trending was performed by comparing annual mean concentrations of any effluent related detected radionuclide 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 were well below the 100% action level. The highest value reached during 2014 due to ONS operation was 1.46% for H-3 in a drinking water sample collected at location 066.

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. 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 thought that the method the previous system used to estimate net activity may have been vulnerable to false-positive results.

Data presented in Sections 3.1 - 3.8 support the conclusion that there were no significant increases in radionuclides in the environment around ONS due to station operations in 2014.



### **3.1 AIRBORNE RADIOIODINE AND PARTICULATES**

In 2014, 312 radioiodine and particulate samples were analyzed, 260 from five 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.

There was no detectable I-131 in air samples in 2014. Table 3.1-A gives the highest indicator location annual mean and control location annual mean for I-131 since the preoperational period. The table shows similar historical concentrations for both the indicator and control locations and the activities decreasing from early in the operational history of the plant. No I-131 activity due to ONS plant operations has been detected since 1994.

There were no detectable gamma emitting radionuclides detected in air particulate samples in 2014 due to ONS plant operations. No gamma emitting particulates due to ONS plant operations have been detected in indicator location samples since the change in gamma spectroscopy analysis systems in 1987.

Beta analysis of particulate filters was initiated in March of 1996 and became required by Selected Licensee Commitments in 1998. Gross beta analysis was performed on particulate filters during the preoperational and early operational history of the plant but had not been required since 1984. Figure 3.1 summarizes gross beta results for the indicator location with the highest annual mean and the control location samples. Both the indicator and control location results are similar in concentration and are near the lower range of preoperational gross beta results which ranged from 0.04 to 1.46 pCi/m<sup>3</sup>.

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

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

| Year                     | Indicator Location (pCi/m <sup>3</sup> ) | Control Location (pCi/m <sup>3</sup> ) |
|--------------------------|--|--|
| Preoperational 1969-1972 | 0.00E0                                   | 0.00E0                                 |
| Feb. 1973 - June 1973    | 0.00E0                                   | 0.00E0                                 |
| July 1973 - Dec. 1973    | 0.00E0                                   | 0.00E0                                 |
| Jan. 1974 - June 1974    | 0.00E0                                   | 0.00E0                                 |
| July 1974 - Dec. 1974    | 2.60E-2                                  | 8.00E-3                                |
| Jan. 1975 - June 1975    | 8.65E-2                                  | 3.12E-2                                |
| July 1975 - Dec. 1975    | 1.13E-2                                  | 9.52E-3                                |
| 1976                     | 2.76E-2                                  | 2.18E-2                                |
| 1977                     | 3.60E-2                                  | 3.60E-2                                |
| 1978                     | 2.19E-1                                  | 1.15E-1                                |
| 1979                     | 7.54E-3                                  | 4.75E-4                                |
| 1980                     | 3.07E-3                                  | 9.67E-4                                |
| 1981                     | 6.31E-3                                  | 5.39E-4                                |
| 1982                     | 2.87E-3                                  | 8.10E-4                                |
| 1983                     | 1.48E-3                                  | 3.05E-4                                |
| 1984                     | 8.11E-4                                  | -2.30E-5                               |
| 1985                     | 7.71E-4                                  | 4.54E-4                                |
| 1986                     | 5.02E-3                                  | 7.86E-3                                |
| 1987 <sup>(1)</sup>      | 4.29E-3                                  | 5.19E-3                                |
| 1988                     | 0.00E0                                   | 0.00E0                                 |
| 1989                     | 4.99E-4                                  | 0.00E0                                 |
| 1990                     | 0.00E0                                   | 0.00E0                                 |
| 1991                     | 0.00E0                                   | 0.00E0                                 |
| 1992                     | 0.00E0                                   | 0.00E0                                 |
| 1993                     | 0.00E0                                   | 0.00E0                                 |
| 1994                     | 1.03E-2                                  | 0.00E0                                 |
| 1995                     | 0.00E0                                   | 0.00E0                                 |
| 1996                     | 0.00E0                                   | 0.00E0                                 |
| 1997                     | 0.00E0                                   | 0.00E0                                 |
| 1998                     | 0.00E0                                   | 0.00E0                                 |
| 1999                     | 0.00E0                                   | 0.00E0                                 |
| 2000                     | 0.00E0                                   | 0.00E0                                 |
| 2001                     | 0.00E0                                   | 0.00E0                                 |
| 2002                     | 0.00E0                                   | 0.00E0                                 |
| 2003                     | 0.00E0                                   | 0.00E0                                 |
| 2004                     | 0.00E0                                   | 0.00E0                                 |
| 2005                     | 0.00E0                                   | 0.00E0                                 |
| 2006                     | 0.00E0                                   | 0.00E0                                 |
| 2007                     | 0.00E0                                   | 0.00E0                                 |
| 2008                     | 0.00E0                                   | 0.00E0                                 |
| 2009                     | 0.00E0                                   | 0.00E0                                 |
| 2010                     | 0.00E0                                   | 0.00E0                                 |
| 2011                     | 5.05E-2                                  | 4.13E-2                                |
| 2012                     | 0.00E0                                   | 0.00E0                                 |
| 2013                     | 0.00E0                                   | 0.00E0                                 |
| 2014 <sup>(2)</sup>      | 0.00E0                                   | 0.00E0                                 |

0.00E0 indicates no detectable measurements

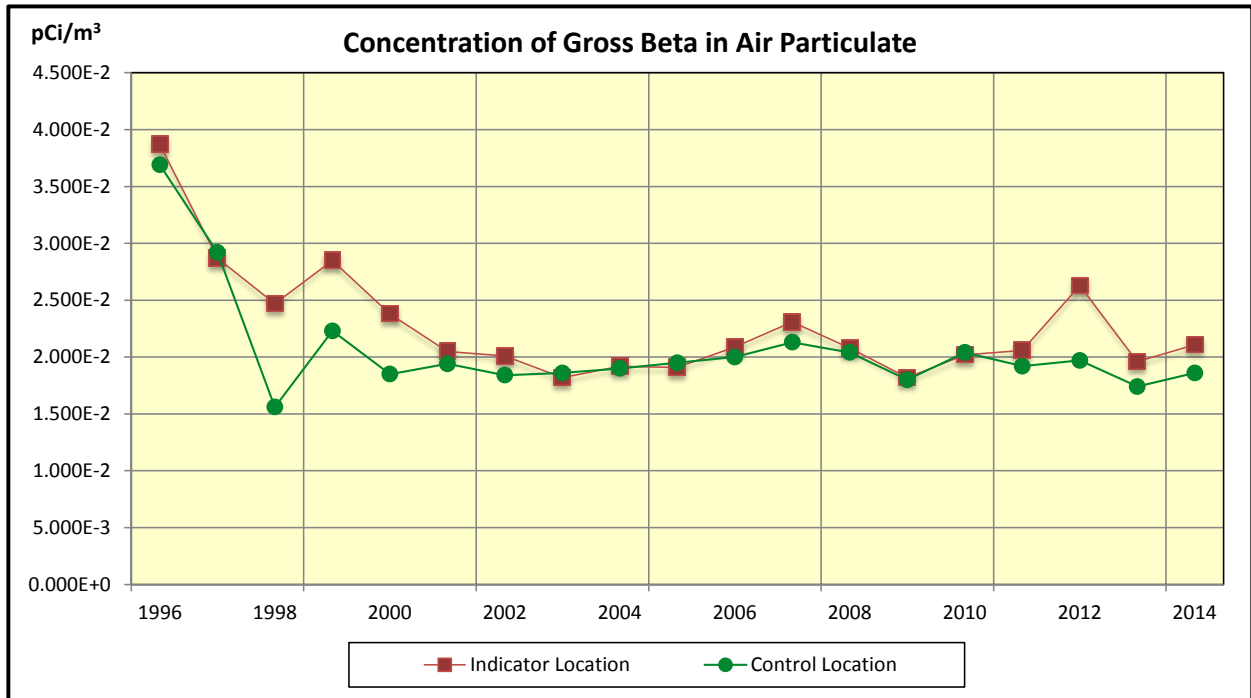
1979 - 1986 mean based on all net activity

2011 concentration affected by Fukushima Daiichi

(1) 1987 – Gamma spectroscopy system change

(2) 2014 – Gamma spectroscopy system change

Figure 3.1



*There is no reporting level for gross beta in air particulate*

**Table 3.1-B Mean Concentration of Gross Beta in Air Particulate**

| Monitoring Period     | Indicator Location (pCi/m <sup>3</sup> ) | Control Location (pCi/m <sup>3</sup> ) |
|-----------------------|--|--|
| 1996                  | 3.87E-2                                  | 3.69E-2                                |
| 1997                  | 2.87E-2                                  | 2.92E-2                                |
| 1998                  | 2.47E-2                                  | 1.56E-2                                |
| 1999                  | 2.85E-2                                  | 2.23E-2                                |
| 2000                  | 2.38E-2                                  | 1.85E-2                                |
| 2001                  | 2.05E-2                                  | 1.94E-2                                |
| 2002                  | 2.01E-2                                  | 1.84E-2                                |
| 2003                  | 1.86E-2                                  | 1.82E-2                                |
| 2004                  | 1.92E-2                                  | 1.90E-2                                |
| 2005                  | 1.95E-2                                  | 1.91E-2                                |
| 2006                  | 2.09E-2                                  | 2.00E-2                                |
| 2007                  | 2.31E-2                                  | 2.13E-2                                |
| 2008                  | 2.08E-2                                  | 2.04E-2                                |
| 2009                  | 1.82E-2                                  | 1.80E-2                                |
| 2010                  | 2.02E-2                                  | 2.04E-2                                |
| 2011                  | 2.06E-2                                  | 1.92E-2                                |
| 2012                  | 2.63E-2                                  | 1.97E-2                                |
| 2013                  | 1.96E-2                                  | 1.74E-2                                |
| Average (2004 - 2013) | 2.08E-2                                  | 1.95E-2                                |
| 2014                  | 2.11E-2                                  | 1.86E-2                                |

## 3.2 DRINKING WATER

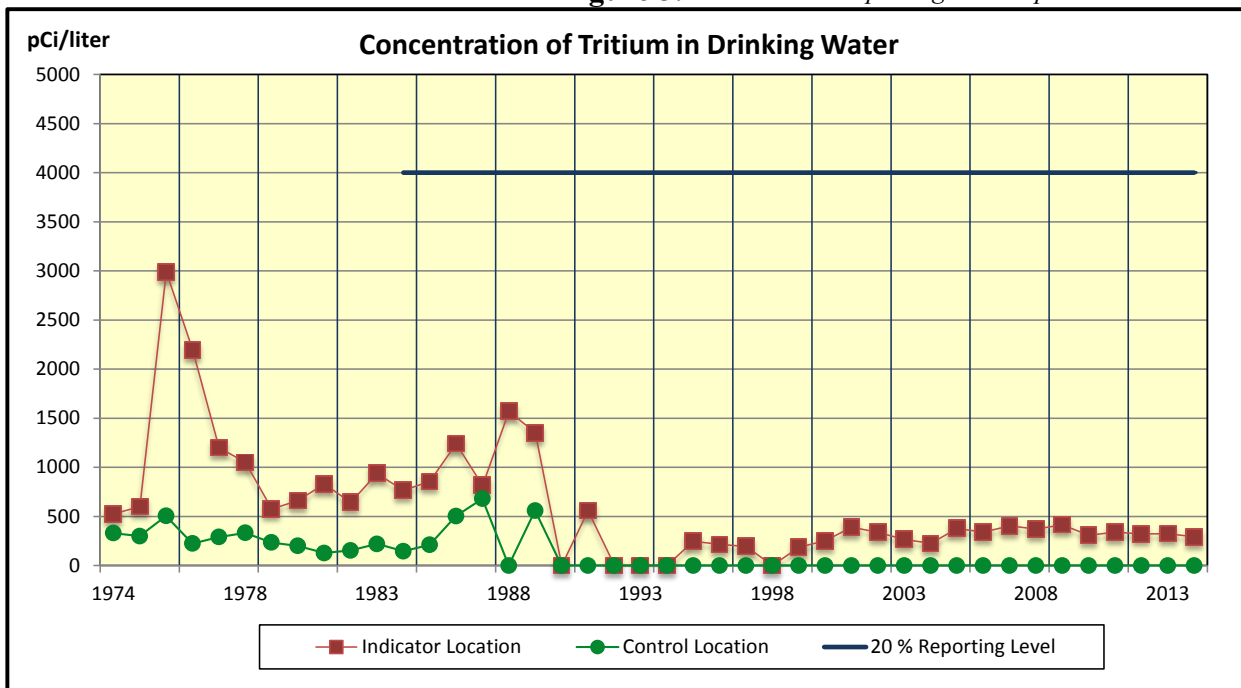
Gross beta analysis and gamma spectroscopy were performed on 39 monthly drinking water samples. These samples were composited to form 12 quarterly period samples for Tritium analysis. Two indicator locations and a control location were sampled; however, only one of the indicator locations is downstream of the effluent release point.

Table 3.2 lists the highest indicator location annual mean and control location annual mean for gross beta results since the preoperational period. The indicator location had an average concentration of 1.43 pCi/liter in 2014, and the control location had a concentration of 1.12 pCi/liter. For comparison purposes, the 2013 indicator mean was 1.57 pCi/liter. The table shows that 2014 gross beta levels in drinking water are lower than preoperational concentrations. 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.

Tritium was detected in two of the twelve composite samples during 2014. The 2014 mean indicator location 066 concentration was 292 pCi/liter, which is 1.46% of the 20,000 pCi/l Tritium reporting level. Table 3.2 and Figure 3.2 show the highest indicator and control location annual means for Tritium since analysis was initiated early in the operational period. Tritium concentrations have decreased at both the indicator and control locations. The closure of the Clemson water plant in 1989 is one reason for the decrease shown in the table and graph. The Clemson site was typically the high mean location when the plant was in operation.

There were no gamma emitting radionuclides attributable to plant operations identified in drinking water samples in 2014. Gamma spectroscopy analysis has not detected any gamma activity in the water supplies since 1988. K-40 observed in drinking water samples is a naturally occurring radionuclide.

**Figure 3.2** *Current reporting level implemented 1984*



**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 |
| Preoperational ending Jan. 1971 | 3.03                         | 5.90             | Analysis not required |                  |
| Preoperational ending Jan. 1973 | 3.58                         | 4.94             | Analysis not required |                  |
| Feb. 1973 - June 1973           | Qualitative results reported |                  | Analysis not required |                  |
| June 1973 - Dec. 1973           | 7.15                         | 21.78            | Analysis not required |                  |
| Jan. 1974 - June 1974           | 3.13                         | 6.98             | Analysis not required |                  |
| July 1974 - Dec. 1974           | 2.24                         | 2.02             | 525                   | 330              |
| Jan. 1975 - June 1975           | 1.98                         | 1.59             | 600                   | 300              |
| July 1975 - Dec. 1975           | 2.01                         | 1.22             | 2990                  | 505              |
| 1976                            | 2.38                         | 2.00             | 2196                  | 224              |
| 1977                            | 2.70                         | 2.30             | 1200                  | 290              |
| 1978                            | 2.56                         | 2.17             | 1050                  | 333              |
| 1979                            | 1.83                         | 1.36             | 576                   | 235              |
| 1980                            | 1.86                         | 1.63             | 660                   | 200              |
| 1981                            | 1.98                         | 1.88             | 830                   | 127              |
| 1982                            | 2.04                         | 1.45             | 643                   | 153              |
| 1983                            | 1.85                         | 1.54             | 937                   | 220              |
| 1984                            | 1.87                         | 1.08             | 765                   | 145              |
| 1985                            | 2.14                         | 1.16             | 856                   | 210              |
| 1986                            | 1.91                         | 1.04             | 1240                  | 503              |
| 1987                            | 2.00                         | 1.20             | 815                   | 680              |
| 1988                            | 2.00                         | 1.40             | 1570                  | 0.00             |
| 1989                            | 2.30                         | 1.80             | 1350                  | 559              |
| 1990                            | 3.00                         | 2.70             | 0.00                  | 0.00             |
| 1991                            | 1.80                         | 1.40             | 558                   | 0.00             |
| 1992                            | 3.20                         | 1.60             | 0.00                  | 0.00             |
| 1993                            | 2.10                         | 1.90             | 0.00                  | 0.00             |
| 1994                            | 1.90                         | 2.10             | 0.00                  | 0.00             |
| 1995                            | 5.10                         | 2.90             | 248                   | 0.00             |
| 1996                            | 2.07                         | 1.77             | 214                   | 0.00             |
| 1997                            | 2.52                         | 2.23             | 194                   | 0.00             |
| 1998                            | 2.48                         | 1.70             | 0.00                  | 0.00             |
| 1999                            | 1.73                         | 1.49             | 185                   | 0.00             |
| 2000                            | 2.07                         | 1.68             | 251                   | 0.00             |
| 2001                            | 1.75                         | 1.29             | 390                   | 0.00             |
| 2002                            | 1.61                         | 1.21             | 338                   | 0.00             |
| 2003                            | 1.51                         | 1.05             | 266                   | 0.00             |
| 2004                            | 1.58                         | 1.25             | 225                   | 0.00             |
| 2005                            | 1.28                         | 1.37             | 377                   | 0.00             |
| 2006                            | 1.54                         | 1.75             | 340                   | 0.00             |
| 2007                            | 1.58                         | 1.08             | 402                   | 0.00             |
| 2008                            | 1.82                         | 1.25             | 372                   | 0.00             |
| 2009                            | 1.37                         | 1.19             | 415                   | 0.00             |
| 2010                            | 1.10                         | 0.97             | 308                   | 0.00             |
| 2011                            | 1.18                         | 1.00             | 339                   | 0.00             |
| 2012                            | 1.40                         | 0.92             | 322                   | 0.00             |
| 2013                            | 1.57                         | 1.11             | 325                   | 0.00             |
| 2014                            | 1.43                         | 1.12             | 292                   | 0.00             |

0.00 indicates no detectable measurements

1989 - Clemson water plant closes; nearest downstream plant is Anderson.

1979 - 1986 mean based on all net activity results

### **3.3 SURFACE WATER**

Gamma spectroscopy was performed on 26 monthly surface water samples. These samples were composited to form eight quarterly samples for Tritium analysis. One indicator and one control location were sampled. The indicator location is near the liquid effluent release point.

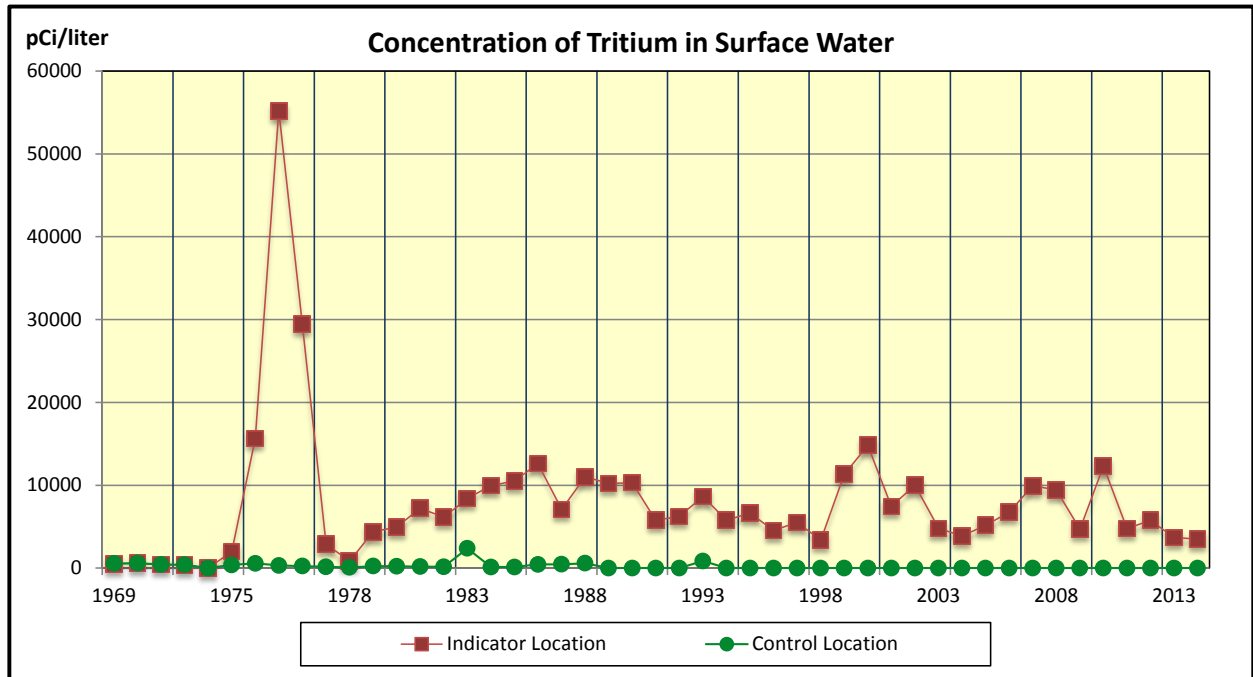
Tritium was detected in the four indicator location samples. The 2014 average concentration was 3,493 pCi/liter. The individual samples ranged from 1,420 to 6,960 pCi/liter. For comparison purposes, the 2013 mean concentration was 3,683 pCi/liter. Tritium was not detected in any control surface water samples.

Figure 3.3 shows the indicator and control annual means for Tritium since the preoperational period. Table 3.3 lists the indicator annual means.

Gamma spectroscopy analysis did not detect any station related gamma activity during 2014. No gamma emitting radionuclides attributable to station operation have been detected in surface water samples since 1999. Table 3.3 summarizes the indicator annual means of radionuclides detected since the change in the gamma spectroscopy analysis system in 1987. Visual inspection of the gamma spectroscopy tabular data covering the early operational period through 2014 did not reveal any increasing trends.

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

Figure 3.3



*There is no reporting level for Tritium in surface water*



**Table 3.3 Mean Concentrations of Radionuclides in Surface Water**

| Year                  | Co-58 (pCi/l) | Co-60 (pCi/l)                | Nb-95 (pCi/l) | Cs-137 (pCi/l) | H-3 pCi/l) |
|-----------------------|---------------|------------------------------|---------------|----------------|------------|
| Preoperational 1969   |               | Qualitative results reported |               |                | 4.86E2     |
| Preoperational 1970   |               | Qualitative results reported |               |                | 5.94E2     |
| Preoperational 1971   |               | Qualitative results reported |               |                | 4.01E2     |
| Preoperational 1972   |               | Qualitative results reported |               |                | 3.62E2     |
| 1973                  |               | Qualitative results reported |               |                | 0.00E0     |
| 1974                  | 0.00E0        | 1.32E1                       | 0.00E0        | 1.60E1         | 1.99E3     |
| Jan. 1975 – June 1975 | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 1.56E4     |
| July 1975 – Dec. 1975 | 0.00E0        | 1.34E1                       | 0.00E0        | 0.00E0         | 5.52E4     |
| 1976                  | 1.08E2        | 3.30E1                       | 0.00E0        | 3.50E1         | 2.95E4     |
| 1977                  | 2.60E1        | 1.80E1                       | 0.00E0        | 3.10E1         | 2.90E3     |
| 1978                  | 2.96E2        | 0.00E0                       | 0.00E0        | 2.22E1         | 8.00E2     |
| 1979                  | 1.33E0        | 2.60E0                       | 1.78E0        | 2.82E0         | 4.37E3     |
| 1980                  | 1.56E0        | 2.30E0                       | 1.22E0        | 5.40E0         | 4.93E3     |
| 1981                  | 1.10E0        | 6.10E-1                      | 1.70E0        | 3.90E0         | 7.21E3     |
| 1982                  | 6.14E-1       | 1.99E0                       | 2.29E0        | 4.85E0         | 6.13E3     |
| 1983                  | 6.99E-1       | 3.02E0                       | 3.91E-1       | 6.83E-1        | 8.40E3     |
| 1984                  | 9.40E-1       | 6.30E-1                      | 7.90E-1       | 4.83E-1        | 9.90E3     |
| 1985                  | 2.15E-1       | 6.27E-1                      | 4.95E-1       | 9.90E-1        | 1.05E4     |
| 1986                  | 3.28E0        | 1.23E0                       | 1.14E0        | 3.07E-1        | 1.26E4     |
| 1987 <sup>(1)</sup>   | 5.10E1        | 3.40E0                       | 4.00E0        | 0.00E0         | 7.08E3     |
| 1988                  | 6.20E0        | 5.00E0                       | 2.50E0        | 3.50E0         | 1.10E4     |
| 1989                  | 5.30E0        | 3.00E0                       | 0.00E0        | 3.40E0         | 1.02E4     |
| 1990                  | 1.70E0        | 1.60E0                       | 0.00E0        | 0.00E0         | 1.03E4     |
| 1991                  | 5.40E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 5.76E3     |
| 1992                  | 2.50E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 6.22E3     |
| 1993                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 8.62E3     |
| 1994                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 5.75E3     |
| 1995                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 6.65E3     |
| 1996                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 4.54E3     |
| 1997                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 5.50E3     |
| 1998                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 3.35E3     |
| 1999                  | 2.73E1        | 0.00E0                       | 0.00E0        | 0.00E0         | 1.13E4     |
| 2000                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 1.48E4     |
| 2001                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 7.43E3     |
| 2002                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 1.00E4     |
| 2003                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 4.77E3     |
| 2004                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 3.86E3     |
| 2005                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 5.15E3     |
| 2006                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 6.72E3     |
| 2007                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 9.91E3     |
| 2008                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 9.43E3     |
| 2009                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 4.68E3     |
| 2010                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 1.23E4     |
| 2011                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 4.75E3     |
| 2012                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 5.76E3     |
| 2013                  | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 3.68E3     |
| 2014 <sup>(2)</sup>   | 0.00E0        | 0.00E0                       | 0.00E0        | 0.00E0         | 3.49E3     |

0.00E0 indicates no detectable measurements

1979-1986 mean based on all net activity results

(1) 1987 – Gamma spectroscopy system change

(2) 2014 – Gamma spectroscopy system change

### 3.4 MILK

Gamma spectroscopy and low level iodine analysis was performed on 26 milk samples collected from the control location in 2014. 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 ONS plant operations identified in milk samples in 2014. Cs-137 is the only radionuclide, other than naturally occurring, reported in milk samples since 1988 (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 lists the highest indicator location annual mean and control location annual mean for Cs-137 since the preoperational period. The table shows similar concentrations for both indicator and control locations.

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

**Table 3.4 Mean Concentration of Radionuclides in Milk**

| Year                  | Cs-137 Indicator (pCi/l)     | Cs-137 Control (pCi/l)       |
|-----------------------|------------------------------|------------------------------|
| Preoperational        | 1.57E1                       | 1.46E1                       |
| Feb. 1973 – June 1973 | Qualitative results reported | Qualitative results reported |
| July 1973 – Dec. 1973 | 5.80E0                       | Qualitative results reported |
| Jan. 1974 – June 1974 | 5.30E0                       | 0.00E0                       |
| July 1974 – Dec. 1974 | 1.11E1                       | 0.00E0                       |
| Jan. 1975 – June 1975 | 1.51E1                       | 9.45E0                       |
| July 1975 – Dec. 1975 | 0.00E0                       | 0.00E0                       |
| 1976                  | 1.80E1                       | 7.47E0                       |
| 1977                  | 0.00E0                       | 0.00E0                       |
| 1978                  | 1.33E1                       | 1.33E1                       |
| 1979                  | 7.25E0                       | 2.52E0                       |
| 1980                  | 3.58E0                       | 2.63E0                       |
| 1981                  | 5.52E0                       | 5.51E0                       |
| 1982                  | 2.71E0                       | 3.25E0                       |
| 1983                  | 5.04E0                       | -4.27E-1                     |
| 1984                  | 2.30E0                       | 2.58E0                       |
| 1985                  | 2.38E0                       | 1.31E0                       |
| 1986                  | 2.92E0                       | 2.97E0                       |
| 1987 <sup>(1)</sup>   | 4.90E0                       | 4.90E0                       |
| 1988                  | 3.90E0                       | 3.20E0                       |
| 1989                  | 4.70E0                       | 2.90E0                       |
| 1990                  | 6.40E0                       | 0.00E0                       |
| 1991                  | 5.00E0                       | 0.00E0                       |
| 1992                  | 6.60E0                       | 0.00E0                       |
| 1993                  | 0.00E0                       | 0.00E0                       |
| 1994                  | 0.00E0                       | 1.80E0                       |
| 1995                  | 2.30E0                       | 2.00E0                       |
| 1996                  | 0.00E0                       | 4.10E0                       |
| 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                  | No Indicator Location        | 0.00E0                       |
| 2007                  | No Indicator Location        | 0.00E0                       |
| 2008                  | No Indicator Location        | 0.00E0                       |
| 2009                  | No Indicator Location        | 0.00E0                       |
| 2010                  | No Indicator Location        | 0.00E0                       |
| 2011                  | No Indicator Location        | 0.00E0                       |
| 2012                  | No Indicator Location        | 0.00E0                       |
| 2013                  | No Indicator Location        | 0.00E0                       |
| 2014 <sup>(2)</sup>   | No Indicator Location        | 0.00E0                       |

0.00E0 indicates no detectable measurements

1979 - 1986 mean based on all net activity results

(1) 1987 – Gamma spectroscopy system change

(2) 2014 – Gamma spectroscopy system change

The Oconee milk program was updated to align with NUREG-1301 during 2005 and documented in PIP O-04-01179. Location 071 was designated as the new control site effective with the 7/12/2005 sampling. No indicator dairies were identified by the 2014 land use census.

### 3.5 BROADLEAF VEGETATION

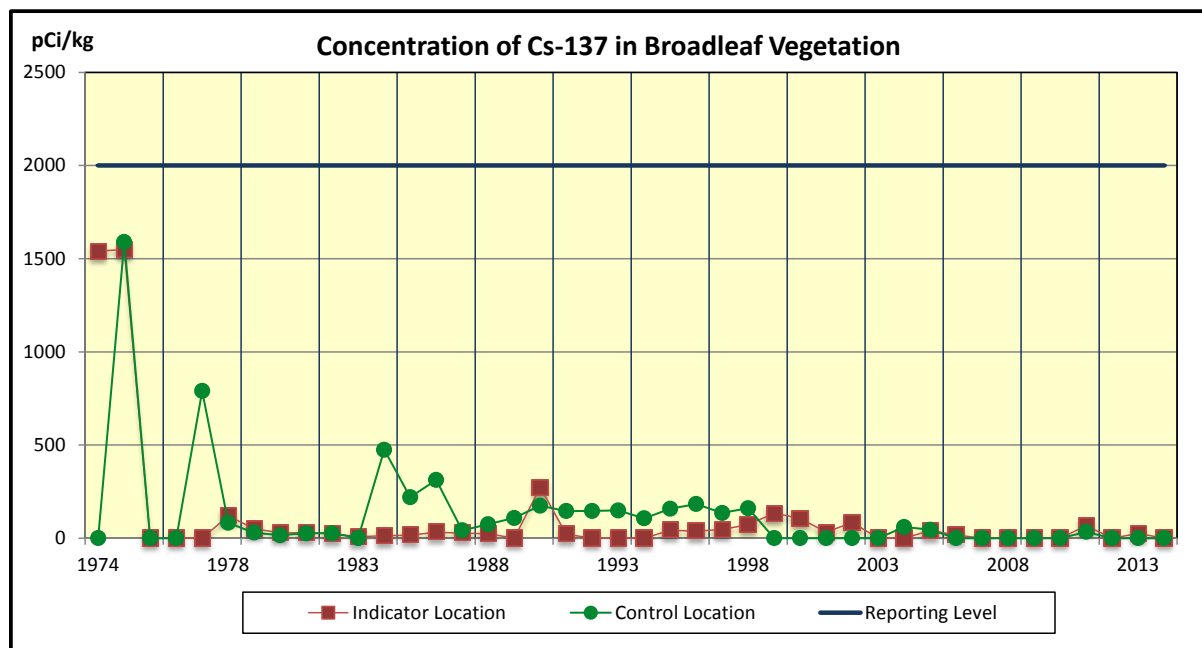
Gamma spectroscopy was performed on 48 broadleaf vegetation samples during 2014. Three indicator locations and one control location were sampled. There were no gamma emitting radionuclides attributable to ONS station operation identified in vegetation samples in 2014.

Cs-137 is the only radionuclide, other than naturally occurring, reported in vegetation samples since the change in gamma spectroscopy analysis systems in 1987. Figure 3.5 shows the indicator and control annual means for Cs-137 since the early operational period of the plant. Table 3.5 shows historical concentrations of Cs-137.

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.

**Figure 3.5**



2011 concentration affected by Fukushima Daiichi

**Table 3.5 Mean Concentration of Radionuclides in Vegetation**

| Year                  | Cs-137 Indicator (pCi/kg) | Cs-137 Control (pCi/kg) |
|-----------------------|---------------------------|-------------------------|
| July 1974 - Dec. 1974 | 1.54E3                    | 0.00E0                  |
| Jan. 1975 - June 1975 | 1.55E3                    | 1.59E3                  |
| July 1975 - Dec. 1975 | 0.00E0                    | 0.00E0                  |
| 1976                  | 0.00E0                    | 0.00E0                  |
| 1977                  | 0.00E0                    | 7.90E2                  |
| 1978                  | 1.19E2                    | 8.19E1                  |
| 1979                  | 5.04E1                    | 2.96E1                  |
| 1980                  | 2.80E1                    | 1.55E1                  |
| 1981                  | 2.99E1                    | 2.60E1                  |
| 1982                  | 2.42E1                    | 2.62E1                  |
| 1983                  | 7.44E0                    | 5.35E-1                 |
| 1984                  | 1.37E1                    | 4.74E2 <sup>†</sup>     |
| 1985                  | 1.62E1                    | 2.20E2                  |
| 1986                  | 3.28E1                    | 3.12E2                  |
| 1987 <sup>(1)</sup>   | 2.70E1                    | 4.20E1                  |
| 1988                  | 2.40E1                    | 7.50E1                  |
| 1989                  | 0.00E0                    | 1.08E2                  |
| 1990                  | 2.73E2                    | 1.74E2                  |
| 1991                  | 2.20E1                    | 1.45E2                  |
| 1992                  | 0.00E0                    | 1.46E2                  |
| 1993                  | 0.00E0                    | 1.49E2                  |
| 1994                  | 0.00E0                    | 1.06E2                  |
| 1995                  | 4.30E1                    | 1.58E2                  |
| 1996                  | 3.79E1                    | 1.83E2                  |
| 1997                  | 4.73E1                    | 1.35E2                  |
| 1998                  | 7.28E1                    | 1.61E2 <sup>††</sup>    |
| 1999                  | 1.34E2                    | 0.00E0 <sup>†††</sup>   |
| 2000                  | 1.06E2                    | 0.00E0                  |
| 2001                  | 3.19E1                    | 0.00E0                  |
| 2002                  | 8.44E1                    | 0.00E0                  |
| 2003                  | 0.00E0                    | 0.00E0                  |
| 2004                  | 0.00E0                    | 5.96E1                  |
| 2005                  | 4.51E1                    | 4.11E1                  |
| 2006                  | 1.77E1                    | 0.00E0                  |
| 2007                  | 0.00E0                    | 0.00E0                  |
| 2008                  | 0.00E0                    | 0.00E0                  |
| 2009                  | 0.00E0                    | 0.00E0                  |
| 2010                  | 0.00E0                    | 0.00E0                  |
| 2011                  | 6.68E1 <sup>††††</sup>    | 3.35E1 <sup>††††</sup>  |
| 2012                  | 0.00E0                    | 0.00E0                  |
| 2013                  | 2.57E1                    | 0.00E0                  |
| 2014 <sup>(2)</sup>   | 0.00E0                    | 0.00E0                  |

0.00E0 indicates no detectable measurements

Qualitative results reported prior to 1974

1979 - 1986 mean based on all net activity

(1) 1987 – Gamma spectroscopy system change

(2) 2014 – Gamma spectroscopy system change

† Control location changed to 073 in 1984

†† Control location 081 added in 1998

††† Control location 073 removed in 1999

†††† 2011 concentration affected by Fukushima Daiichi

### 3.6 FISH

In 2014, gamma spectroscopy was performed on 12 fish samples. Two downstream indicator and one control location were sampled. Cs-137 was identified in two of the eight indicator location samples. Cs-137 was detected in two of the four control location samples at a mean concentration of 8.82 pCi/kg. The highest average indicator concentration for Cs-137 was 14.0 pCi/kg (0.7% of reporting level).

Figures 3.6-1 and 3.6-2 are graphs displaying the annual means for Cs-137 and Cs-134. Historically, both are contributors to the calculated dose from liquid effluents from ingestion of fish. Radioactivity concentrations in downstream fish samples are higher than those reported in preoperational fish samples, however, concentrations in fish have decreased over time with decreases in radioactive material releases from the plant.

One factor affecting the trend analysis is a change in sampling locations. In 1984, a second downstream fish location was added. Location 063 is closer to the liquid effluent discharge point and has been the highest mean indicator since it was added.

Table 3.6 lists the highest indicator location annual means since the preoperational period for radionuclides detected in 2014. Also included in the table are radionuclides that have been identified in this media since the change in analysis systems in 1987. Comparison of data to previous years does not indicate any increases in concentrations.

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

Figure 3.6-1

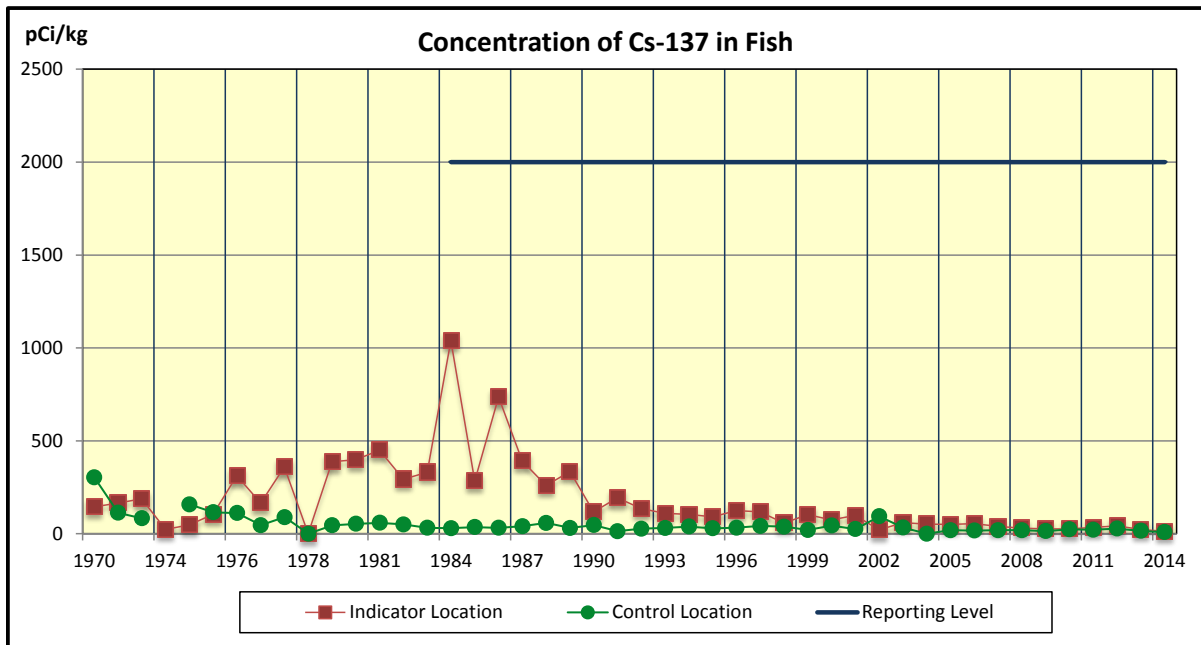
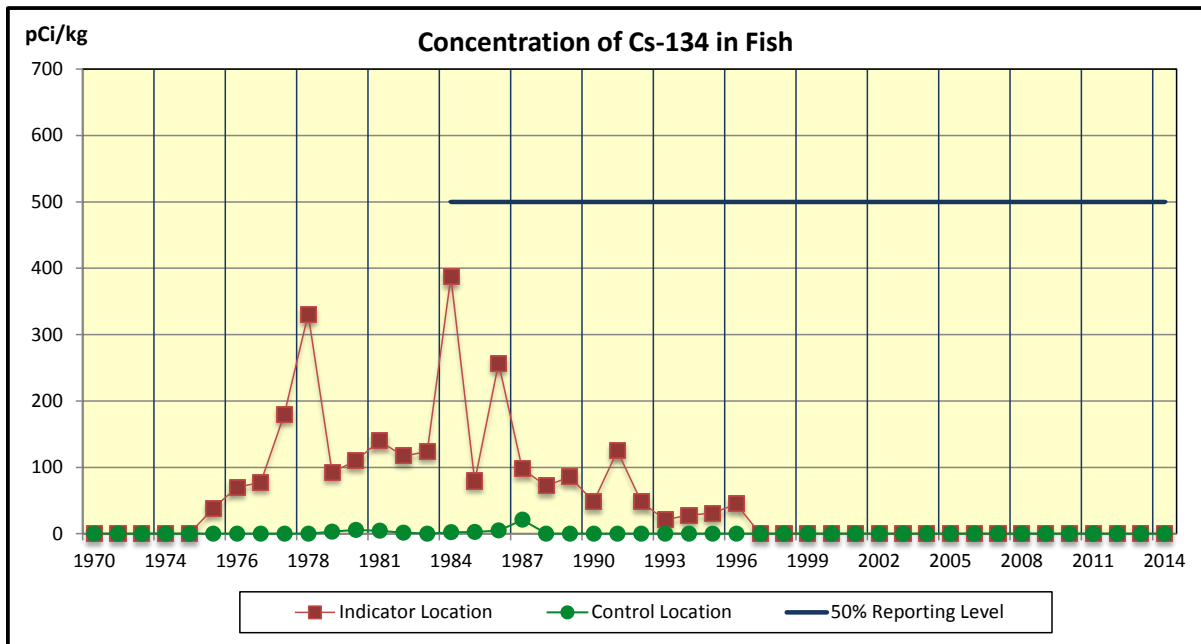


Figure 3.6-2



*Current reporting levels implemented 1984*



**Table 3.6 Mean Concentrations of Radionuclides in Fish**

| Year                  | Co-58 (pCi/kg)  | Co-60 (pCi/kg) | Cs-134 (pCi/kg) | Cs-137 (pCi/kg) |
|-----------------------|---|----------------|-----------------|-----------------|
| Preop ending Jan.1971 | 0.00E0  | 0.00E0         | 0.00E0          | 1.46E2          |
| Preop ending Jan.1973 | 0.00E0  | 0.00E0         | 0.00E0          | 1.66E2          |
| Feb. 1973 - June 1973 | Qualitative results reported-no significant measurements above background |                |                 |                 |
| July 1973 - Dec. 1973 | 0.00E0  | 0.00E0         | 0.00E0          | 1.89E2          |
| Jan. 1974 - June 1974 | 0.00E0  | 0.00E0         | 0.00E0          | 2.47E1          |
| July 1974 - Dec. 1974 | 0.00E0  | 0.00E0         | 0.00E0          | 4.85E1          |
| Jan. 1975 - June 1975 | 0.00E0  | 0.00E0         | 3.81E1          | 1.05E2          |
| July 1975 - Dec. 1975 | 8.50E1  | 0.00E0         | 7.00E1          | 3.13E2          |
| 1976                  | 5.70E1  | 1.14E2         | 7.73E1          | 1.66E2          |
| 1977                  | 0.00E0  | 0.00E0         | 1.80E2          | 3.60E2          |
| 1978                  | 3.27E2  | 0.00E0         | 3.31E2          | 0.00E0          |
| 1979                  | 1.91E0  | 1.56E1         | 9.26E1          | 3.88E2          |
| 1980                  | 1.45E1  | 1.90E1         | 1.10E2          | 3.99E2          |
| 1981                  | 2.25E1  | 1.49E1         | 1.40E2          | 4.51E2          |
| 1982                  | 9.83E-1   | 8.03E0         | 1.17E2          | 2.94E2          |
| 1983                  | 3.35E1  | 4.53E0         | 1.24E2          | 3.32E2          |
| 1984                  | 1.21E2  | 6.23E1         | 3.87E2          | 1.04E3          |
| 1985                  | 1.62E1  | 1.10E1         | 7.93E1          | 2.85E2          |
| 1986                  | 9.56E1  | 2.59E1         | 2.57E2          | 7.36E2          |
| 1987 <sup>(1)</sup>   | 1.63E2  | 6.30E1         | 9.80E1          | 3.93E2          |
| 1988                  | 9.60E1  | 0.00E0         | 7.20E1          | 2.60E2          |
| 1989                  | 4.30E1  | 1.50E1         | 8.60E1          | 3.36E2          |
| 1990                  | 1.50E1  | 0.00E0         | 4.80E1          | 1.19E2          |
| 1991                  | 4.59E1  | 0.00E0         | 1.25E2          | 1.94E2          |
| 1992                  | 6.10E1  | 0.00E0         | 4.80E1          | 1.36E2          |
| 1993                  | 0.00E0  | 0.00E0         | 2.10E1          | 1.10E2          |
| 1994                  | 0.00E0  | 0.00E0         | 2.80E1          | 1.05E2          |
| 1995                  | 0.00E0  | 0.00E0         | 3.10E1          | 9.20E1          |
| 1996                  | 0.00E0  | 0.00E0         | 4.49E1          | 1.25E2          |
| 1997                  | 0.00E0  | 0.00E0         | 0.00E0          | 1.18E2          |
| 1998                  | 0.00E0  | 0.00E0         | 0.00E0          | 5.79E1          |
| 1999                  | 0.00E0  | 0.00E0         | 0.00E0          | 1.04E2          |
| 2000                  | 0.00E0  | 0.00E0         | 0.00E0          | 7.54E1          |
| 2001                  | 1.72E1  | 0.00E0         | 0.00E0          | 9.92E1          |
| 2002                  | 0.00E0  | 0.00E0         | 0.00E0          | 9.37E1          |
| 2003                  | 5.02E1  | 0.00E0         | 0.00E0          | 6.04E1          |
| 2004                  | 0.00E0  | 0.00E0         | 0.00E0          | 5.29E1          |
| 2005                  | 0.00E0  | 0.00E0         | 0.00E0          | 5.14E1          |
| 2006                  | 0.00E0  | 0.00E0         | 0.00E0          | 5.58E1          |
| 2007                  | 0.00E0  | 0.00E0         | 0.00E0          | 4.10E1          |
| 2008                  | 0.00E0  | 0.00E0         | 0.00E0          | 3.13E1          |
| 2009                  | 9.01E0  | 0.00E0         | 0.00E0          | 2.68E1          |
| 2010                  | 0.00E0  | 0.00E0         | 0.00E0          | 2.69E1          |
| 2011                  | 0.00E0  | 0.00E0         | 0.00E0          | 3.53E1          |
| 2012                  | 1.23E2  | 3.61E1         | 0.00E0          | 4.32E1          |
| 2013                  | 0.00E0  | 0.00E0         | 0.00E0          | 2.44E1          |
| 2014 <sup>(2)</sup>   | 0.00E0  | 0.00E0         | 0.00E0          | 1.40E1          |

0.00E0 indicates no detectable measurements

1979 - 1986 mean based on all net activity

(1) 1987 – Gamma spectroscopy system change

(2) 2014 – Gamma spectroscopy system change

### 3.7 SHORELINE SEDIMENT

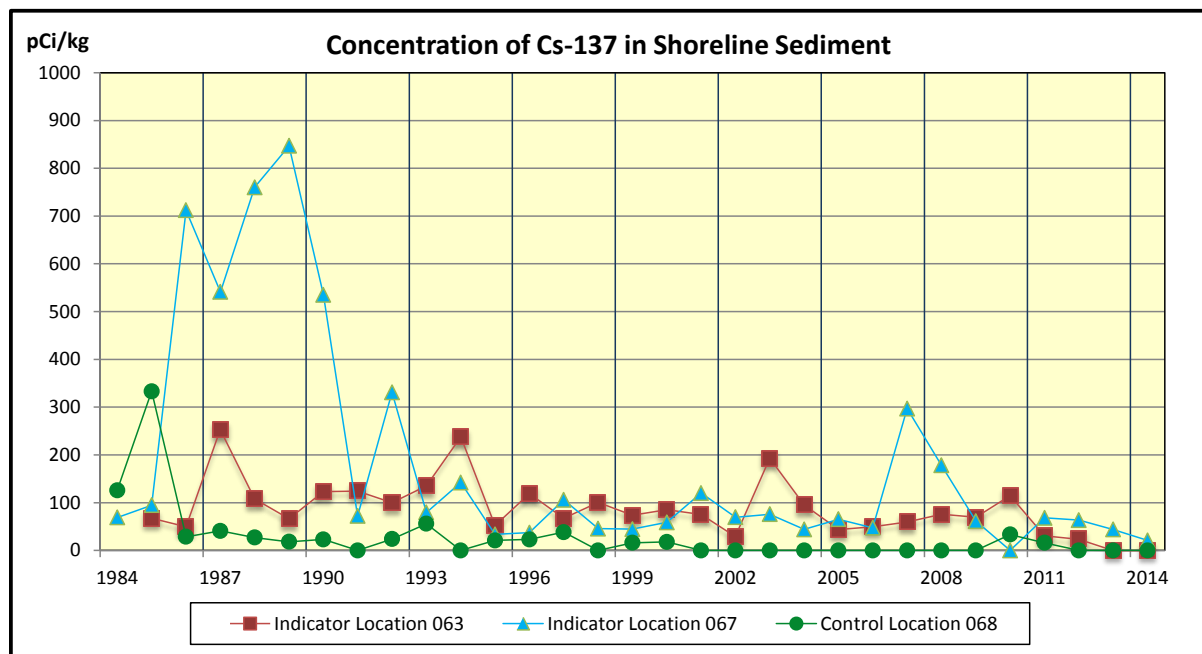
Gamma spectroscopy was performed on six sediment samples. Two downstream indicator locations and one control location were sampled. Four samples were taken from indicator locations and two from the control location.

Cs-137 was identified in one of the four indicator location samples. Cs-137 was not identified in the control location samples. The highest 2014 individual sample Cs-137 concentration was 21.1 pCi/kg. For comparison, the highest 2013 individual sample Cs-137 concentration was 43.7 pCi/kg. Table 3.7 lists the highest indicator location annual means since shoreline sediment was initiated in 1984. Included in the table are radionuclides that have been identified in this media since the change in analysis systems in 1987.

Visual inspection of the tabular data did not reveal any trends. Figure 3.7 is a graph of the Cs-137 annual means. Historically, Cs-137 is a contributor to the calculated dose from liquid effluents from shoreline sediment. No trends are apparent.

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

**Figure 3.7**



*There are no reporting levels for shoreline sediment*

**Table 3.7 Mean Concentrations of Radionuclides in Shoreline Sediment (pCi/kg)**

| Year                | Mn-54  | Co-58  | Co-60  | Zn-65  | Cs-134 | Cs-137 | Ag-110m | Sb-125 |
|---------------------|--------|--------|--------|--------|--------|--------|---------|--------|
| 1984                | 1.10E1 | 1.09E1 | 1.19E1 | 0.00E0 | 7.77E1 | 5.16E1 | 0.00E0  | 0.00E0 |
| 1985                | 9.39E0 | 1.27E0 | 4.79E0 | 0.00E0 | 7.63E1 | 9.47E1 | 0.00E0  | 0.00E0 |
| 1986                | 2.24E1 | 1.62E1 | 2.50E1 | 0.00E0 | 1.41E2 | 7.12E2 | 0.00E0  | 0.00E0 |
| 1987 <sup>(1)</sup> | 5.40E1 | 4.70E2 | 5.07E2 | 0.00E0 | 1.01E2 | 6.22E2 | 3.46E2  | 0.00E0 |
| 1988                | 3.30E1 | 1.20E2 | 1.87E2 | 6.70E1 | 6.60E1 | 7.59E2 | 1.62E2  | 3.67E2 |
| 1989                | 2.30E1 | 1.24E2 | 1.96E2 | 0.00E0 | 5.40E1 | 8.48E2 | 5.50E1  | 1.86E2 |
| 1990                | 3.40E1 | 8.00E1 | 2.59E2 | 0.00E0 | 4.50E1 | 5.36E2 | 1.71E2  | 9.00E1 |
| 1991                | 3.26E1 | 5.60E1 | 8.57E1 | 0.00E0 | 6.91E1 | 1.24E2 | 1.10E2  | 1.78E2 |
| 1992                | 8.79E1 | 1.79E2 | 1.12E2 | 0.00E0 | 5.60E1 | 3.31E2 | 1.69E2  | 2.08E2 |
| 1993                | 8.20E1 | 8.20E1 | 6.50E1 | 0.00E0 | 3.20E1 | 1.36E2 | 5.63E1  | 1.11E2 |
| 1994                | 5.30E1 | 7.00E1 | 1.49E2 | 0.00E0 | 6.70E1 | 2.38E2 | 1.04E2  | 1.29E2 |
| 1995                | 1.43E2 | 3.90E1 | 2.40E1 | 0.00E0 | 1.10E1 | 5.20E1 | 0.00E0  | 0.00E0 |
| 1996                | 0.00E0 | 5.10E1 | 0.00E0 | 0.00E0 | 1.98E1 | 1.19E2 | 0.00E0  | 0.00E0 |
| 1997                | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 1.06E2 | 0.00E0  | 0.00E0 |
| 1998                | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 1.01E2 | 0.00E0  | 0.00E0 |
| 1999                | 6.96E1 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 7.38E1 | 0.00E0  | 0.00E0 |
| 2000                | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 8.54E1 | 0.00E0  | 0.00E0 |
| 2001                | 0.00E0 | 2.10E1 | 0.00E0 | 0.00E0 | 0.00E0 | 1.20E2 | 0.00E0  | 0.00E0 |
| 2002                | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 6.96E1 | 0.00E0  | 0.00E0 |
| 2003                | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 1.93E2 | 0.00E0  | 0.00E0 |
| 2004                | 8.54E1 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 9.56E1 | 0.00E0  | 0.00E0 |
| 2005                | 2.00E2 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 6.53E1 | 0.00E0  | 0.00E0 |
| 2006                | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 5.01E1 | 0.00E0  | 0.00E0 |
| 2007                | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 2.97E2 | 0.00E0  | 0.00E0 |
| 2008                | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 1.78E2 | 0.00E0  | 0.00E0 |
| 2009                | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 6.97E1 | 0.00E0  | 0.00E0 |
| 2010                | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 1.15E2 | 0.00E0  | 0.00E0 |
| 2011                | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 6.83E1 | 0.00E0  | 0.00E0 |
| 2012                | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 6.35E1 | 0.00E0  | 0.00E0 |
| 2013                | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 4.37E1 | 0.00E0  | 0.00E0 |
| 2014 <sup>(2)</sup> | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 0.00E0 | 2.11E1 | 0.00E0  | 0.00E0 |

0.00E0 indicates no detectable measurements

1984 - 1986 mean based on all net activity

(1) 1987 – Gamma spectroscopy system change

(2) 2014 – Gamma spectroscopy system change

## **3.8 DIRECT GAMMA RADIATION**

### **3.8.1 ENVIRONMENTAL TLD**

Oconee is licensed with an exclusion area boundary defined by UFSAR Section 2.1.1.2 as a 1 mile 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" were placed within exclusion area upon inception of the REMP and all are used as indicators. Due to close proximity with Oconee, 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 1 mile exclusion area but within a 5 mile radius of station center. All outer ring TLD locations are used as indicators. A subset of TLD locations within a 7 to 13 mile radius from station center are designated as "special interest". The two "control" locations are greater than 9 miles from station center. These locations were chosen to reduce the probability of influence from Oconee operation on data. The control locations are not used as background subtraction in the TLD analysis. Their purpose is to provide a comparison to indicator locations.

In 2014, 167 total TLDs were analyzed, 159 at indicator locations and 8 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 104 mrem at indicator location 048, 3.64 miles W of station center. Figure 3.8 and Table 3.8 show TLD inner ring, outer ring, and control location annual averages in mrem per year. Data is provided from 1984 when TLD locations were added and arranged in an inner ring and outer ring configuration. Preoperational data is also provided in the table. 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 locations. Comparing data from the 2014 Oconee Annual Radiological Effluent Release Report (ARERR), dose to a member of the public resulting from gaseous effluent releases at Oconee is a small fraction of measured TLD dose. Therefore, it can be concluded that gaseous effluents from Oconee 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 3.8-B summarizes the data.

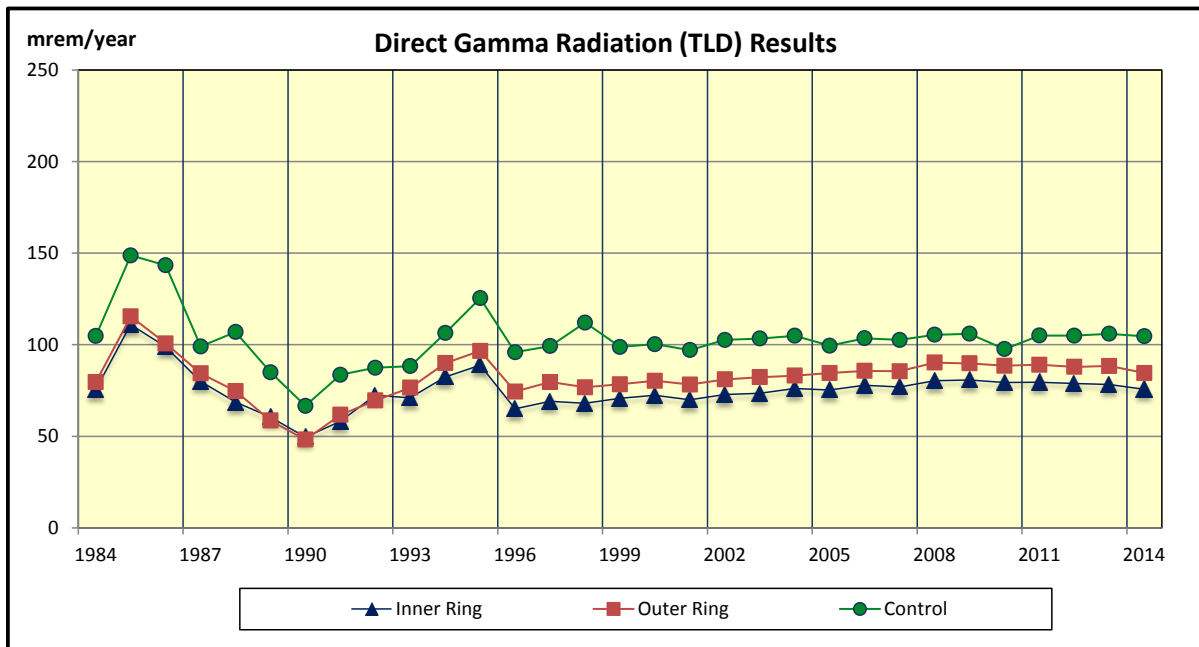
A TLD intercomparison program is conducted as part of the quality assurance program. Results of this program are included in section 5.9.

### 3.8.2 ISFSI

The Oconee ISFSI began operation in 1990. It is located 0.25 miles southwest of station center in a secured area specifically constructed to provide dry storage for spent nuclear fuel. The ISFSI employs the NUHOMS® horizontal storage module design. Irradiated fuel assemblies are confined, protected, and shielded by a reinforced concrete module. The system is completely passive and designed to provide shielding and safe confinement of spent fuel for a range of postulated accident conditions and natural phenomena. Decay heat is removed from the module by a passive ventilation system. 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.

The Oconee REMP serves as the operational program for the ISFSI. Several environmental TLD locations are presently located at the Oconee site boundary fence near the ISFSI. The closest of these is 0.3 miles from the ISFSI, well within the 1 mile exclusion boundary. In addition, dose rates at the ISFSI restricted area fence are monitored with TLDs as part of the routine REMP. These are used, in part, to control occupational exposure and augment the REMP according to the Oconee ISFSI UFSAR. The maximum TLD dose at the ISFSI fence, which is not accessible to the public, was 578 mrem per standard quarter. This is consistent with previous measurements.

**Figure 3.8**



*There is no reporting level for Direct Radiation (TLD)*

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

**Table 3.8-A Direct Gamma Radiation (TLD) Results<sup>(1)</sup>**

| <b>Year</b>    | <b>Inner Ring Average<br/>(mrem/yr)</b> | <b>Outer Ring Average<br/>(mrem/yr)</b> | <b>Control Average<br/>(mrem/yr)</b> |
|----------------|---|---|--------------------------------------|
| Preoperational | 1.07E2                                  | 1.18E2                                  | 1.42E2                               |
| 1984           | 7.54E1                                  | 7.96E1                                  | 1.05E2                               |
| 1985           | 1.11E2                                  | 1.15E2                                  | 1.49E2                               |
| 1986           | 9.90E1                                  | 1.01E2                                  | 1.43E2                               |
| 1987           | 8.01E1                                  | 8.44E1                                  | 9.91E1                               |
| 1988           | 6.87E1                                  | 7.47E1                                  | 1.07E2                               |
| 1989           | 6.05E1                                  | 5.86E1                                  | 8.49E1                               |
| 1990           | 4.96E1                                  | 4.82E1                                  | 6.66E1                               |
| 1991           | 5.81E1                                  | 6.18E1                                  | 8.36E1                               |
| 1992           | 7.24E1                                  | 6.95E1                                  | 8.74E1                               |
| 1993           | 7.11E1                                  | 7.66E1                                  | 8.84E1                               |
| 1994           | 8.25E1                                  | 9.00E1                                  | 1.06E2                               |
| 1995           | 8.89E1                                  | 9.66E1                                  | 1.25E2                               |
| 1996           | 6.51E1                                  | 7.44E1                                  | 9.60E1                               |
| 1997           | 6.92E1                                  | 7.96E1                                  | 9.93E1                               |
| 1998           | 6.81E1                                  | 7.68E1                                  | 1.12E2                               |
| 1999           | 7.08E1                                  | 7.84E1                                  | 9.88E1                               |
| 2000           | 7.24E1                                  | 8.03E1                                  | 1.00E2                               |
| 2001           | 6.99E1                                  | 7.83E1                                  | 9.71E1                               |
| 2002           | 7.28E1                                  | 8.11E1                                  | 1.03E2                               |
| 2003           | 7.36E1                                  | 8.23E1                                  | 1.03E2                               |
| 2004           | 7.61E1                                  | 8.31E1                                  | 1.05E2                               |
| 2005           | 7.54E1                                  | 8.46E1                                  | 9.95E1                               |
| 2006           | 7.79E1                                  | 8.57E1                                  | 1.04E2                               |
| 2007           | 7.70E1                                  | 8.55E1                                  | 1.03E2                               |
| 2008           | 8.04E1                                  | 9.03E1                                  | 1.05E2                               |
| 2009           | 8.08E1                                  | 8.98E1                                  | 1.06E2                               |
| 2010           | 7.94E1                                  | 8.85E1                                  | 9.77E1                               |
| 2011           | 7.96E1                                  | 8.91E1                                  | 1.05E2                               |
| 2012           | 7.89E1                                  | 8.79E1                                  | 1.05E2                               |
| 2013           | 7.83E1                                  | 8.84E1                                  | 1.06E2                               |
| 2014           | 7.58E1                                  | 8.46E1                                  | 1.05E2                               |

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

**Table 3.8-B Direct Gamma Radiation (TLD) Oconee 2014 Investigation Level**Oconee 2014 MDD<sub>Q</sub>: 7Oconee 2014 MDD<sub>A</sub>: 11

| Location | Quarterly (mrem) |                   |                   |                   |                   |                   |                   |                   |                   | Annual(mrem)   |                  |                |
|----------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|------------------|----------------|
|          | B <sub>Q</sub>   | M <sub>Q</sub> Q1 | M <sub>Q</sub> Q2 | M <sub>Q</sub> Q3 | M <sub>Q</sub> Q4 | L <sub>Q</sub> Q1 | L <sub>Q</sub> Q2 | L <sub>Q</sub> Q3 | L <sub>Q</sub> Q4 | B <sub>A</sub> | M <sub>A</sub> * | L <sub>A</sub> |
| 20       | 18.9             | 21.1              | 16.8              | 17.8              | 19.1              | ND                | ND                | ND                | ND                | 75.7           | 74.8             | ND             |
| 21       | 14.0             | 17.5              | 12.0              | 13.0              | 13.6              | ND                | ND                | ND                | ND                | 56.9           | 56.1             | ND             |
| 22-P     | 21.8             | 24.8              | 20.0              | 20.2              | 23.2              | ND                | ND                | ND                | ND                | 89.7           | 88.3             | ND             |
| 22-S     | 19.8             | 22.1              | 18.9              | 20.1              | 21.9              | ND                | ND                | ND                | ND                | 83.5           | 83.0             | ND             |
| 23-P     | 21.9             | 23.5              | 20.3              | 20.3              | 22.6              | ND                | ND                | ND                | ND                | 87.8           | 86.7             | ND             |
| 23-S     | 24.4             | 26.1              | 22.5              | 22.3              | 24.2              | ND                | ND                | ND                | ND                | 97.4           | 95.2             | ND             |
| 24-P     | 22.8             | 26.1              | 21.8              | 21.9              | 25.1              | ND                | ND                | ND                | ND                | 98.6           | 94.8             | ND             |
| 24-S     | 24.4             | 27.0              | 20.8              | 22.2              | 25.1              | ND                | ND                | ND                | ND                | 98.4           | 95.1             | ND             |
| 25       | 17.1             | 21.5              | 16.2              | 17.9              | 19.2              | ND                | ND                | ND                | ND                | 72.9           | 74.7             | ND             |
| 26       | 16.5             | 18.6              | 15.0              | 15.6              | 15.4              | ND                | ND                | ND                | ND                | 67.2           | 64.6             | ND             |
| 27-P     | 19.2             | 21.3              | 16.8              | 17.1              | 18.1              | ND                | ND                | ND                | ND                | 78.1           | 73.2             | ND             |
| 27-S     | 19.6             | 24.7              | 20.2              | 20.0              | 21.0              | ND                | ND                | ND                | ND                | 80.1           | 86.0             | ND             |
| 28       | 17.0             | 17.6              | 14.4              | 15.6              | 17.9              | ND                | ND                | ND                | ND                | 68.3           | 65.5             | ND             |
| 29       | 15.7             | 16.2              | 14.3              | 13.7              | 15.7              | ND                | ND                | ND                | ND                | 63.3           | 59.9             | ND             |
| 30       | 17.0             | 18.1              | 14.5              | 15.8              | 18.5              | ND                | ND                | ND                | ND                | 70.6           | 67.0             | ND             |
| 31       | 16.4             | 18.1              | 14.1              | 16.7              | 16.9              | ND                | ND                | ND                | ND                | 65.7           | 65.7             | ND             |
| 32       | 22.9             | 19.5              | 16.3              | 15.6              | 19.1              | ND                | ND                | ND                | ND                | 94.5           | 70.5             | ND             |
| 33       | 19.5             | 21.2              | 16.8              | 17.0              | 20.7              | ND                | ND                | ND                | ND                | 77.9           | 75.7             | ND             |
| 34       | 21.5             | 23.9              | 20.1              | 19.9              | 22.4              | ND                | ND                | ND                | ND                | 86.0           | 86.4             | ND             |
| 35       | 22.9             | 26.6              | 21.3              | 22.1              | 25.7              | ND                | ND                | ND                | ND                | 93.3           | 95.7             | ND             |
| 36-P     | 26.5             | 26.6              | ---               | 21.6              | 25.5              | ND                | ND                | ND                | ND                | 105.1          | 98.2             | ND             |
| 36-S     | 23.0             | 23.4              | 19.9              | 19.2              | 22.7              | ND                | ND                | ND                | ND                | 92.2           | 85.1             | ND             |
| 37-P     | 20.4             | 22.4              | 16.5              | 17.0              | 17.7              | ND                | ND                | ND                | ND                | 82.0           | 73.6             | ND             |
| 37-S     | 17.9             | 19.4              | 18.2              | 19.2              | 21.0              | ND                | ND                | ND                | ND                | 71.6           | 77.8             | ND             |
| 38-P     | 21.9             | 24.2              | 19.3              | 18.4              | 22.7              | ND                | ND                | ND                | ND                | 87.5           | 84.6             | ND             |
| 38-S     | 25.6             | 25.7              | 20.0              | 20.6              | 24.8              | ND                | ND                | ND                | ND                | 102.4          | 91.2             | ND             |
| 39-P     | 24.2             | 25.4              | 21.9              | 22.3              | 24.1              | ND                | ND                | ND                | ND                | 96.2           | 93.8             | ND             |
| 39-S     | 23.2             | 24.7              | 20.6              | 20.9              | 22.0              | ND                | ND                | ND                | ND                | 92.7           | 88.3             | ND             |
| 40       | 23.7             | 28.1              | 23.0              | 23.3              | 26.9              | ND                | ND                | ND                | ND                | 101.1          | 101.3            | ND             |
| 41-P     | 17.3             | 18.6              | 14.5              | 14.6              | 17.4              | ND                | ND                | ND                | ND                | 69.1           | 65.2             | ND             |
| 41-S     | 16.9             | 19.5              | 15.4              | 14.9              | 17.7              | ND                | ND                | ND                | ND                | 68.3           | 67.5             | ND             |
| 42-P     | 25.0             | 27.7              | 23.3              | 24.3              | 26.2              | ND                | ND                | ND                | ND                | 102.2          | 101.6            | ND             |
| 42-S     | 24.8             | 26.6              | 22.9              | 23.2              | 24.9              | ND                | ND                | ND                | ND                | 102.0          | 97.6             | ND             |
| 43       | 23.8             | ---               | 20.9              | 21.4              | 23.9              | ND                | ND                | ND                | ND                | 95.3           | 88.3             | ND             |
| 44-P     | 18.3             | 20.7              | 16.9              | 17.5              | 18.1              | ND                | ND                | ND                | ND                | 80.0           | 73.2             | ND             |
| 44-S     | 18.7             | 18.6              | 15.1              | 15.6              | 17.7              | ND                | ND                | ND                | ND                | 74.8           | 67.0             | ND             |
| 45-P     | 17.0             | 17.6              | 14.4              | 14.8              | 19.2              | ND                | ND                | ND                | ND                | 67.9           | 66.0             | ND             |
| 45-S     | 18.5             | 20.0              | 16.9              | 17.5              | 19.3              | ND                | ND                | ND                | ND                | 79.4           | 73.6             | ND             |
| 46-P     | 21.5             | 23.9              | 20.1              | 21.6              | 22.4              | ND                | ND                | ND                | ND                | 91.8           | 88.1             | ND             |
| 46-S     | 20.7             | 21.1              | 19.2              | 19.1              | 22.0              | ND                | ND                | ND                | ND                | 83.3           | 81.4             | ND             |
| 47       | 22.4             | 25.3              | 20.7              | 20.1              | 22.6              | ND                | ND                | ND                | ND                | 91.1           | 88.7             | ND             |
| 48-P     | 25.3             | 26.9              | 23.2              | 24.7              | 26.6              | ND                | ND                | ND                | ND                | 101.3          | 101.4            | ND             |
| 48-S     | 25.4             | 28.4              | 22.9              | 23.2              | 25.3              | ND                | ND                | ND                | ND                | 103.7          | 99.8             | ND             |
| 49-P     | 20.7             | 24.1              | 20.2              | 21.5              | 22.7              | ND                | ND                | ND                | ND                | 82.6           | 88.5             | ND             |
| 49-S     | 19.2             | 22.0              | 18.1              | 19.4              | 20.3              | ND                | ND                | ND                | ND                | 78.6           | 79.9             | ND             |
| 50-P     | 17.7             | 19.2              | 15.4              | 18.1              | 18.4              | ND                | ND                | ND                | ND                | 70.9           | 71.1             | ND             |
| 50-S     | 16.6             | 18.6              | 14.3              | 15.4              | 16.9              | ND                | ND                | ND                | ND                | 66.4           | 65.2             | ND             |
| 51-P     | 19.0             | 20.0              | 17.6              | 17.5              | 18.6              | ND                | ND                | ND                | ND                | 76.2           | 73.6             | ND             |
| 51-S     | 18.1             | 21.6              | 16.2              | 16.4              | 19.3              | ND                | ND                | ND                | ND                | 72.6           | 73.5             | ND             |

\* Ma determined by normalizing available quarterly data to 4 full quarters

*Table 3.8-B continued on the next page*



Table 3.8-B continued from preceding page

|                                  |                                   |
|----------------------------------|-----------------------------------|
| Oconee 2014 MDD <sub>Q</sub> : 7 | Oconee 2014 MDD <sub>A</sub> : 11 |
|----------------------------------|-----------------------------------|

| Quarterly (mrem) |                |                   |                   |                   |                   |                   |                   |                   |                   | Annual(mrem)   |                             |                |
|------------------|----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|-----------------------------|----------------|
| Location         | B <sub>Q</sub> | M <sub>Q</sub> Q1 | M <sub>Q</sub> Q2 | M <sub>Q</sub> Q3 | M <sub>Q</sub> Q4 | L <sub>Q</sub> Q1 | L <sub>Q</sub> Q2 | L <sub>Q</sub> Q3 | L <sub>Q</sub> Q4 | B <sub>A</sub> | M <sub>A</sub> <sup>*</sup> | L <sub>A</sub> |
| 52-P             | 22.9           | 25.7              | 21.6              | 21.3              | 23.3              | ND                | ND                | ND                | ND                | 94.8           | 91.8                        | ND             |
| 52-S             | 28.9           | 31.8              | 28.6              | 27.1              | 29.7              | ND                | ND                | ND                | ND                | 117.0          | 117.2                       | ND             |
| 53-P             | 25.1           | 27.8              | 22.4              | 20.6              | 26.0              | ND                | ND                | ND                | ND                | 102.3          | 96.9                        | ND             |
| 53-S             | 24.9           | 30.2              | 22.0              | 22.5              | 25.0              | ND                | ND                | ND                | ND                | 103.6          | 99.8                        | ND             |
| 54-P             | 18.5           | 23.0              | 16.2              | 16.5              | 20.4              | ND                | ND                | ND                | ND                | 76.5           | 76.2                        | ND             |
| 54-S             | 20.6           | 24.7              | 20.1              | 19.7              | 21.9              | ND                | ND                | ND                | ND                | 85.7           | 86.4                        | ND             |
| 55-P             | 15.5           | 18.5              | 13.4              | 14.0              | 16.2              | ND                | ND                | ND                | ND                | 65.1           | 62.0                        | ND             |
| 55-S             | 15.2           | 17.4              | 14.7              | 14.7              | 15.9              | ND                | ND                | ND                | ND                | 65.0           | 62.7                        | ND             |
| 56-P             | 22.8           | 24.7              | 21.5              | 21.1              | 22.5              | ND                | ND                | ND                | ND                | 91.8           | 89.8                        | ND             |
| 56-S             | 16.3           | 19.3              | 14.4              | 15.1              | 15.6              | ND                | ND                | ND                | ND                | 65.4           | 64.4                        | ND             |
| 57-P             | 22.4           | 26.8              | 20.8              | 20.1              | 23.4              | ND                | ND                | ND                | ND                | 93.6           | 91.1                        | ND             |
| 57-S             | 19.7           | 22.2              | 18.3              | 19.3              | 19.4              | ND                | ND                | ND                | ND                | 76.7           | 79.2                        | ND             |
| 58               | 29.3           | 33.2              | 30.0              | 28.6              | 31.1              | ND                | ND                | ND                | ND                | 119.7          | 122.8                       | ND             |
| 59               | 24.1           | 25.7              | 22.9              | 24.1              | 24.1              | ND                | ND                | ND                | ND                | 98.5           | 96.9                        | ND             |
| 76               | 20.8           | 25.7              | 20.6              | 20.0              | 20.4              | ND                | ND                | ND                | ND                | 89.0           | 86.7                        | ND             |
| 81               | 21.9           | 24.2              | 21.2              | 20.5              | 23.5              | ND                | ND                | ND                | ND                | 91.1           | 89.4                        | ND             |

\* Ma determined by normalizing available quarterly data to 4 full quarters

#### Table 3.8-B definition of terms

- MDD<sub>Q</sub> = minimum differential dose, quarterly, 3 times 90<sup>th</sup> percentile s<sub>Q</sub> determined from analysis in mrem
- MDD<sub>A</sub> = minimum differential dose, annual, 3 times 90<sup>th</sup> percentile s<sub>A</sub> determined from analysis in mrem
- B<sub>Q</sub> = Quarterly baseline (mrem)
- M<sub>Q</sub> = location's 91 day standard quarter normalized dose (mrem per standard quarter)
- L<sub>Q</sub> = quarterly investigation level dose (mrem)
- B<sub>A</sub> = baseline background dose (mrem) (annual)
- M<sub>A</sub> = annual monitoring data - Ma determined by normalizing available quarterly data to 4 full quarters
- L<sub>A</sub> = annual investigation level dose (mrem)
- ND = not detected

### 3.9 LAND USE CENSUS

The Land Use Census was conducted during the growing season (5/12 – 5/13/2014) as required by SLC 16.11.6. Table 3.9 summarizes census results. A map indicating identified locations is shown in Figure 3.9. The nearest residence is located in the NNW sector at 1.03 miles. No program changes were required based on the results of the census.

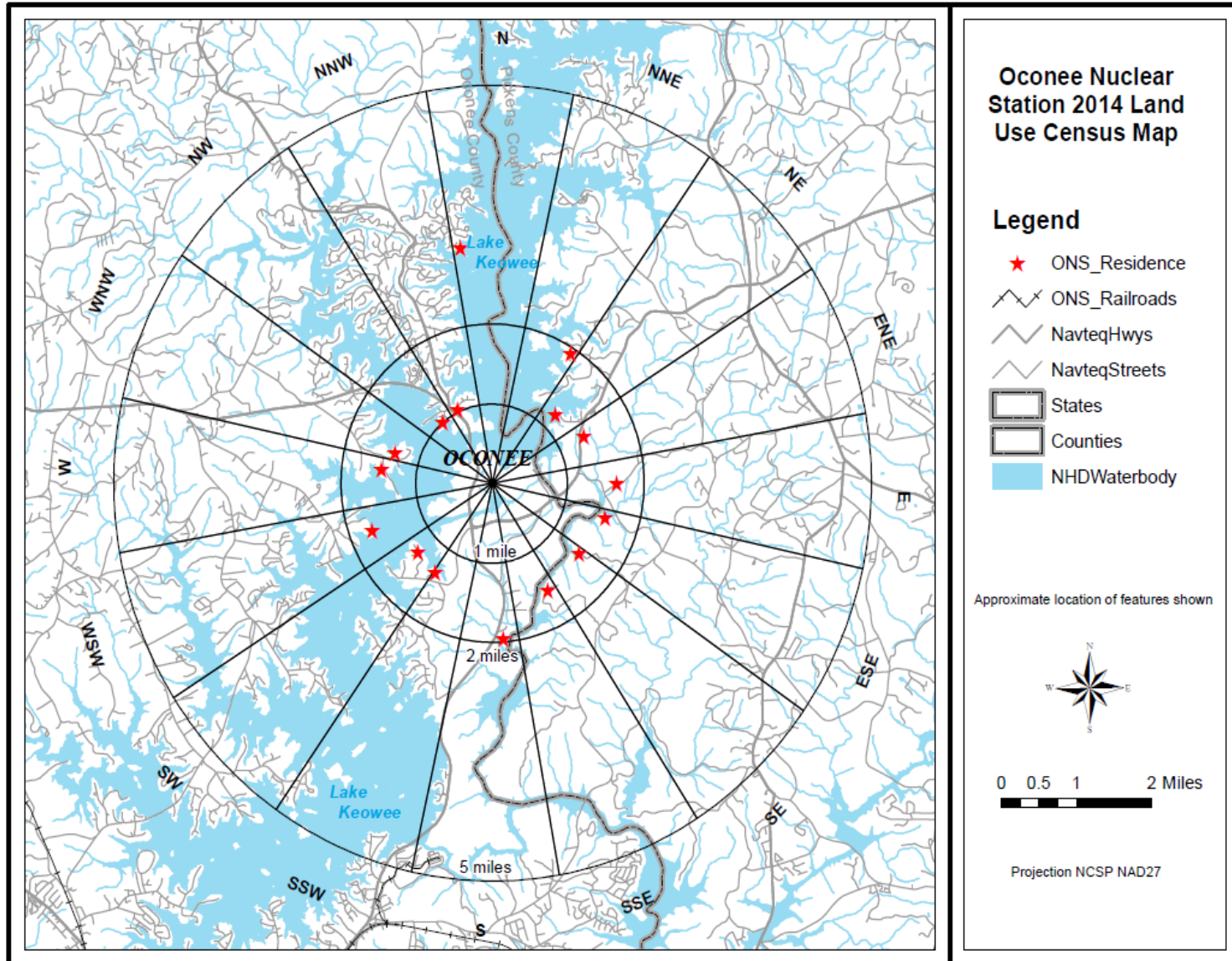
**Table 3.9 Oconee 2014 Land Use Census Results**

| Sector     |                     | Distance<br>(Miles) | Sector     |                     | Distance<br>(Miles) |
|------------|---------------------|---------------------|------------|---------------------|---------------------|
| <b>N</b>   | Nearest Residence   | 2.98                | <b>S</b>   | Nearest Residence   | 1.96                |
|            | Nearest Milk Animal | -                   |            | Nearest Milk Animal | -                   |
| <b>NNE</b> | Nearest Residence   | 1.84                | <b>SSW</b> | Nearest Residence   | 1.36                |
|            | Nearest Milk Animal | -                   |            | Nearest Milk Animal | -                   |
| <b>NE</b>  | Nearest Residence   | 1.20                | <b>SW</b>  | Nearest Residence   | 1.31                |
|            | Nearest Milk Animal | -                   |            | Nearest Milk Animal | -                   |
| <b>ENE</b> | Nearest Residence   | 1.34                | <b>WSW</b> | Nearest Residence   | 1.76                |
|            | Nearest Milk Animal | -                   |            | Nearest Milk Animal | -                   |
| <b>E</b>   | Nearest Residence   | 1.64                | <b>W</b>   | Nearest Residence   | 1.58                |
|            | Nearest Milk Animal | -                   |            | Nearest Milk Animal | -                   |
| <b>ESE</b> | Nearest Residence   | 1.57                | <b>WNW</b> | Nearest Residence   | 1.35                |
|            | Nearest Milk Animal | -                   |            | Nearest Milk Animal | -                   |
| <b>SE</b>  | Nearest Residence   | 1.46                | <b>NW</b>  | Nearest Residence   | 1.04                |
|            | Nearest Milk Animal | -                   |            | Nearest Milk Animal | -                   |
| <b>SSE</b> | Nearest Residence   | 1.54                | <b>NNW</b> | Nearest Residence   | 1.03                |
|            | Nearest Milk Animal | -                   |            | Nearest Milk Animal | -                   |

“-“ indicates no occurrences within the 5 mile radius

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

Figure 3.9



---

## 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 ONS 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 conservatively calculated in a manner as equivalent as possible to effluent-based dose estimates.

Doses based on REMP 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, after subtracting the applicable average background concentration (as measured at the corresponding control location). Regulatory Guide 1.109 consumption rates for the maximum exposed individual were used in the calculations. A dose factor of zero was assumed when the guide listed “NO DATA” as the dose factor for a given radionuclide and organ.

Maximum dose estimates calculated using drinking water, fish, and shoreline sediment results are reported in Table 4.1-A. The individual critical population and pathway dose calculations are contained in Table 4.1-B.

No radionuclides attributable to ONS operations were detected in milk, airborne radioiodine or airborne particulate samples. Naturally occurring K-40 and Be-7 were detected in some samples but were not included in any REMP-based dose estimates. Dose estimates were not calculated for surface water samples because surface water is not considered a potable drinking water source although surface water tritium concentrations are used in calculating doses from fish. REMP TLD exposure results are discussed in Section 3.8.

The maximum environmental organ dose estimate for any single sample type (excluding TLD results) collected during 2014 was 4.58E-2 mrem to the child liver 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 of 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, milk, inhalation and vegetation pathways.

### **4.3 COMPARISON OF DOSES**

The liquid environmental and release data doses 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.

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

In calculations based on liquid release effluent pathways, fish and drinking water were the predominant dose pathways based on environmental and effluent samples. The maximum total organ dose based on 2014 environmental sample results was 4.58E-2 mrem to the child liver. The maximum total organ dose of 1.62E-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 gaseous effluent dose is due to C-14 and tritium in broadleaf vegetation. The maximum total organ dose for gaseous effluent estimates was 3.39E-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 ONS are being maintained well within regulatory limits.

**TABLE 4.1-A**

**OCONEE NUCLEAR STATION  
2014 ENVIRONMENTAL AND EFFLUENT DOSE COMPARISON**

**LIQUID RELEASE PATHWAY**

| <b>Organ</b> | <b>Environmental<br/>or<br/>Effluent Data</b> | <b>Critical<br/>Age <sup>(1)</sup></b> | <b>Critical<br/>Pathway <sup>(2)</sup></b> | <b>Location</b>   | <b>Maximum Dose <sup>(3)</sup><br/>(mrem)</b> |
|--------------|---|--|--|-------------------|---|
| Skin         | Environmental                                 | Teen                                   | Shoreline Sediment                         | 067 (4.34 mi SSE) | 5.54E-05                                      |
| Skin         | Effluent                                      | Teen                                   | Shoreline Sediment                         | Discharge Pt.     | 8.51E-04                                      |
| Bone         | Environmental                                 | Child                                  | Fresh Water Fish                           | 063 (0.80 mi ESE) | 1.17E-02                                      |
| Bone         | Effluent                                      | Child                                  | Fresh Water Fish                           | Discharge Pt.     | 6.20E-02                                      |
| Liver        | Environmental                                 | Child                                  | Drinking Water                             | 066 (18.9 mi SSE) | 4.58E-02                                      |
| Liver        | Effluent                                      | Child                                  | Drinking Water                             | 18.9 mi SSE       | 1.62E-01                                      |
| T. Body      | Environmental                                 | Adult                                  | Drinking Water                             | 066 (18.9 mi SSE) | 3.71E-02                                      |
| T. Body      | Effluent                                      | Adult                                  | Fresh Water Fish                           | Discharge Pt.     | 1.46E-01                                      |
| Thyroid      | Environmental                                 | Child                                  | Drinking Water                             | 066 (18.9 mi SSE) | 3.46E-02                                      |
| Thyroid      | Effluent                                      | Child                                  | Drinking Water                             | 18.9 mi SSE       | 1.22E-01                                      |
| Kidney       | Environmental                                 | Child                                  | Drinking Water                             | 066 (18.9 mi SSE) | 3.83E-02                                      |
| Kidney       | Effluent                                      | Child                                  | Drinking Water                             | 18.9 mi SSE       | 1.34E-01                                      |
| Lung         | Environmental                                 | Child                                  | Drinking Water                             | 066 (18.9 mi SSE) | 3.59E-02                                      |
| Lung         | Effluent                                      | Child                                  | Drinking Water                             | 18.9 mi SSE       | 1.26E-01                                      |
| GI-LLI       | Environmental                                 | Child                                  | Drinking Water                             | 066 (18.9 mi SSE) | 3.47E-02                                      |
| GI-LLI       | Effluent                                      | Adult                                  | Drinking Water                             | 18.9 mi SSE       | 1.31E-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 <sup>(1)</sup> | Critical Pathway <sup>(2)</sup> | Location   | Maximum Dose <sup>(3)</sup> (mrem) |
|---------|--------------------------------|-----------------------------|---------------------------------|------------|------------------------------------|
| Skin    | Environmental                  | -                           | -                               | -          | 0.00E+00                           |
| Skin    | Effluent                       | All                         | Ground Plane                    | 1.0 mi. SW | 6.24E-06                           |
| Bone    | Environmental                  | -                           | -                               | -          | 0.00E+00                           |
| Bone    | Effluent                       | Child                       | Vegetation                      | 1.0 mi. SW | 3.39E-01                           |
| Liver   | Environmental                  | -                           | -                               | -          | 0.00E+00                           |
| Liver   | Effluent                       | Child                       | Vegetation                      | 1.0 mi. SW | 1.25E-01                           |
| T. Body | Environmental                  | -                           | -                               | -          | 0.00E+00                           |
| T. Body | Effluent                       | Child                       | Vegetation                      | 1.0 mi. SW | 1.25E-01                           |
| Thyroid | Environmental                  | -                           | -                               | -          | 0.00E+00                           |
| Thyroid | Effluent                       | Child                       | Vegetation                      | 1.0 mi. SW | 1.25E-01                           |
| Kidney  | Environmental                  | -                           | -                               | -          | 0.00E+00                           |
| Kidney  | Effluent                       | Child                       | Vegetation                      | 1.0 mi. SW | 1.25E-01                           |
| Lung    | Environmental                  | -                           | -                               | -          | 0.00E+00                           |
| Lung    | Effluent                       | Child                       | Vegetation                      | 1.0 mi. SW | 1.25E-01                           |
| GI-LLI  | Environmental                  | -                           | -                               | -          | 0.00E+00                           |
| GI-LLI  | Effluent                       | Child                       | Vegetation                      | 1.0 mi. SW | 1.25E-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 Oconee Nuclear Station*

| Age           | Sample Medium        | Bone     | Liver    | T. Body  | Thyroid  | Kidney   | Lung     | GI-LLI   | Skin     |
|---------------|----------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| <b>Infant</b> | 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 | 2.97E-02 | 2.97E-02 | 2.97E-02 | 2.97E-02 | 2.97E-02 | 2.97E-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 |
|               | TOTAL                | 0.00E+00 | 2.97E-02 | 2.97E-02 | 2.97E-02 | 2.97E-02 | 2.97E-02 | 2.97E-02 | 0.00E+00 |
| <b>Child</b>  | Airborne             | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
|               | Drinking Water       | 0.00E+00 | 3.02E-02 | 3.02E-02 | 3.02E-02 | 3.02E-02 | 3.02E-02 | 3.02E-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                 | 1.17E-02 | 1.56E-02 | 6.06E-03 | 4.40E-03 | 8.05E-03 | 5.72E-03 | 4.47E-03 | 0.00E+00 |
|               | Shoreline Sediment   | 0.00E+00 | 0.00E+00 | 9.93E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.16E-05 |
|               | TOTAL                | 1.17E-02 | 4.58E-02 | 3.63E-02 | 3.46E-02 | 3.83E-02 | 3.59E-02 | 3.47E-02 | 1.16E-05 |
| <b>Teen</b>   | 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 | 1.58E-02 | 1.58E-02 | 1.58E-02 | 1.58E-02 | 1.58E-02 | 1.58E-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                 | 9.28E-03 | 1.77E-02 | 9.63E-03 | 5.33E-03 | 9.53E-03 | 6.96E-03 | 5.51E-03 | 0.00E+00 |
|               | Shoreline Sediment   | 0.00E+00 | 0.00E+00 | 4.75E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 5.54E-05 |
|               | TOTAL                | 9.28E-03 | 3.35E-02 | 2.55E-02 | 2.11E-02 | 2.53E-02 | 2.28E-02 | 2.13E-02 | 5.54E-05 |
| <b>Adult</b>  | 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 | 2.24E-02 | 2.24E-02 | 2.24E-02 | 2.24E-02 | 2.24E-02 | 2.24E-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                 | 8.67E-03 | 1.88E-02 | 1.47E-02 | 6.93E-03 | 1.10E-02 | 8.27E-03 | 7.16E-03 | 0.00E+00 |
|               | Shoreline Sediment   | 0.00E+00 | 0.00E+00 | 8.51E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.93E-06 |
|               | TOTAL                | 8.67E-03 | 4.12E-02 | 3.71E-02 | 2.93E-02 | 3.34E-02 | 3.07E-02 | 2.96E-02 | 9.93E-06 |

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



***Oconee 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> |          |          |          |          |          |          | Highest Annual<br>Net Mean<br><u>Concentration</u> |                  | <u>Dose (mrem)</u> |          |          |          |          |          |          |
|--------------------------|------------------------------|----------|----------|----------|----------|----------|----------|--|------------------|--------------------|----------|----------|----------|----------|----------|----------|
|                          | Bone                         | Liver    | T. Body  | Thyroid  | Kidney   | Lung     | GI-LLI   | Indicator<br>Location                              | Water<br>(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 | 066  | 292              | 0.00E+00           | 2.97E-02 | 2.97E-02 | 2.97E-02 | 2.97E-02 | 2.97E-02 | 2.97E-02 |
| Dose Commitment (mrem) = |                              |          |          |          |          |          |          |  |                  | 0.00E+00           | 2.97E-02 | 2.97E-02 | 2.97E-02 | 2.97E-02 | 2.97E-02 | 2.97E-02 |

***Oconee 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<br/>Net Mean<br/>Concentration</u> |                  | <u>Dose (mrem)</u> |          |          |          |          |          |          |
|--------------------------|------------------------------|----------|----------|----------|----------|----------|----------|--|------------------|--------------------|----------|----------|----------|----------|----------|----------|
|                          | Bone                         | Liver    | T. Body  | Thyroid  | Kidney   | Lung     | GI-LLI   | Indicator<br>Location                                | Water<br>(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 | 066  | 292              | 0.00E+00           | 3.02E-02 | 3.02E-02 | 3.02E-02 | 3.02E-02 | 3.02E-02 | 3.02E-02 |
| Dose Commitment (mrem) = |                              |          |          |          |          |          |          |  |                  | 0.00E+00           | 3.02E-02 | 3.02E-02 | 3.02E-02 | 3.02E-02 | 3.02E-02 | 3.02E-02 |

***Oconee 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 = 3493 pCi/l x 0.9 = 3144 pCi/kg

Usage (intake in one year) = 6.9 kg

| Radionuclide             | <u>Ingestion Dose Factor</u> |          |          |          |          |          |          | <u>Highest Annual<br/>Net Mean<br/>Concentration</u> |                  | <u>Dose (mrem)</u> |          |          |          |          |          |          |
|--------------------------|------------------------------|----------|----------|----------|----------|----------|----------|--|------------------|--------------------|----------|----------|----------|----------|----------|----------|
|                          | Bone                         | Liver    | T. Body  | Thyroid  | Kidney   | Lung     | GI-LLI   | Indicator<br>Location                                | Fish<br>(pCi/kg) | Bone               | Liver    | T. Body  | Thyroid  | Kidney   | Lung     | GI-LLI   |
|                          |                              |          |          |          |          |          |          |  |                  |                    |          |          |          |          |          |          |
| Mn-54                    | NO DATA                      | 1.07E-05 | 2.85E-06 | NO DATA  | 3.00E-06 | NO DATA  | 8.98E-06 | ALL  | 0.00             | 0.00E+00           | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Co-58                    | NO DATA                      | 1.80E-06 | 5.51E-06 | NO DATA  | NO DATA  | NO DATA  | 1.05E-05 | ALL  | 0.00             | 0.00E+00           | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Fe-59                    | 1.65E-05                     | 2.67E-05 | 1.33E-05 | NO DATA  | NO DATA  | 7.74E-06 | 2.78E-05 | ALL  | 0.00             | 0.00E+00           | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| C0-60                    | NO DATA                      | 5.29E-06 | 1.56E-05 | NO DATA  | NO DATA  | NO DATA  | 2.93E-05 | ALL  | 0.00             | 0.00E+00           | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Zn-65                    | 1.37E-05                     | 3.65E-05 | 2.27E-05 | NO DATA  | 2.30E-05 | NO DATA  | 6.41E-06 | ALL  | 0.00             | 0.00E+00           | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Cs-134                   | 2.34E-04                     | 3.84E-04 | 8.10E-05 | NO DATA  | 1.19E-04 | 4.27E-05 | 2.07E-06 | ALL  | 0.00             | 0.00E+00           | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Cs-137                   | 3.27E-04                     | 3.13E-04 | 4.62E-05 | NO DATA  | 1.02E-04 | 3.67E-05 | 1.96E-06 | 063  | 5.18             | 1.17E-02           | 1.12E-02 | 1.65E-03 | 0.00E+00 | 3.65E-03 | 1.31E-03 | 7.01E-05 |
| H-3                      | NO DATA                      | 2.03E-07 | 2.03E-07 | 2.03E-07 | 2.03E-07 | 2.03E-07 | 2.03E-07 | 063  | 3144             | 0.00E+00           | 4.40E-03 | 4.40E-03 | 4.40E-03 | 4.40E-03 | 4.40E-03 | 4.40E-03 |
| Dose Commitment (mrem) = |                              |          |          |          |          |          |          |  |                  | 1.17E-02           | 1.56E-02 | 6.06E-03 | 4.40E-03 | 8.05E-03 | 5.72E-03 | 4.47E-03 |

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

Shoreline Recreation = 14 hr (in one year)  
 Shore Width Factor = 0.2  
 Sediment Surface Mass = 40 kg/m<sup>2</sup>

Child Dose from Shoreline Sediment Pathway (mrem) = Shoreline Recreation (hr) x External  
 Dose Factor (mrem/hr per pCi/m<sup>2</sup>) x Shore Width Factor x Sediment Surface Mass (kg/m<sup>2</sup>) x  
 Sediment Concentration (pCi/kg)

| External Dose Factor Standing<br>on Contaminated Ground |                                   |          | Highest Annual Net<br>Mean Concentration |                      | Dose     |          |
|---|-----------------------------------|----------|--|----------------------|----------|----------|
| Radionuclide  | (mrem/hr per pCi/m <sup>2</sup> ) |          | Indicator<br>Location                    | Sediment<br>(pCi/kg) | (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 | 067                                      | 21.1                 | 9.93E-06 | 1.16E-05 |
| Dose Commitment (mrem) =                                |                                   |          |  |                      | 9.93E-06 | 1.16E-05 |

***Oconee 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<br/>Net Mean<br/>Concentration</u> |                  | <u>Dose (mrem)</u> |          |          |          |          |          |          |
|-------------------------|------------------------------|----------|----------|----------|----------|----------|----------|--|------------------|--------------------|----------|----------|----------|----------|----------|----------|
|                         | Bone                         | Liver    | T. Body  | Thyroid  | Kidney   | Lung     | GI-LLI   | Indicator<br>Location                                | Water<br>(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 | 066  | 292              | 0.00E+00           | 1.58E-02 | 1.58E-02 | 1.58E-02 | 1.58E-02 | 1.58E-02 | 1.58E-02 |
| Dose Commitment (mrem)= |                              |          |          |          |          |          |          |  |                  | 0.00E+00           | 1.58E-02 | 1.58E-02 | 1.58E-02 | 1.58E-02 | 1.58E-02 | 1.58E-02 |

***Oconee 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 = 3493 pCi/l x 0.9 = 3144 pCi/kg

Usage (intake in one year) = 16 kg

| Radionuclide             | <u>Ingestion Dose Factor</u> |          |          |          |          |          |          | <u>Highest Annual<br/>Net Mean<br/>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  | 0.0      | 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 | 063  | 5.18     | 9.28E-03           | 1.23E-02 | 4.30E-03 | 0.00E+00 | 4.20E-03 | 1.63E-03 | 1.76E-04 |
| H-3                      | NO DATA                      | 1.06E-07 | 1.06E-07 | 1.06E-07 | 1.06E-07 | 1.06E-07 | 1.06E-07 | 063  | 3144     | 0.00E+00           | 5.33E-03 | 5.33E-03 | 5.33E-03 | 5.33E-03 | 5.33E-03 | 5.33E-03 |
| Dose Commitment (mrem) = |                              |          |          |          |          |          |          |  |          | 9.28E-03           | 1.77E-02 | 9.63E-03 | 5.33E-03 | 9.53E-03 | 6.96E-03 | 5.51E-03 |

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

Shoreline Recreation = 67 hr (in one year)  
 Shore Width Factor = 0.2  
 Sediment Surface Mass = 40 kg/m<sup>2</sup>

Teen Dose from Shoreline Sediment Pathway (mrem) = Shoreline Recreation (hr) x External Dose Factor (mrem/hr per pCi/m<sup>2</sup>) x Shore Width Factor x Sediment Surface Mass (kg/m<sup>2</sup>) x Sediment Concentration (pCi/kg)

| External Dose Factor Standing<br>on Contaminated Ground |                                   |          | Highest Annual Net<br>Mean Concentration |                      | Dose     |          |
|---|-----------------------------------|----------|--|----------------------|----------|----------|
| Radionuclide  | (mrem/hr per pCi/m <sup>2</sup> ) |          | Indicator<br>Location                    | Sediment<br>(pCi/kg) | (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 | 067                                      | 21.1                 | 4.75E-05 | 5.54E-05 |
| Dose Commitment (mrem) =                                |                                   |          |  |                      | 4.75E-05 | 5.54E-05 |

***Oconee 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<br/>Net Mean<br/>Concentration</u> |                  | <u>Dose (mrem)</u> |          |          |          |          |          |          |
|--------------------------|------------------------------|----------|----------|----------|----------|----------|----------|--|------------------|--------------------|----------|----------|----------|----------|----------|----------|
|                          | Bone                         | Liver    | T. Body  | Thyroid  | Kidney   | Lung     | GI-LLI   | Indicator<br>Location                                | Water<br>(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 | 066  | 292              | 0.00E+00           | 2.24E-02 | 2.24E-02 | 2.24E-02 | 2.24E-02 | 2.24E-02 | 2.24E-02 |
| Dose Commitment (mrem) = |                              |          |          |          |          |          |          |  |                  | 0.00E+00           | 2.24E-02 | 2.24E-02 | 2.24E-02 | 2.24E-02 | 2.24E-02 | 2.24E-02 |



***Oconee 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 = 3493 pCi/l x 0.9 = 3144 pCi/kg

Usage (intake in one year) = 21 kg

| Radionuclide             | <u>Ingestion Dose Factor</u> |          |          |          |          |          |          | <u>Highest Annual<br/>Net Mean<br/>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 | 063  | 5.18     | 8.67E-03           | 1.19E-02 | 7.77E-03 | 0.00E+00 | 4.02E-03 | 1.34E-03 | 2.30E-04 |
| H-3                      | NO DATA                      | 1.05E-07 | 1.05E-07 | 1.05E-07 | 1.05E-07 | 1.05E-07 | 1.05E-07 | 063  | 3144     | 0.00E+00           | 6.93E-03 | 6.93E-03 | 6.93E-03 | 6.93E-03 | 6.93E-03 | 6.93E-03 |
| Dose Commitment (mrem) = |                              |          |          |          |          |          |          |  |          | 8.67E-03           | 1.88E-02 | 1.47E-02 | 6.93E-03 | 1.10E-02 | 8.27E-03 | 7.16E-03 |

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

Shoreline Recreation = 12 hr (in one year)  
 Shore Width Factor = 0.2  
 Sediment Surface Mass = 40 kg/m<sup>2</sup>

Adult Dose from Shoreline Sediment Pathway (mrem) = Shoreline Recreation (hr) x External  
 Dose Factor (mrem/hr per pCi/m<sup>2</sup>) x Shore Width Factor x Sediment Surface Mass (kg/m<sup>2</sup>) x  
 Sediment Concentration (pCi/kg)

| <b>External Dose Factor Standing<br/>on Contaminated Ground</b> |  |                 | <b>Highest Annual Net<br/>Mean Concentration</b> |                              | <b><u>Dose</u></b> |                 |
|---|--|-----------------|--|------------------------------|--------------------|-----------------|
| <b>Radionuclide</b>   | <b>(mrem/hr per pCi/m<sup>2</sup>)</b> |                 | <b>Indicator<br/>Location</b>                    | <b>Sediment<br/>(pCi/kg)</b> | <b>(mrem)</b>      |                 |
|   | <b>T. Body</b>                         | <b>Skin</b>     |  |                              | <b>T. Body</b>     | <b>Skin</b>     |
| <b>Cs-134</b>   | <b>1.20E-08</b>                        | <b>1.40E-08</b> | <b>ALL</b>                                       | <b>0.00</b>                  | <b>0.00E+00</b>    | <b>0.00E+00</b> |
| <b>Cs-137</b>   | <b>4.20E-09</b>                        | <b>4.90E-09</b> | <b>067</b>                                       | <b>21.1</b>                  | <b>8.51E-06</b>    | <b>9.93E-06</b> |
| <b>Dose Commitment (mrem) =</b>                                 |  |                 |  |                              | <b>8.51E-06</b>    | <b>9.93E-06</b> |

---

## **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<sup>TM</sup> 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 Oconee 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 Oconee Nuclear Station Radiological Environmental Monitoring Program was audited by the NRC in 2014. No findings were noted in the 2014 report.

## **5.8 INTERCOMPARISON PROGRAM**

Oconee Nuclear Station routinely participates in an environmental sample intercomparison program. Program elements include sampling frequency and analysis parameters for drinking water, surface water, milk, fish, broadleaf vegetation, and shoreline sediment samples that have been collected. Samples are routinely split with a vendor laboratory for intercomparison analysis.

## **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 Oconee Nuclear Station is 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.

Section IV of this appendix describes the environmental sampling frequencies and analysis procedures by media type.

### **I. CHANGE OF SAMPLING PROCEDURES**

No changes were made to the sampling procedures 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-15-000625).

### **IV. SAMPLING AND ANALYSIS PROCEDURES**

#### **A.1 AIRBORNE PARTICULATE AND RADIOIODINE**

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

Location 077 = Skimmer Wall (1.00 mi. SW)  
Location 078.1 = Recreation Site (0.53 mi. WSW)  
Location 079 = Keowee Dam (0.56 mi. NE)  
Location 081 = Clemson Operations Center (9.33 mi. SE)(Control)  
Location 084 = Sue Craig Road (2.58 mi. NNE)  
Location 085 = Lake Services / Building B9125 (0.88 mi. NNW)

## **A.2 DRINKING WATER**

Monthly composite samplers were operated to collect an aliquot at least every two hours. Gross beta and gamma analysis was performed on the monthly composites. Tritium analysis was performed on the quarterly composites. The composites were collected monthly from the locations listed below.

Location 060 = Greenville Water Intake Rd. (3.23 mi. NE)  
Location 064 = Seneca (6.67 mi. SSW)(Control)  
Location 066 = Anderson (18.9 mi SSE)

## **A.3 SURFACE WATER**

Monthly composite samplers were operated to collect an aliquot at least every two hours. 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 062 = Lake Keowee Hydro Intake (0.85 mi. ENE)(Control)  
Location 063.1 = Lake Hartwell Hwy 183 Bridge (0.79 mi. E)

## **A.4 MILK**

Biweekly grab samples were collected at one location although the Oconee ODCM requires semimonthly samples. Biweekly grab samples are taken to meet the required sample frequency for scheduling purposes. 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 071 = Clemson Dairy (10.2 mi. SSE)(Control)

## **A.5 BROADLEAF VEGETATION**

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

Location 077 = Skimmer Wall (1.00 mi. SW)  
Location 079 = Keowee Dam (0.56 mi. NE)  
Location 081 = Clemson Operations Center (9.33 mi. SE)(Control)  
Location 084 = Sue Craig Road (2.58 mi. NNE)

## **A.6 FISH**

Semiannual samples were collected and a gamma analysis was performed on the edible portions of each sample. The samples were collected from the locations listed below.

Location 060 = Greenville Water Intake Rd. (2.28 mi. NE)(Control)



Location 063 = Lake Hartwell Hwy 183 Bridge (0.80 mi. ESE)  
Location 067 = Lawrence Ramsey Bridge Hwy 27 (4.34 mi. SSE)

#### **A.7 SHORELINE SEDIMENT**

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

Location 063 = Lake Hartwell Hwy 183 Bridge (0.80 mi. ESE)  
Location 067 = Lawrence Ramsey Bridge Hwy 27 (4.34 mi. SSE)  
Location 068 = High Falls County Park (1.82 mi. W)(Control)

#### **A.8 DIRECT GAMMA RADIATION (TLD)**

Thermoluminescent dosimeters (TLD) were collected quarterly at forty-two locations. A gamma exposure rate was determined for each TLD. The TLDs were placed as indicated below.

- \* An inner ring of 17 TLDs, one in each meteorological sector in the general area of the site boundary.
- \* An outer ring of 16 TLDs, one in each meteorological sector in the 6 to 8 kilometer range.
- \* The remaining TLDs were placed in special interest areas such as population centers, residential areas, schools, and control locations.

TLD Locations are listed in Table 2.1-B.

#### **A.9 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 following locations in each of the sixteen meteorological sectors:

- \* The Nearest Residence
- \* The Nearest Milk-giving Animal (cow, goat, etc.) where milk is used for human consumption

The census was conducted during the growing season 5/12 – 5/13/2014. Results are shown in Table 3.9. No changes were made to the sampling procedures during 2014 as a result of the 2014 census.

## **V. GLOBAL POSITIONING SYSTEM (GPS) ANALYSIS**

The Oconee site centerline used for GPS measurements was referenced from the Oconee Nuclear Station Updated Final Safety Analysis Report (UFSAR), section 2.1.1.1, Specification of Location. Waypoint coordinates used for ONS GPS measurements were latitude 34°-47'-38.2"N and longitude 82°-53'-55.4"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**

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

Oconee Nuclear Station  
Oconee County, South Carolina

Docket Numbers 50-269, 270, 287  
Calendar Year 2014

| Medium or Pathway<br>Sampled or Measured<br>(Unit of Measurement) | Type and<br>Total No. of<br>Measurements<br>Performed | Lower Limit<br>of Detection<br>(LLD) <sup>(1)</sup> | All Indicator<br>Locations <sup>(2) (3)</sup><br>Mean<br>Range | Location w/Highest Annual Mean   |                                      | Control Locations<br>Mean<br>Range <sup>(2) (3)</sup>    | No. of<br>Non-Routine<br>Report<br>Meas. |
|---|---|---|--|----------------------------------|--------------------------------------|--|--|
|   |   |   |  | Name, Distance,<br>and Direction | Mean<br>Range <sup>(2) (3)</sup>     |  |  |
| Air Particulate<br>(pCi/m <sup>3</sup> )                          | Gross Beta<br>312 <sup>(4)</sup>                      | See Table 2.2-C                                     | 2.01E-2 (260/260)<br>9.82E-3 – 3.55E-2                         | 084<br>(2.58 mi NNE)             | 2.11E-2 (52/52)<br>1.32E-2 – 3.28E-2 | 081 (9.33 mi SE)<br>1.86E-2 (52/52)<br>9.53E-3 – 2.93E-2 | 0  |
|   | Gamma<br>24   | See Table 2.2-C                                     | All less than LLD  | -----                            | -----                                | All less than LLD  | 0  |
| Air Radioiodine<br>(pCi/m <sup>3</sup> )                          | Gamma<br>312 <sup>(4)</sup>                           | See Table 2.2-C                                     | All less than LLD  | -----                            | -----                                | All less than LLD  | 0  |
| Drinking Water<br>(pCi/l)   | Gross Beta<br>39                                      | 4   | 1.33 (20/26)<br>0.72 – 2.34                                    | 066<br>(18.9 mi SSE)             | 1.43 (13/13)<br>0.82 – 2.34          | 064 (6.67 mi SSW)<br>1.12 (10/13)<br>0.76 – 1.74         | 0  |
|   | Gamma<br>39   | See Table 2.2-C                                     | All less than LLD  | -----                            | -----                                | All less than LLD  | 0  |
|   | Tritium<br>12   | 2000  | 292 (2/8)<br>223 - 361   | 066<br>(18.9 mi SSE)             | 292 (2/4)<br>223 - 361               | All less than LLD  | 0  |
| Surface Water<br>(pCi/l)  | Gamma<br>26   | See Table 2.2-C                                     | All less than LLD  | -----                            | -----                                | All less than LLD  | 0  |
|   | Tritium<br>8  | 2000  | 3493 (4/4)<br>1420 - 6960                                      | 063.1<br>(0.79 mi E)             | 3493 (4/4)<br>1420 - 6960            | All less than LLD  | 0  |
| Milk<br>(pCi/l)   | Gamma<br>26   | See Table 2.2-C                                     | No Indicator Location  | -----                            | -----                                | All less than LLD  | 0  |
|   | I-131<br>26   | See Table 2.2-C                                     | No Indicator Location  | -----                            | -----                                | All less than LLD  | 0  |

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

Oconee Nuclear Station  
Oconee County, South Carolina

Docket Numbers 50-269, 270, 287  
Calendar Year 2014

| Medium or Pathway<br>Sampled or Measured<br>(Unit of Measurement) | Type and<br>Total No. of<br>Measurements<br>Performed | Lower Limit<br>of Detection<br>(LLD) <sup>(1)</sup> | All Indicator<br>Locations <sup>(2) (3)</sup><br>Mean<br>Range | Location w/Highest Annual Mean   |                                  | Control Locations<br>Mean<br>Range <sup>(2) (3)</sup> | No. of<br>Non-Routine<br>Report<br>Meas. |
|---|---|---|--|----------------------------------|----------------------------------|---|--|
|   |   |   |  | Name, Distance,<br>and Direction | Mean<br>Range <sup>(2) (3)</sup> |   |  |
| Broadleaf Vegetation<br>(pCi/kg, wet)                             | Gamma<br>48   | See Table 2.2-C                                     | All less than LLD  | -----                            | -----                            | All less than LLD                                     | 0  |
| Fish<br>(pCi/kg, wet)   | Gamma<br>12   | See Table 2.2-C                                     | 13.4 (2/8)   | 063                              | 14.0 (2/4)                       | 060 (2.28 mi NE)                                      | 0  |
|   | Cs-137  | 150   | 10.2 – 17.7  | (0.80 mi ESE)                    | 10.2 – 17.7                      | 8.82 (2/4)<br>7.44 – 10.2                             |  |
| Sediments--Shoreline<br>(pCi/kg, dry)                             | Gamma<br>6  | See Table 2.2-C                                     | 21.1 (1/4)   | 067                              | 21.1 (1/2)                       | All less than LLD                                     | 0  |
|   | Cs-137  | 180   | 21.1 – 21.1  | (4.34 mi SSE)                    | 21.1 – 21.1                      |   |  |
| TLD<br>(mR per quarter) <sup>(5)</sup>                            | TLD Readout<br>167 <sup>(4)</sup>                     | -----   | 21.4 (159/159)   | 048                              | 27.2 (4/4)                       | 058 (9.39 mi WSW)                                     | 0  |
|   |   |   | 12.5 – 29.6  | (3.64 mi W)                      | 24.2 – 29.2                      | 081 (9.33 mi SE)<br>27.5 (8/8)<br>22.2 – 34.9         |  |

## **Footnotes to Appendix B**

1. The Lower Limit of Detection (LLD) is the smallest concentration of radioactive material in a sample that will yield a net count above system background which will be detected with 95 percent probability and with only 5 percent probability of falsely concluding that a blank observation represents a "real" signal. Due to counting statistics and varying volumes, occasionally lower LLDs are achieved. Refer to Section 2.3.2 for an explanation of how LLD values were derived.
2. Mean and range are based on detectable measurements only.
3. The fractions of all samples with detectable activities at specific locations are indicated in parentheses.
4. Missing samples or surveillances are discussed in Appendix C or Appendix D.
5. TLD exposure is reported in milliroentgen (mR) per standard quarter (91 days).

**APPENDIX C**

**SAMPLING DEVIATIONS  
&  
UNAVAILABLE ANALYSES**

# APPENDIX C

## OCONEE NUCLEAR STATION SAMPLING DEVIATIONS & UNAVAILABLE ANALYSES

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

### C.1 SAMPLING DEVIATIONS

#### Air Particulate and Air Radioiodines

| Location | Scheduled<br>Collection Dates | Actual<br>Collection Dates | Code | Description &<br>Action to Prevent Recurrence   | Corrective<br>Action Identity |
|----------|-------------------------------|----------------------------|------|---|-------------------------------|
| 085      | 1/6 – 1/13/2014               | 1/6 – 1/13/2014            | PI   | Power to sampling equipment interrupted for about 14.22 hours due to undetermined reason. Power was restored and no work request was necessary as a result of this event. | G-14-00078                    |

### C.2 UNAVAILABLE ANALYSES

#### TLD

| Location | Scheduled<br>Collection Dates | Code | Description &<br>Action to Prevent Recurrence | Corrective<br>Action Identity |
|----------|-------------------------------|------|---|-------------------------------|
| 043      | 12/17/2013 – 3/18/2014        | VN   | TLD missing. 2nd quarter TLD placed.          | G-14-00645                    |



# **APPENDIX D**

## **ANALYTICAL DEVIATIONS**

No Analytical deviations were incurred for the  
2014 Radiological Environmental Monitoring Program

# **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.

# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 077 [ INDICATOR - SW @ 1 miles ]

|            |        |               |                        |         |           |                          |          |
|------------|--------|---------------|------------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 280641 | Sample Dates: | 12/30/2013 - 1/6/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.00E-02  | 1.46E-03                 | 3.19E-03 |
| Sample ID: | 280814 | Sample Dates: | 1/6/2014 - 1/13/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.48E-02  | 1.42E-03                 | 3.53E-03 |
| Sample ID: | 281173 | Sample Dates: | 1/13/2014 - 1/20/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.60E-02  | 1.40E-03                 | 3.27E-03 |
| Sample ID: | 281494 | Sample Dates: | 1/20/2014 - 1/27/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.79E-02  | 1.43E-03                 | 3.23E-03 |
| Sample ID: | 282117 | Sample Dates: | 1/27/2014 - 2/3/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.14E-02  | 1.51E-03                 | 3.25E-03 |
| Sample ID: | 282929 | Sample Dates: | 2/3/2014 - 2/10/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.73E-02  | 1.42E-03                 | 3.22E-03 |
| Sample ID: | 283376 | Sample Dates: | 2/10/2014 - 2/17/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.40E-02  | 1.54E-03                 | 3.08E-03 |
| Sample ID: | 284543 | Sample Dates: | 2/17/2014 - 2/24/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.00E-02  | 1.46E-03                 | 3.16E-03 |
| Sample ID: | 285104 | Sample Dates: | 2/24/2014 - 3/3/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.41E-02  | 1.55E-03                 | 3.18E-03 |
| Sample ID: | 285709 | Sample Dates: | 3/3/2014 - 3/10/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.87E-02  | 1.43E-03                 | 3.08E-03 |
| Sample ID: | 286213 | Sample Dates: | 3/10/2014 - 3/17/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.07E-02  | 1.40E-03                 | 2.68E-03 |
| Sample ID: | 287098 | Sample Dates: | 3/17/2014 - 3/24/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.41E-02  | 1.31E-03                 | 3.09E-03 |
| Sample ID: | 288349 | Sample Dates: | 3/24/2014 - 3/31/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.11E-02  | 1.40E-03                 | 2.71E-03 |
| Sample ID: | 289037 | Sample Dates: | 12/30/2013 - 3/31/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Cs-134  | <2.73E-04 | 0.00E+00                 | 2.73E-04 |
|            |        |               |                        | Cs-137  | <3.35E-04 | 0.00E+00                 | 3.35E-04 |
|            |        |               |                        | Be-7    | 1.28E-01  | 5.95E-03                 | 5.07E-03 |
|            |        |               |                        | K-40    | 9.33E-03  | 1.76E-03                 | 3.04E-03 |
| Sample ID: | 289073 | Sample Dates: | 3/31/2014 - 4/7/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.69E-02  | 1.43E-03                 | 3.28E-03 |
| Sample ID: | 289459 | Sample Dates: | 4/7/2014 - 4/14/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.89E-02  | 1.34E-03                 | 2.57E-03 |
| Sample ID: | 289869 | Sample Dates: | 4/14/2014 - 4/21/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.81E-02  | 1.44E-03                 | 3.25E-03 |
| Sample ID: | 291474 | Sample Dates: | 4/21/2014 - 4/28/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.25E-02  | 1.48E-03                 | 2.92E-03 |
| Sample ID: | 292768 | Sample Dates: | 4/28/2014 - 5/5/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.88E-02  | 1.42E-03                 | 2.98E-03 |
| Sample ID: | 293030 | Sample Dates: | 5/5/2014 - 5/12/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 3.02E-02  | 1.62E-03                 | 2.81E-03 |
| Sample ID: | 294661 | Sample Dates: | 5/12/2014 - 5/19/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.89E-02  | 1.43E-03                 | 3.06E-03 |
| Sample ID: | 295170 | Sample Dates: | 5/19/2014 - 5/27/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.25E-02  | 1.35E-03                 | 2.53E-03 |
| Sample ID: | 295431 | Sample Dates: | 5/27/2014 - 6/2/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.15E-02  | 1.66E-03                 | 3.54E-03 |
| Sample ID: | 295946 | Sample Dates: | 6/2/2014 - 6/9/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.60E-02  | 1.36E-03                 | 3.10E-03 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 077 [ INDICATOR - SW @ 1 miles ]

|            |        |               |                         |         |           |                          |          |
|------------|--------|---------------|-------------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 296191 | Sample Dates: | 6/9/2014 - 6/16/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.37E-02  | 1.29E-03                 | 3.05E-03 |
| Sample ID: | 296712 | Sample Dates: | 6/16/2014 - 6/23/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.51E-02  | 1.53E-03                 | 2.93E-03 |
| Sample ID: | 296939 | Sample Dates: | 6/23/2014 - 6/30/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.74E-02  | 1.40E-03                 | 3.05E-03 |
| Sample ID: | 297301 | Sample Dates: | 3/31/2014 - 6/30/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Cs-134  | <1.63E-03 | 0.00E+00                 | 1.63E-03 |
|            |        |               |                         | Cs-137  | <2.34E-03 | 0.00E+00                 | 2.34E-03 |
|            |        |               |                         | Be-7    | 1.53E-01  | 4.62E-02                 | 3.80E-02 |
|            |        |               |                         | K-40    | <5.37E-02 | 0.00E+00                 | 5.37E-02 |
| Sample ID: | 297336 | Sample Dates: | 6/30/2014 - 7/7/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.96E-02  | 2.78E-03                 | 2.92E-03 |
| Sample ID: | 297624 | Sample Dates: | 7/7/2014 - 7/14/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.05E-02  | 2.94E-03                 | 3.24E-03 |
| Sample ID: | 298160 | Sample Dates: | 7/14/2014 - 7/21/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.08E-02  | 2.82E-03                 | 2.96E-03 |
| Sample ID: | 350188 | Sample Dates: | 7/21/2014 - 7/28/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.92E-02  | 2.77E-03                 | 2.91E-03 |
| Sample ID: | 350929 | Sample Dates: | 7/28/2014 - 8/4/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.92E-02  | 2.79E-03                 | 3.05E-03 |
| Sample ID: | 351175 | Sample Dates: | 8/4/2014 - 8/11/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 3.55E-02  | 3.43E-03                 | 2.89E-03 |
| Sample ID: | 351614 | Sample Dates: | 8/11/2014 - 8/18/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.23E-02  | 2.89E-03                 | 2.97E-03 |
| Sample ID: | 353425 | Sample Dates: | 8/18/2014 - 8/25/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.66E-02  | 2.83E-03                 | 3.38E-03 |
| Sample ID: | 354055 | Sample Dates: | 8/25/2014 - 9/2/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.46E-02  | 2.70E-03                 | 2.42E-03 |
| Sample ID: | 354444 | Sample Dates: | 9/2/2014 - 9/8/2014     | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.65E-02  | 2.93E-03                 | 3.43E-03 |
| Sample ID: | 354760 | Sample Dates: | 9/8/2014 - 9/15/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.25E-02  | 2.48E-03                 | 3.11E-03 |
| Sample ID: | 355159 | Sample Dates: | 9/15/2014 - 9/22/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.92E-02  | 3.35E-03                 | 3.39E-03 |
| Sample ID: | 355632 | Sample Dates: | 9/22/2014 - 9/29/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.35E-02  | 2.54E-03                 | 3.08E-03 |
| Sample ID: | 355638 | Sample Dates: | 6/30/2014 - 9/29/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Cs-134  | <1.02E-03 | 0.00E+00                 | 1.02E-03 |
|            |        |               |                         | Cs-137  | <8.90E-04 | 0.00E+00                 | 8.90E-04 |
|            |        |               |                         | Be-7    | 9.57E-02  | 2.27E-02                 | 2.21E-02 |
|            |        |               |                         | K-40    | 1.46E-02  | 7.44E-03                 | 2.48E-03 |
| Sample ID: | 356495 | Sample Dates: | 9/29/2014 - 10/6/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.34E-02  | 3.03E-03                 | 3.21E-03 |
| Sample ID: | 357047 | Sample Dates: | 10/6/2014 - 10/13/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.31E-02  | 2.82E-03                 | 2.66E-03 |
| Sample ID: | 358046 | Sample Dates: | 10/13/2014 - 10/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.42E-02  | 2.54E-03                 | 2.97E-03 |
| Sample ID: | 358654 | Sample Dates: | 10/20/2014 - 10/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.33E-02  | 2.82E-03                 | 2.61E-03 |
| Sample ID: | 359288 | Sample Dates: | 10/27/2014 - 11/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.64E-02  | 3.21E-03                 | 3.34E-03 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 077 [ INDICATOR - SW @ 1 miles ]

|            |        |               |                         |         |           |                          |          |
|------------|--------|---------------|-------------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 360028 | Sample Dates: | 11/3/2014 - 11/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.42E-02  | 2.93E-03                 | 2.85E-03 |
| Sample ID: | 360710 | Sample Dates: | 11/10/2014 - 11/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.97E-02  | 3.26E-03                 | 3.06E-03 |
| Sample ID: | 361572 | Sample Dates: | 11/17/2014 - 11/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.78E-02  | 3.18E-03                 | 3.07E-03 |
| Sample ID: | 361951 | Sample Dates: | 11/24/2014 - 12/1/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.89E-02  | 2.81E-03                 | 3.13E-03 |
| Sample ID: | 362781 | Sample Dates: | 12/1/2014 - 12/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.10E-02  | 2.92E-03                 | 3.21E-03 |
| Sample ID: | 363521 | Sample Dates: | 12/8/2014 - 12/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.41E-02  | 2.95E-03                 | 2.79E-03 |
| Sample ID: | 363968 | Sample Dates: | 12/15/2014 - 12/22/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.77E-02  | 3.17E-03                 | 3.09E-03 |
| Sample ID: | 364504 | Sample Dates: | 12/22/2014 - 12/29/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.44E-02  | 2.51E-03                 | 2.90E-03 |
| Sample ID: | 364510 | Sample Dates: | 9/29/2014 - 12/29/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Cs-134  | <7.23E-04 | 0.00E+00                 | 7.23E-04 |
|            |        |               |                         | Cs-137  | <7.00E-04 | 0.00E+00                 | 7.00E-04 |
|            |        |               |                         | Be-7    | 1.16E-01  | 2.27E-02                 | 1.68E-02 |
|            |        |               |                         | K-40    | <1.73E-02 | 0.00E+00                 | 1.73E-02 |

## Sample Point 078.1 [ INDICATOR - WSW @ 0.53 miles ]

|            |        |               |                        |         |           |                          |          |
|------------|--------|---------------|------------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 280642 | Sample Dates: | 12/30/2013 - 1/6/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.73E-02  | 1.40E-03                 | 3.18E-03 |
| Sample ID: | 280815 | Sample Dates: | 1/6/2014 - 1/13/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.48E-02  | 1.42E-03                 | 3.52E-03 |
| Sample ID: | 281174 | Sample Dates: | 1/13/2014 - 1/20/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.47E-02  | 1.37E-03                 | 3.27E-03 |
| Sample ID: | 281495 | Sample Dates: | 1/20/2014 - 1/27/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.96E-02  | 1.47E-03                 | 3.23E-03 |
| Sample ID: | 282118 | Sample Dates: | 1/27/2014 - 2/3/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.94E-02  | 1.46E-03                 | 3.25E-03 |
| Sample ID: | 282930 | Sample Dates: | 2/3/2014 - 2/10/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.69E-02  | 1.41E-03                 | 3.23E-03 |
| Sample ID: | 283377 | Sample Dates: | 2/10/2014 - 2/17/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.00E-02  | 1.45E-03                 | 3.08E-03 |
| Sample ID: | 284544 | Sample Dates: | 2/17/2014 - 2/24/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.05E-02  | 1.47E-03                 | 3.15E-03 |
| Sample ID: | 285105 | Sample Dates: | 2/24/2014 - 3/3/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.42E-02  | 1.56E-03                 | 3.19E-03 |
| Sample ID: | 285710 | Sample Dates: | 3/3/2014 - 3/10/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.87E-02  | 1.43E-03                 | 3.08E-03 |
| Sample ID: | 286214 | Sample Dates: | 3/10/2014 - 3/17/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.74E-02  | 1.32E-03                 | 2.68E-03 |
| Sample ID: | 287099 | Sample Dates: | 3/17/2014 - 3/24/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.22E-02  | 1.26E-03                 | 3.09E-03 |
| Sample ID: | 288350 | Sample Dates: | 3/24/2014 - 3/31/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.17E-02  | 1.42E-03                 | 2.72E-03 |
| Sample ID: | 289038 | Sample Dates: | 12/30/2013 - 3/31/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Cs-134  | <3.61E-04 | 0.00E+00                 | 3.61E-04 |
|            |        |               |                        | Cs-137  | <3.32E-04 | 0.00E+00                 | 3.32E-04 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 078.1 [ INDICATOR - WSW @ 0.53 miles ]

|            |        |               |                        |         |           |                          |          |
|------------|--------|---------------|------------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 289038 | Sample Dates: | 12/30/2013 - 3/31/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Be-7    | 1.41E-01  | 6.14E-03                 | 5.38E-03 |
|            |        |               |                        | K-40    | 9.65E-03  | 2.21E-03                 | 3.46E-03 |
| Sample ID: | 289074 | Sample Dates: | 3/31/2014 - 4/7/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.66E-02  | 1.42E-03                 | 3.27E-03 |
| Sample ID: | 289460 | Sample Dates: | 4/7/2014 - 4/14/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.76E-02  | 1.31E-03                 | 2.58E-03 |
| Sample ID: | 289870 | Sample Dates: | 4/14/2014 - 4/21/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.72E-02  | 1.42E-03                 | 3.25E-03 |
| Sample ID: | 291475 | Sample Dates: | 4/21/2014 - 4/28/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.49E-02  | 1.53E-03                 | 2.94E-03 |
| Sample ID: | 292769 | Sample Dates: | 4/28/2014 - 5/5/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.02E-02  | 1.45E-03                 | 2.98E-03 |
| Sample ID: | 293031 | Sample Dates: | 5/5/2014 - 5/12/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 3.04E-02  | 1.63E-03                 | 2.82E-03 |
| Sample ID: | 294662 | Sample Dates: | 5/12/2014 - 5/19/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.84E-02  | 1.42E-03                 | 3.06E-03 |
| Sample ID: | 295171 | Sample Dates: | 5/19/2014 - 5/27/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.16E-02  | 1.33E-03                 | 2.53E-03 |
| Sample ID: | 295432 | Sample Dates: | 5/27/2014 - 6/2/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.91E-02  | 1.59E-03                 | 3.54E-03 |
| Sample ID: | 295947 | Sample Dates: | 6/2/2014 - 6/9/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.36E-02  | 1.30E-03                 | 3.09E-03 |
| Sample ID: | 296192 | Sample Dates: | 6/9/2014 - 6/16/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.19E-02  | 1.25E-03                 | 3.05E-03 |
| Sample ID: | 296713 | Sample Dates: | 6/16/2014 - 6/23/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.86E-02  | 1.39E-03                 | 2.93E-03 |
| Sample ID: | 296940 | Sample Dates: | 6/23/2014 - 6/30/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.46E-02  | 1.32E-03                 | 3.05E-03 |
| Sample ID: | 297302 | Sample Dates: | 3/31/2014 - 6/30/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Cs-134  | <7.99E-04 | 0.00E+00                 | 7.99E-04 |
|            |        |               |                        | Cs-137  | <8.95E-04 | 0.00E+00                 | 8.95E-04 |
|            |        |               |                        | Be-7    | 1.33E-01  | 2.84E-02                 | 2.54E-02 |
|            |        |               |                        | K-40    | 7.54E-03  | 7.32E-03                 | 1.08E-02 |
| Sample ID: | 297337 | Sample Dates: | 6/30/2014 - 7/7/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.87E-02  | 2.73E-03                 | 2.92E-03 |
| Sample ID: | 297625 | Sample Dates: | 7/7/2014 - 7/14/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.72E-02  | 2.79E-03                 | 3.24E-03 |
| Sample ID: | 298161 | Sample Dates: | 7/14/2014 - 7/21/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.39E-02  | 2.50E-03                 | 2.96E-03 |
| Sample ID: | 350189 | Sample Dates: | 7/21/2014 - 7/28/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.62E-02  | 2.61E-03                 | 2.91E-03 |
| Sample ID: | 350930 | Sample Dates: | 7/28/2014 - 8/4/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.61E-02  | 2.65E-03                 | 3.06E-03 |
| Sample ID: | 351176 | Sample Dates: | 8/4/2014 - 8/11/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.81E-02  | 3.15E-03                 | 2.89E-03 |
| Sample ID: | 351615 | Sample Dates: | 8/11/2014 - 8/18/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.02E-02  | 2.80E-03                 | 2.97E-03 |
| Sample ID: | 353426 | Sample Dates: | 8/18/2014 - 8/25/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.87E-02  | 2.92E-03                 | 3.37E-03 |

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



## OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 078.1 [ INDICATOR - WSW @ 0.53 miles ]

|            |        |               |                         |         |           |                          |          |
|------------|--------|---------------|-------------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 354057 | Sample Dates: | 8/25/2014 - 9/2/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.09E-02  | 2.54E-03                 | 2.42E-03 |
| Sample ID: | 354445 | Sample Dates: | 9/2/2014 - 9/8/2014     | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.12E-02  | 2.66E-03                 | 3.42E-03 |
| Sample ID: | 354761 | Sample Dates: | 9/8/2014 - 9/15/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.16E-02  | 2.44E-03                 | 3.11E-03 |
| Sample ID: | 355162 | Sample Dates: | 9/15/2014 - 9/22/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.75E-02  | 3.28E-03                 | 3.39E-03 |
| Sample ID: | 355633 | Sample Dates: | 9/22/2014 - 9/29/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.30E-02  | 2.51E-03                 | 3.08E-03 |
| Sample ID: | 355639 | Sample Dates: | 6/30/2014 - 9/29/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Cs-134  | <7.95E-04 | 0.00E+00                 | 7.95E-04 |
|            |        |               |                         | Cs-137  | <6.83E-04 | 0.00E+00                 | 6.83E-04 |
|            |        |               |                         | Be-7    | 1.24E-01  | 2.45E-02                 | 1.90E-02 |
|            |        |               |                         | K-40    | <1.77E-02 | 0.00E+00                 | 1.77E-02 |
| Sample ID: | 356497 | Sample Dates: | 9/29/2014 - 10/6/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.26E-02  | 3.00E-03                 | 3.21E-03 |
| Sample ID: | 357048 | Sample Dates: | 10/6/2014 - 10/13/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.40E-02  | 2.87E-03                 | 2.67E-03 |
| Sample ID: | 358047 | Sample Dates: | 10/13/2014 - 10/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.21E-02  | 2.42E-03                 | 2.96E-03 |
| Sample ID: | 358655 | Sample Dates: | 10/20/2014 - 10/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.26E-02  | 2.79E-03                 | 2.61E-03 |
| Sample ID: | 359290 | Sample Dates: | 10/27/2014 - 11/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.15E-02  | 3.01E-03                 | 3.34E-03 |
| Sample ID: | 360029 | Sample Dates: | 11/3/2014 - 11/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.58E-02  | 3.01E-03                 | 2.85E-03 |
| Sample ID: | 360711 | Sample Dates: | 11/10/2014 - 11/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 3.17E-02  | 3.34E-03                 | 3.06E-03 |
| Sample ID: | 361573 | Sample Dates: | 11/17/2014 - 11/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.50E-02  | 3.06E-03                 | 3.07E-03 |
| Sample ID: | 361952 | Sample Dates: | 11/24/2014 - 12/1/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.84E-02  | 2.79E-03                 | 3.13E-03 |
| Sample ID: | 362782 | Sample Dates: | 12/1/2014 - 12/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.05E-02  | 2.90E-03                 | 3.21E-03 |
| Sample ID: | 363522 | Sample Dates: | 12/8/2014 - 12/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.33E-02  | 2.91E-03                 | 2.79E-03 |
| Sample ID: | 363969 | Sample Dates: | 12/15/2014 - 12/22/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 3.04E-02  | 3.28E-03                 | 3.10E-03 |
| Sample ID: | 364505 | Sample Dates: | 12/22/2014 - 12/29/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.62E-02  | 2.60E-03                 | 2.90E-03 |
| Sample ID: | 364511 | Sample Dates: | 9/29/2014 - 12/29/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Cs-134  | <6.10E-04 | 0.00E+00                 | 6.10E-04 |
|            |        |               |                         | Cs-137  | <7.83E-04 | 0.00E+00                 | 7.83E-04 |
|            |        |               |                         | Be-7    | 1.13E-01  | 2.26E-02                 | 1.87E-02 |
|            |        |               |                         | K-40    | <1.28E-02 | 0.00E+00                 | 1.28E-02 |

Sample Point 079 [ INDICATOR - NE @ 0.56 miles ]

|            |        |               |                       |         |          |                          |          |
|------------|--------|---------------|-----------------------|---------|----------|--------------------------|----------|
| Sample ID: | 280643 | Sample Dates: | 12/30/2013 - 1/6/2014 | Nuclide | Activity | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.61E-02 | 1.37E-03                 | 3.17E-03 |
| Sample ID: | 280816 | Sample Dates: | 1/6/2014 - 1/13/2014  | Nuclide | Activity | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.49E-02 | 1.42E-03                 | 3.53E-03 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 079 [ INDICATOR - NE @ 0.56 miles ]

|            |        |               |                        |         |           |                          |          |
|------------|--------|---------------|------------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 281175 | Sample Dates: | 1/13/2014 - 1/20/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.25E-02  | 1.31E-03                 | 3.28E-03 |
| Sample ID: | 281496 | Sample Dates: | 1/20/2014 - 1/27/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.59E-02  | 1.39E-03                 | 3.23E-03 |
| Sample ID: | 282119 | Sample Dates: | 1/27/2014 - 2/3/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.73E-02  | 1.42E-03                 | 3.24E-03 |
| Sample ID: | 282931 | Sample Dates: | 2/3/2014 - 2/10/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.72E-02  | 1.42E-03                 | 3.23E-03 |
| Sample ID: | 283378 | Sample Dates: | 2/10/2014 - 2/17/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.05E-02  | 1.46E-03                 | 3.08E-03 |
| Sample ID: | 284545 | Sample Dates: | 2/17/2014 - 2/24/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.74E-02  | 1.39E-03                 | 3.14E-03 |
| Sample ID: | 285106 | Sample Dates: | 2/24/2014 - 3/3/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.30E-02  | 1.53E-03                 | 3.19E-03 |
| Sample ID: | 285711 | Sample Dates: | 3/3/2014 - 3/10/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.28E-02  | 1.29E-03                 | 3.10E-03 |
| Sample ID: | 286215 | Sample Dates: | 3/10/2014 - 3/17/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.81E-02  | 1.34E-03                 | 2.68E-03 |
| Sample ID: | 287100 | Sample Dates: | 3/17/2014 - 3/24/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.45E-02  | 1.32E-03                 | 3.09E-03 |
| Sample ID: | 288351 | Sample Dates: | 3/24/2014 - 3/31/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.73E-02  | 1.32E-03                 | 2.77E-03 |
| Sample ID: | 289039 | Sample Dates: | 12/30/2013 - 3/31/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Cs-134  | <2.67E-04 | 0.00E+00                 | 2.67E-04 |
|            |        |               |                        | Cs-137  | <3.78E-04 | 0.00E+00                 | 3.78E-04 |
|            |        |               |                        | Be-7    | 1.26E-01  | 5.94E-03                 | 4.34E-03 |
|            |        |               |                        | K-40    | 9.01E-03  | 1.74E-03                 | 3.52E-03 |
| Sample ID: | 289075 | Sample Dates: | 3/31/2014 - 4/7/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.81E-02  | 1.44E-03                 | 3.21E-03 |
| Sample ID: | 289461 | Sample Dates: | 4/7/2014 - 4/14/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.82E-02  | 1.32E-03                 | 2.58E-03 |
| Sample ID: | 289871 | Sample Dates: | 4/14/2014 - 4/21/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.75E-02  | 1.43E-03                 | 3.25E-03 |
| Sample ID: | 291476 | Sample Dates: | 4/21/2014 - 4/28/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.81E-02  | 1.37E-03                 | 2.92E-03 |
| Sample ID: | 292770 | Sample Dates: | 4/28/2014 - 5/5/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.68E-02  | 1.36E-03                 | 2.98E-03 |
| Sample ID: | 293032 | Sample Dates: | 5/5/2014 - 5/12/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.13E-02  | 1.43E-03                 | 2.80E-03 |
| Sample ID: | 294663 | Sample Dates: | 5/12/2014 - 5/19/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.85E-02  | 1.42E-03                 | 3.08E-03 |
| Sample ID: | 295172 | Sample Dates: | 5/19/2014 - 5/27/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.46E-02  | 1.39E-03                 | 2.53E-03 |
| Sample ID: | 295433 | Sample Dates: | 5/27/2014 - 6/2/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.01E-02  | 1.62E-03                 | 3.56E-03 |
| Sample ID: | 295948 | Sample Dates: | 6/2/2014 - 6/9/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.25E-02  | 1.27E-03                 | 3.10E-03 |
| Sample ID: | 296193 | Sample Dates: | 6/9/2014 - 6/16/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.39E-02  | 1.30E-03                 | 3.05E-03 |
| Sample ID: | 296714 | Sample Dates: | 6/16/2014 - 6/23/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.05E-02  | 1.42E-03                 | 2.92E-03 |

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





# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 079 [ INDICATOR - NE @ 0.56 miles ]

|            |        |               |                         |         |           |                          |          |
|------------|--------|---------------|-------------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 296941 | Sample Dates: | 6/23/2014 - 6/30/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.55E-02  | 1.35E-03                 | 3.06E-03 |
| Sample ID: | 297303 | Sample Dates: | 3/31/2014 - 6/30/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Cs-134  | <7.39E-04 | 0.00E+00                 | 7.39E-04 |
|            |        |               |                         | Cs-137  | <1.01E-03 | 0.00E+00                 | 1.01E-03 |
|            |        |               |                         | Be-7    | 1.30E-01  | 3.43E-02                 | 3.08E-02 |
|            |        |               |                         | K-40    | 1.65E-02  | 1.19E-02                 | 1.35E-02 |
| Sample ID: | 297338 | Sample Dates: | 6/30/2014 - 7/7/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.24E-02  | 2.90E-03                 | 2.93E-03 |
| Sample ID: | 297626 | Sample Dates: | 7/7/2014 - 7/14/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.92E-02  | 2.88E-03                 | 3.25E-03 |
| Sample ID: | 298162 | Sample Dates: | 7/14/2014 - 7/21/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.53E-02  | 2.56E-03                 | 2.96E-03 |
| Sample ID: | 350190 | Sample Dates: | 7/21/2014 - 7/28/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.59E-02  | 2.61E-03                 | 2.91E-03 |
| Sample ID: | 350931 | Sample Dates: | 7/28/2014 - 8/4/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.41E-02  | 2.56E-03                 | 3.06E-03 |
| Sample ID: | 351177 | Sample Dates: | 8/4/2014 - 8/11/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.65E-02  | 3.08E-03                 | 2.90E-03 |
| Sample ID: | 351616 | Sample Dates: | 8/11/2014 - 8/18/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.99E-02  | 2.76E-03                 | 2.94E-03 |
| Sample ID: | 353427 | Sample Dates: | 8/18/2014 - 8/25/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.68E-02  | 2.85E-03                 | 3.41E-03 |
| Sample ID: | 354059 | Sample Dates: | 8/25/2014 - 9/2/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.74E-02  | 2.38E-03                 | 2.42E-03 |
| Sample ID: | 354446 | Sample Dates: | 9/2/2014 - 9/8/2014     | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.23E-02  | 2.71E-03                 | 3.42E-03 |
| Sample ID: | 354762 | Sample Dates: | 9/8/2014 - 9/15/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 9.82E-03  | 2.34E-03                 | 3.10E-03 |
| Sample ID: | 355165 | Sample Dates: | 9/15/2014 - 9/22/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.81E-02  | 3.33E-03                 | 3.41E-03 |
| Sample ID: | 355634 | Sample Dates: | 9/22/2014 - 9/29/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.20E-02  | 2.46E-03                 | 3.08E-03 |
| Sample ID: | 355640 | Sample Dates: | 6/30/2014 - 9/29/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Cs-134  | <8.87E-04 | 0.00E+00                 | 8.87E-04 |
|            |        |               |                         | Cs-137  | <7.53E-04 | 0.00E+00                 | 7.53E-04 |
|            |        |               |                         | Be-7    | 1.05E-01  | 2.20E-02                 | 1.63E-02 |
|            |        |               |                         | K-40    | <1.72E-02 | 0.00E+00                 | 1.72E-02 |
| Sample ID: | 356499 | Sample Dates: | 9/29/2014 - 10/6/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.28E-02  | 3.01E-03                 | 3.21E-03 |
| Sample ID: | 357049 | Sample Dates: | 10/6/2014 - 10/13/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.10E-02  | 2.72E-03                 | 2.64E-03 |
| Sample ID: | 358048 | Sample Dates: | 10/13/2014 - 10/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.35E-02  | 2.53E-03                 | 3.00E-03 |
| Sample ID: | 358656 | Sample Dates: | 10/20/2014 - 10/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.90E-02  | 2.64E-03                 | 2.62E-03 |
| Sample ID: | 359292 | Sample Dates: | 10/27/2014 - 11/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.43E-02  | 3.14E-03                 | 3.35E-03 |
| Sample ID: | 360030 | Sample Dates: | 11/3/2014 - 11/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.36E-02  | 2.91E-03                 | 2.85E-03 |
| Sample ID: | 360712 | Sample Dates: | 11/10/2014 - 11/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.58E-02  | 3.10E-03                 | 3.06E-03 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 079 [ INDICATOR - NE @ 0.56 miles ]

|            |        |               |                         |         |           |                          |          |
|------------|--------|---------------|-------------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 361574 | Sample Dates: | 11/17/2014 - 11/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.74E-02  | 2.73E-03                 | 3.08E-03 |
| Sample ID: | 361953 | Sample Dates: | 11/24/2014 - 12/1/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.86E-02  | 2.79E-03                 | 3.13E-03 |
| Sample ID: | 362783 | Sample Dates: | 12/1/2014 - 12/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.89E-02  | 2.82E-03                 | 3.20E-03 |
| Sample ID: | 363523 | Sample Dates: | 12/8/2014 - 12/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.58E-02  | 3.03E-03                 | 2.80E-03 |
| Sample ID: | 363970 | Sample Dates: | 12/15/2014 - 12/22/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 3.21E-02  | 3.34E-03                 | 3.10E-03 |
| Sample ID: | 364506 | Sample Dates: | 12/22/2014 - 12/29/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.40E-02  | 2.49E-03                 | 2.90E-03 |
| Sample ID: | 364512 | Sample Dates: | 9/29/2014 - 12/29/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Cs-134  | <9.48E-04 | 0.00E+00                 | 9.48E-04 |
|            |        |               |                         | Cs-137  | <3.93E-04 | 0.00E+00                 | 3.93E-04 |
|            |        |               |                         | Be-7    | 1.00E-01  | 2.09E-02                 | 1.65E-02 |
|            |        |               |                         | K-40    | 1.47E-02  | 9.12E-03                 | 1.11E-02 |

## Sample Point 081 [ CONTROL - SE @ 9.33 miles ]

|            |        |               |                        |         |           |                          |          |
|------------|--------|---------------|------------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 280644 | Sample Dates: | 12/30/2013 - 1/6/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.74E-02  | 1.40E-03                 | 3.19E-03 |
| Sample ID: | 280817 | Sample Dates: | 1/6/2014 - 1/13/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.04E-02  | 1.31E-03                 | 3.51E-03 |
| Sample ID: | 281176 | Sample Dates: | 1/13/2014 - 1/20/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.12E-02  | 1.28E-03                 | 3.26E-03 |
| Sample ID: | 281497 | Sample Dates: | 1/20/2014 - 1/27/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.77E-02  | 1.43E-03                 | 3.23E-03 |
| Sample ID: | 282120 | Sample Dates: | 1/27/2014 - 2/3/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.64E-02  | 1.40E-03                 | 3.26E-03 |
| Sample ID: | 282932 | Sample Dates: | 2/3/2014 - 2/10/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.50E-02  | 1.36E-03                 | 3.22E-03 |
| Sample ID: | 283379 | Sample Dates: | 2/10/2014 - 2/17/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.77E-02  | 1.41E-03                 | 3.11E-03 |
| Sample ID: | 284546 | Sample Dates: | 2/17/2014 - 2/24/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.96E-02  | 1.44E-03                 | 3.14E-03 |
| Sample ID: | 285107 | Sample Dates: | 2/24/2014 - 3/3/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.30E-02  | 1.54E-03                 | 3.20E-03 |
| Sample ID: | 285712 | Sample Dates: | 3/3/2014 - 3/10/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.69E-02  | 1.38E-03                 | 3.07E-03 |
| Sample ID: | 286216 | Sample Dates: | 3/10/2014 - 3/17/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.94E-02  | 1.37E-03                 | 2.69E-03 |
| Sample ID: | 287101 | Sample Dates: | 3/17/2014 - 3/24/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.26E-02  | 1.27E-03                 | 3.09E-03 |
| Sample ID: | 288352 | Sample Dates: | 3/24/2014 - 3/31/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.02E-02  | 1.42E-03                 | 2.84E-03 |
| Sample ID: | 289040 | Sample Dates: | 12/30/2013 - 3/31/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Cs-134  | <3.17E-04 | 0.00E+00                 | 3.17E-04 |
|            |        |               |                        | Cs-137  | <3.14E-04 | 0.00E+00                 | 3.14E-04 |
|            |        |               |                        | Be-7    | 1.43E-01  | 5.21E-03                 | 3.74E-03 |
|            |        |               |                        | K-40    | 1.33E-02  | 1.97E-03                 | 2.42E-03 |
| Sample ID: | 289076 | Sample Dates: | 3/31/2014 - 4/7/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.32E-02  | 1.31E-03                 | 3.19E-03 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 081 [ CONTROL - SE @ 9.33 miles ]

|            |        |               |                       |         |           |                          |          |
|------------|--------|---------------|-----------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 289462 | Sample Dates: | 4/7/2014 - 4/14/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.54E-02  | 1.25E-03                 | 2.59E-03 |
| Sample ID: | 289872 | Sample Dates: | 4/14/2014 - 4/21/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.08E-02  | 1.51E-03                 | 3.24E-03 |
| Sample ID: | 291477 | Sample Dates: | 4/21/2014 - 4/28/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.80E-02  | 1.37E-03                 | 2.91E-03 |
| Sample ID: | 292771 | Sample Dates: | 4/28/2014 - 5/5/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.07E-02  | 1.46E-03                 | 2.97E-03 |
| Sample ID: | 293033 | Sample Dates: | 5/5/2014 - 5/12/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.93E-02  | 1.61E-03                 | 2.83E-03 |
| Sample ID: | 294664 | Sample Dates: | 5/12/2014 - 5/19/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.00E-02  | 1.45E-03                 | 3.06E-03 |
| Sample ID: | 295173 | Sample Dates: | 5/19/2014 - 5/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.40E-02  | 1.38E-03                 | 2.54E-03 |
| Sample ID: | 295434 | Sample Dates: | 5/27/2014 - 6/2/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.83E-02  | 1.57E-03                 | 3.52E-03 |
| Sample ID: | 295949 | Sample Dates: | 6/2/2014 - 6/9/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.37E-02  | 1.30E-03                 | 3.09E-03 |
| Sample ID: | 296194 | Sample Dates: | 6/9/2014 - 6/16/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 9.53E-03  | 1.18E-03                 | 3.04E-03 |
| Sample ID: | 296715 | Sample Dates: | 6/16/2014 - 6/23/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.18E-02  | 1.46E-03                 | 2.94E-03 |
| Sample ID: | 296942 | Sample Dates: | 6/23/2014 - 6/30/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.73E-02  | 1.39E-03                 | 3.05E-03 |
| Sample ID: | 297304 | Sample Dates: | 3/31/2014 - 6/30/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Cs-134  | <6.28E-04 | 0.00E+00                 | 6.28E-04 |
|            |        |               |                       | Cs-137  | <6.27E-04 | 0.00E+00                 | 6.27E-04 |
|            |        |               |                       | Be-7    | 1.32E-01  | 2.70E-02                 | 2.16E-02 |
|            |        |               |                       | K-40    | 7.94E-03  | 6.29E-03                 | 7.74E-03 |
| Sample ID: | 297339 | Sample Dates: | 6/30/2014 - 7/7/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.20E-02  | 2.88E-03                 | 2.92E-03 |
| Sample ID: | 297627 | Sample Dates: | 7/7/2014 - 7/14/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.02E-02  | 2.93E-03                 | 3.24E-03 |
| Sample ID: | 298163 | Sample Dates: | 7/14/2014 - 7/21/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.23E-02  | 2.90E-03                 | 2.98E-03 |
| Sample ID: | 350191 | Sample Dates: | 7/21/2014 - 7/28/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.80E-02  | 2.71E-03                 | 2.91E-03 |
| Sample ID: | 350932 | Sample Dates: | 7/28/2014 - 8/4/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.69E-02  | 2.69E-03                 | 3.06E-03 |
| Sample ID: | 351178 | Sample Dates: | 8/4/2014 - 8/11/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.64E-02  | 3.07E-03                 | 2.89E-03 |
| Sample ID: | 351617 | Sample Dates: | 8/11/2014 - 8/18/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.68E-02  | 2.64E-03                 | 2.98E-03 |
| Sample ID: | 353428 | Sample Dates: | 8/18/2014 - 8/25/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.77E-02  | 2.87E-03                 | 3.38E-03 |
| Sample ID: | 354061 | Sample Dates: | 8/25/2014 - 9/2/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.21E-02  | 2.59E-03                 | 2.42E-03 |
| Sample ID: | 354447 | Sample Dates: | 9/2/2014 - 9/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.17E-02  | 2.67E-03                 | 3.42E-03 |
| Sample ID: | 354763 | Sample Dates: | 9/8/2014 - 9/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.19E-02  | 2.46E-03                 | 3.12E-03 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 081 [ CONTROL - SE @ 9.33 miles ]

|            |        |               |                         |         |           |                          |          |
|------------|--------|---------------|-------------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 355168 | Sample Dates: | 9/15/2014 - 9/22/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.46E-02  | 3.17E-03                 | 3.39E-03 |
| Sample ID: | 355635 | Sample Dates: | 9/22/2014 - 9/29/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.18E-02  | 2.45E-03                 | 3.08E-03 |
| Sample ID: | 355641 | Sample Dates: | 6/30/2014 - 9/29/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Cs-134  | <7.12E-04 | 0.00E+00                 | 7.12E-04 |
|            |        |               |                         | Cs-137  | <8.69E-04 | 0.00E+00                 | 8.69E-04 |
|            |        |               |                         | Be-7    | 1.17E-01  | 2.25E-02                 | 1.32E-02 |
|            |        |               |                         | K-40    | 9.91E-03  | 8.26E-03                 | 1.17E-02 |
| Sample ID: | 356501 | Sample Dates: | 9/29/2014 - 10/6/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.29E-02  | 3.03E-03                 | 3.24E-03 |
| Sample ID: | 357050 | Sample Dates: | 10/6/2014 - 10/13/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.43E-02  | 2.89E-03                 | 2.68E-03 |
| Sample ID: | 358049 | Sample Dates: | 10/13/2014 - 10/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.59E-02  | 2.60E-03                 | 2.93E-03 |
| Sample ID: | 358657 | Sample Dates: | 10/20/2014 - 10/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.24E-02  | 2.78E-03                 | 2.61E-03 |
| Sample ID: | 359295 | Sample Dates: | 10/27/2014 - 11/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.21E-02  | 3.03E-03                 | 3.34E-03 |
| Sample ID: | 360031 | Sample Dates: | 11/3/2014 - 11/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.22E-02  | 2.85E-03                 | 2.86E-03 |
| Sample ID: | 360713 | Sample Dates: | 11/10/2014 - 11/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.60E-02  | 3.11E-03                 | 3.06E-03 |
| Sample ID: | 361575 | Sample Dates: | 11/17/2014 - 11/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.72E-02  | 2.71E-03                 | 3.05E-03 |
| Sample ID: | 361954 | Sample Dates: | 11/24/2014 - 12/1/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.50E-02  | 2.63E-03                 | 3.14E-03 |
| Sample ID: | 362784 | Sample Dates: | 12/1/2014 - 12/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.21E-02  | 2.97E-03                 | 3.21E-03 |
| Sample ID: | 363524 | Sample Dates: | 12/8/2014 - 12/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.83E-02  | 2.67E-03                 | 2.78E-03 |
| Sample ID: | 363971 | Sample Dates: | 12/15/2014 - 12/22/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.33E-02  | 2.99E-03                 | 3.10E-03 |
| Sample ID: | 364507 | Sample Dates: | 12/22/2014 - 12/29/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.39E-02  | 2.49E-03                 | 2.91E-03 |
| Sample ID: | 364513 | Sample Dates: | 9/29/2014 - 12/29/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Cs-134  | <4.84E-04 | 0.00E+00                 | 4.84E-04 |
|            |        |               |                         | Cs-137  | <8.69E-04 | 0.00E+00                 | 8.69E-04 |
|            |        |               |                         | Be-7    | 9.66E-02  | 1.97E-02                 | 1.36E-02 |
|            |        |               |                         | K-40    | <1.77E-02 | 0.00E+00                 | 1.77E-02 |

## Sample Point 084 [ INDICATOR - NNE @ 2.58 miles ]

|            |        |               |                       |         |          |                          |          |
|------------|--------|---------------|-----------------------|---------|----------|--------------------------|----------|
| Sample ID: | 280645 | Sample Dates: | 12/30/2013 - 1/6/2014 | Nuclide | Activity | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.88E-02 | 1.43E-03                 | 3.18E-03 |
| Sample ID: | 280818 | Sample Dates: | 1/6/2014 - 1/13/2014  | Nuclide | Activity | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.43E-02 | 1.41E-03                 | 3.53E-03 |
| Sample ID: | 281177 | Sample Dates: | 1/13/2014 - 1/20/2014 | Nuclide | Activity | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.35E-02 | 1.33E-03                 | 3.26E-03 |
| Sample ID: | 281498 | Sample Dates: | 1/20/2014 - 1/27/2014 | Nuclide | Activity | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.98E-02 | 1.47E-03                 | 3.23E-03 |
| Sample ID: | 282121 | Sample Dates: | 1/27/2014 - 2/3/2014  | Nuclide | Activity | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.99E-02 | 1.47E-03                 | 3.25E-03 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 084 [ INDICATOR - NNE @ 2.58 miles ]

|            |        |               |                        |         |           |                          |          |
|------------|--------|---------------|------------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 282933 | Sample Dates: | 2/3/2014 - 2/10/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.83E-02  | 1.45E-03                 | 3.22E-03 |
| Sample ID: | 283380 | Sample Dates: | 2/10/2014 - 2/17/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.20E-02  | 1.49E-03                 | 3.08E-03 |
| Sample ID: | 284547 | Sample Dates: | 2/17/2014 - 2/24/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.03E-02  | 1.47E-03                 | 3.16E-03 |
| Sample ID: | 285108 | Sample Dates: | 2/24/2014 - 3/3/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.68E-02  | 1.61E-03                 | 3.18E-03 |
| Sample ID: | 285713 | Sample Dates: | 3/3/2014 - 3/10/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.54E-02  | 1.35E-03                 | 3.08E-03 |
| Sample ID: | 286217 | Sample Dates: | 3/10/2014 - 3/17/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.86E-02  | 1.35E-03                 | 2.68E-03 |
| Sample ID: | 287102 | Sample Dates: | 3/17/2014 - 3/24/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.38E-02  | 1.30E-03                 | 3.09E-03 |
| Sample ID: | 288353 | Sample Dates: | 3/24/2014 - 3/31/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.79E-02  | 1.34E-03                 | 2.76E-03 |
| Sample ID: | 289041 | Sample Dates: | 12/30/2013 - 3/31/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Cs-134  | <2.71E-04 | 0.00E+00                 | 2.71E-04 |
|            |        |               |                        | Cs-137  | <3.60E-04 | 0.00E+00                 | 3.60E-04 |
|            |        |               |                        | Be-7    | 1.16E-01  | 5.70E-03                 | 4.81E-03 |
|            |        |               |                        | K-40    | 1.09E-02  | 2.14E-03                 | 3.04E-03 |
| Sample ID: | 289077 | Sample Dates: | 3/31/2014 - 4/7/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.73E-02  | 1.43E-03                 | 3.23E-03 |
| Sample ID: | 289463 | Sample Dates: | 4/7/2014 - 4/14/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.82E-02  | 1.33E-03                 | 2.59E-03 |
| Sample ID: | 289873 | Sample Dates: | 4/14/2014 - 4/21/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.05E-02  | 1.50E-03                 | 3.24E-03 |
| Sample ID: | 291478 | Sample Dates: | 4/21/2014 - 4/28/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.47E-02  | 1.52E-03                 | 2.91E-03 |
| Sample ID: | 292772 | Sample Dates: | 4/28/2014 - 5/5/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.92E-02  | 1.43E-03                 | 2.98E-03 |
| Sample ID: | 293034 | Sample Dates: | 5/5/2014 - 5/12/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.68E-02  | 1.55E-03                 | 2.82E-03 |
| Sample ID: | 294665 | Sample Dates: | 5/12/2014 - 5/19/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.37E-02  | 1.53E-03                 | 3.06E-03 |
| Sample ID: | 295174 | Sample Dates: | 5/19/2014 - 5/27/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.71E-02  | 1.44E-03                 | 2.54E-03 |
| Sample ID: | 295435 | Sample Dates: | 5/27/2014 - 6/2/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.65E-02  | 1.77E-03                 | 3.53E-03 |
| Sample ID: | 295950 | Sample Dates: | 6/2/2014 - 6/9/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.55E-02  | 1.34E-03                 | 3.09E-03 |
| Sample ID: | 296195 | Sample Dates: | 6/9/2014 - 6/16/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.38E-02  | 1.30E-03                 | 3.05E-03 |
| Sample ID: | 296716 | Sample Dates: | 6/16/2014 - 6/23/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.48E-02  | 1.52E-03                 | 2.93E-03 |
| Sample ID: | 296943 | Sample Dates: | 6/23/2014 - 6/30/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.09E-02  | 1.48E-03                 | 3.06E-03 |
| Sample ID: | 297305 | Sample Dates: | 3/31/2014 - 6/30/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Cs-134  | <6.09E-04 | 0.00E+00                 | 6.09E-04 |
|            |        |               |                        | Cs-137  | <8.76E-04 | 0.00E+00                 | 8.76E-04 |
|            |        |               |                        | Be-7    | 1.38E-01  | 2.86E-02                 | 1.77E-02 |
|            |        |               |                        | K-40    | 8.64E-03  | 6.57E-03                 | 3.34E-03 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 084 [ INDICATOR - NNE @ 2.58 miles ]

|            |        |               |                         |         |           |                          |          |
|------------|--------|---------------|-------------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 297340 | Sample Dates: | 6/30/2014 - 7/7/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.50E-02  | 3.01E-03                 | 2.92E-03 |
| Sample ID: | 297628 | Sample Dates: | 7/7/2014 - 7/14/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.23E-02  | 3.02E-03                 | 3.25E-03 |
| Sample ID: | 298164 | Sample Dates: | 7/14/2014 - 7/21/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.98E-02  | 2.77E-03                 | 2.97E-03 |
| Sample ID: | 350192 | Sample Dates: | 7/21/2014 - 7/28/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.93E-02  | 2.77E-03                 | 2.92E-03 |
| Sample ID: | 350933 | Sample Dates: | 7/28/2014 - 8/4/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.92E-02  | 2.79E-03                 | 3.06E-03 |
| Sample ID: | 351179 | Sample Dates: | 8/4/2014 - 8/11/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 3.27E-02  | 3.33E-03                 | 2.90E-03 |
| Sample ID: | 351618 | Sample Dates: | 8/11/2014 - 8/18/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.46E-02  | 2.99E-03                 | 2.98E-03 |
| Sample ID: | 353429 | Sample Dates: | 8/18/2014 - 8/25/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.76E-02  | 2.88E-03                 | 3.39E-03 |
| Sample ID: | 354063 | Sample Dates: | 8/25/2014 - 9/2/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.28E-02  | 2.62E-03                 | 2.42E-03 |
| Sample ID: | 354448 | Sample Dates: | 9/2/2014 - 9/8/2014     | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.57E-02  | 2.89E-03                 | 3.42E-03 |
| Sample ID: | 354764 | Sample Dates: | 9/8/2014 - 9/15/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.41E-02  | 2.56E-03                 | 3.11E-03 |
| Sample ID: | 355171 | Sample Dates: | 9/15/2014 - 9/22/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 3.10E-02  | 3.41E-03                 | 3.39E-03 |
| Sample ID: | 355636 | Sample Dates: | 9/22/2014 - 9/29/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.32E-02  | 2.52E-03                 | 3.08E-03 |
| Sample ID: | 355642 | Sample Dates: | 6/30/2014 - 9/29/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Cs-134  | <8.87E-04 | 0.00E+00                 | 8.87E-04 |
|            |        |               |                         | Cs-137  | <8.90E-04 | 0.00E+00                 | 8.90E-04 |
|            |        |               |                         | Be-7    | 1.08E-01  | 2.28E-02                 | 1.80E-02 |
|            |        |               |                         | K-40    | <2.11E-02 | 0.00E+00                 | 2.11E-02 |
| Sample ID: | 356503 | Sample Dates: | 9/29/2014 - 10/6/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.42E-02  | 3.09E-03                 | 3.24E-03 |
| Sample ID: | 357051 | Sample Dates: | 10/6/2014 - 10/13/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.30E-02  | 2.80E-03                 | 2.63E-03 |
| Sample ID: | 358050 | Sample Dates: | 10/13/2014 - 10/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.59E-02  | 2.64E-03                 | 2.98E-03 |
| Sample ID: | 358658 | Sample Dates: | 10/20/2014 - 10/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.20E-02  | 2.76E-03                 | 2.60E-03 |
| Sample ID: | 359297 | Sample Dates: | 10/27/2014 - 11/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.47E-02  | 3.14E-03                 | 3.34E-03 |
| Sample ID: | 360032 | Sample Dates: | 11/3/2014 - 11/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.85E-02  | 3.12E-03                 | 2.86E-03 |
| Sample ID: | 360714 | Sample Dates: | 11/10/2014 - 11/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 3.28E-02  | 3.37E-03                 | 3.05E-03 |
| Sample ID: | 361576 | Sample Dates: | 11/17/2014 - 11/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.63E-02  | 3.11E-03                 | 3.06E-03 |
| Sample ID: | 361955 | Sample Dates: | 11/24/2014 - 12/1/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.04E-02  | 2.88E-03                 | 3.14E-03 |
| Sample ID: | 362785 | Sample Dates: | 12/1/2014 - 12/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.53E-02  | 3.10E-03                 | 3.21E-03 |

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





# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 084 [ INDICATOR - NNE @ 2.58 miles ]

|            |        |               |                         |         |           |                          |          |
|------------|--------|---------------|-------------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 363525 | Sample Dates: | 12/8/2014 - 12/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.15E-02  | 2.83E-03                 | 2.79E-03 |
| Sample ID: | 363972 | Sample Dates: | 12/15/2014 - 12/22/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.31E-02  | 2.98E-03                 | 3.09E-03 |
| Sample ID: | 364508 | Sample Dates: | 12/22/2014 - 12/29/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.42E-02  | 2.51E-03                 | 2.92E-03 |
| Sample ID: | 364514 | Sample Dates: | 9/29/2014 - 12/29/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Cs-134  | <9.27E-04 | 0.00E+00                 | 9.27E-04 |
|            |        |               |                         | Cs-137  | <6.84E-04 | 0.00E+00                 | 6.84E-04 |
|            |        |               |                         | Be-7    | 1.23E-01  | 2.23E-02                 | 1.32E-02 |
|            |        |               |                         | K-40    | <1.36E-02 | 0.00E+00                 | 1.36E-02 |

Sample Point 085 [ INDICATOR - NNW @ 0.88 miles ]

|            |        |               |                        |         |           |                          |          |
|------------|--------|---------------|------------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 280647 | Sample Dates: | 12/30/2013 - 1/6/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.05E-02  | 1.48E-03                 | 3.19E-03 |
| Sample ID: | 280820 | Sample Dates: | 1/6/2014 - 1/13/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.55E-02  | 1.53E-03                 | 3.85E-03 |
| Sample ID: | 281179 | Sample Dates: | 1/13/2014 - 1/20/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.47E-02  | 1.36E-03                 | 3.27E-03 |
| Sample ID: | 281500 | Sample Dates: | 1/20/2014 - 1/27/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.64E-02  | 1.40E-03                 | 3.23E-03 |
| Sample ID: | 282123 | Sample Dates: | 1/27/2014 - 2/3/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.02E-02  | 1.48E-03                 | 3.25E-03 |
| Sample ID: | 282935 | Sample Dates: | 2/3/2014 - 2/10/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.52E-02  | 1.37E-03                 | 3.22E-03 |
| Sample ID: | 283382 | Sample Dates: | 2/10/2014 - 2/17/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.32E-02  | 1.52E-03                 | 3.08E-03 |
| Sample ID: | 284549 | Sample Dates: | 2/17/2014 - 2/24/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.26E-02  | 1.51E-03                 | 3.13E-03 |
| Sample ID: | 285110 | Sample Dates: | 2/24/2014 - 3/3/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.39E-02  | 1.56E-03                 | 3.20E-03 |
| Sample ID: | 285715 | Sample Dates: | 3/3/2014 - 3/10/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.79E-02  | 1.41E-03                 | 3.08E-03 |
| Sample ID: | 286219 | Sample Dates: | 3/10/2014 - 3/17/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.95E-02  | 1.37E-03                 | 2.68E-03 |
| Sample ID: | 287104 | Sample Dates: | 3/17/2014 - 3/24/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.52E-02  | 1.34E-03                 | 3.09E-03 |
| Sample ID: | 288355 | Sample Dates: | 3/24/2014 - 3/31/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.98E-02  | 1.37E-03                 | 2.73E-03 |
| Sample ID: | 289042 | Sample Dates: | 12/30/2013 - 3/31/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Cs-134  | <4.79E-04 | 0.00E+00                 | 4.79E-04 |
|            |        |               |                        | Cs-137  | <4.44E-04 | 0.00E+00                 | 4.44E-04 |
|            |        |               |                        | Be-7    | 1.31E-01  | 6.21E-03                 | 5.93E-03 |
|            |        |               |                        | K-40    | 1.58E-02  | 2.44E-03                 | 5.29E-03 |
| Sample ID: | 289079 | Sample Dates: | 3/31/2014 - 4/7/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.71E-02  | 1.44E-03                 | 3.28E-03 |
| Sample ID: | 289465 | Sample Dates: | 4/7/2014 - 4/14/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 1.74E-02  | 1.30E-03                 | 2.58E-03 |
| Sample ID: | 289875 | Sample Dates: | 4/14/2014 - 4/21/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.15E-02  | 1.52E-03                 | 3.25E-03 |
| Sample ID: | 291480 | Sample Dates: | 4/21/2014 - 4/28/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                        | Beta    | 2.45E-02  | 1.53E-03                 | 2.93E-03 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 085 [ INDICATOR - NNW @ 0.88 miles ]

|            |        |               |                       |         |           |                          |          |
|------------|--------|---------------|-----------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 292774 | Sample Dates: | 4/28/2014 - 5/5/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.07E-02  | 1.46E-03                 | 2.98E-03 |
| Sample ID: | 293036 | Sample Dates: | 5/5/2014 - 5/12/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.79E-02  | 1.58E-03                 | 2.83E-03 |
| Sample ID: | 294667 | Sample Dates: | 5/12/2014 - 5/19/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.27E-02  | 1.52E-03                 | 3.07E-03 |
| Sample ID: | 295176 | Sample Dates: | 5/19/2014 - 5/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 3.00E-02  | 1.50E-03                 | 2.54E-03 |
| Sample ID: | 295437 | Sample Dates: | 5/27/2014 - 6/2/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.47E-02  | 1.73E-03                 | 3.55E-03 |
| Sample ID: | 295952 | Sample Dates: | 6/2/2014 - 6/9/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.32E-02  | 1.29E-03                 | 3.10E-03 |
| Sample ID: | 296197 | Sample Dates: | 6/9/2014 - 6/16/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.64E-02  | 1.36E-03                 | 3.05E-03 |
| Sample ID: | 296718 | Sample Dates: | 6/16/2014 - 6/23/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.75E-02  | 1.58E-03                 | 2.94E-03 |
| Sample ID: | 296945 | Sample Dates: | 6/23/2014 - 6/30/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.33E-02  | 1.54E-03                 | 3.07E-03 |
| Sample ID: | 297306 | Sample Dates: | 3/31/2014 - 6/30/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Cs-134  | <4.19E-04 | 0.00E+00                 | 4.19E-04 |
|            |        |               |                       | Cs-137  | <5.36E-04 | 0.00E+00                 | 5.36E-04 |
|            |        |               |                       | Be-7    | 1.61E-01  | 2.98E-02                 | 2.61E-02 |
|            |        |               |                       | K-40    | <1.25E-02 | 0.00E+00                 | 1.25E-02 |
| Sample ID: | 297342 | Sample Dates: | 6/30/2014 - 7/7/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.47E-02  | 3.01E-03                 | 2.93E-03 |
| Sample ID: | 297630 | Sample Dates: | 7/7/2014 - 7/14/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.49E-02  | 3.13E-03                 | 3.25E-03 |
| Sample ID: | 298166 | Sample Dates: | 7/14/2014 - 7/21/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.19E-02  | 2.89E-03                 | 2.99E-03 |
| Sample ID: | 350193 | Sample Dates: | 7/21/2014 - 7/28/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.86E-02  | 2.74E-03                 | 2.91E-03 |
| Sample ID: | 350934 | Sample Dates: | 7/28/2014 - 8/4/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.99E-02  | 2.84E-03                 | 3.08E-03 |
| Sample ID: | 351180 | Sample Dates: | 8/4/2014 - 8/11/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 3.29E-02  | 3.35E-03                 | 2.90E-03 |
| Sample ID: | 351619 | Sample Dates: | 8/11/2014 - 8/18/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.55E-02  | 3.03E-03                 | 2.98E-03 |
| Sample ID: | 353430 | Sample Dates: | 8/18/2014 - 8/25/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.05E-02  | 3.00E-03                 | 3.38E-03 |
| Sample ID: | 354065 | Sample Dates: | 8/25/2014 - 9/2/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 2.26E-02  | 2.63E-03                 | 2.44E-03 |
| Sample ID: | 354449 | Sample Dates: | 9/2/2014 - 9/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.46E-02  | 2.84E-03                 | 3.43E-03 |
| Sample ID: | 354765 | Sample Dates: | 9/8/2014 - 9/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.21E-02  | 2.47E-03                 | 3.12E-03 |
| Sample ID: | 355173 | Sample Dates: | 9/15/2014 - 9/22/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 3.01E-02  | 3.38E-03                 | 3.39E-03 |
| Sample ID: | 355637 | Sample Dates: | 9/22/2014 - 9/29/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Beta    | 1.18E-02  | 2.46E-03                 | 3.09E-03 |
| Sample ID: | 355643 | Sample Dates: | 6/30/2014 - 9/29/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Cs-134  | <9.94E-04 | 0.00E+00                 | 9.94E-04 |
|            |        |               |                       | Cs-137  | <6.26E-04 | 0.00E+00                 | 6.26E-04 |

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





# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 085 [ INDICATOR - NNW @ 0.88 miles ]

|            |        |               |                         |         |           |                          |          |
|------------|--------|---------------|-------------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 355643 | Sample Dates: | 6/30/2014 - 9/29/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Be-7    | 1.29E-01  | 2.50E-02                 | 1.91E-02 |
|            |        |               |                         | K-40    | 9.35E-03  | 7.45E-03                 | 9.98E-03 |
| Sample ID: | 356506 | Sample Dates: | 9/29/2014 - 10/6/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.26E-02  | 3.01E-03                 | 3.22E-03 |
| Sample ID: | 357052 | Sample Dates: | 10/6/2014 - 10/13/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.03E-02  | 2.70E-03                 | 2.68E-03 |
| Sample ID: | 358051 | Sample Dates: | 10/13/2014 - 10/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.43E-02  | 2.53E-03                 | 2.95E-03 |
| Sample ID: | 358659 | Sample Dates: | 10/20/2014 - 10/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.87E-02  | 2.62E-03                 | 2.61E-03 |
| Sample ID: | 359299 | Sample Dates: | 10/27/2014 - 11/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.00E-02  | 2.95E-03                 | 3.34E-03 |
| Sample ID: | 360033 | Sample Dates: | 11/3/2014 - 11/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.30E-02  | 2.88E-03                 | 2.86E-03 |
| Sample ID: | 360715 | Sample Dates: | 11/10/2014 - 11/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.33E-02  | 2.99E-03                 | 3.05E-03 |
| Sample ID: | 361577 | Sample Dates: | 11/17/2014 - 11/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.19E-02  | 2.93E-03                 | 3.07E-03 |
| Sample ID: | 361956 | Sample Dates: | 11/24/2014 - 12/1/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.04E-02  | 2.87E-03                 | 3.13E-03 |
| Sample ID: | 362786 | Sample Dates: | 12/1/2014 - 12/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.97E-02  | 2.87E-03                 | 3.21E-03 |
| Sample ID: | 363526 | Sample Dates: | 12/8/2014 - 12/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.52E-02  | 2.99E-03                 | 2.79E-03 |
| Sample ID: | 363973 | Sample Dates: | 12/15/2014 - 12/22/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 2.87E-02  | 3.21E-03                 | 3.10E-03 |
| Sample ID: | 364509 | Sample Dates: | 12/22/2014 - 12/29/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Beta    | 1.44E-02  | 2.51E-03                 | 2.90E-03 |
| Sample ID: | 364515 | Sample Dates: | 9/29/2014 - 12/29/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                         | Cs-134  | <7.07E-04 | 0.00E+00                 | 7.07E-04 |
|            |        |               |                         | Cs-137  | <6.26E-04 | 0.00E+00                 | 6.26E-04 |
|            |        |               |                         | Be-7    | 1.04E-01  | 2.05E-02                 | 1.38E-02 |
|            |        |               |                         | K-40    | <2.04E-02 | 0.00E+00                 | 2.04E-02 |

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

Sample Point 077 [ INDICATOR - SW @ 1 miles ]

|            |        |               |                       |         |           |                          |          |
|------------|--------|---------------|-----------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 280636 | Sample Dates: | 12/30/2013 - 1/6/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <2.77E-02 | 0.00E+00                 | 2.77E-02 |
|            |        |               |                       | Cs-134  | <1.86E-02 | 0.00E+00                 | 1.86E-02 |
|            |        |               |                       | Cs-137  | <1.87E-02 | 0.00E+00                 | 1.87E-02 |
|            |        |               |                       | Be-7    | <1.72E-01 | 0.00E+00                 | 1.72E-01 |
|            |        |               |                       | K-40    | 4.24E-01  | 1.09E-01                 | 7.64E-02 |
| Sample ID: | 280809 | Sample Dates: | 1/6/2014 - 1/13/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <2.74E-02 | 0.00E+00                 | 2.74E-02 |
|            |        |               |                       | Cs-134  | <1.88E-02 | 0.00E+00                 | 1.88E-02 |
|            |        |               |                       | Cs-137  | <1.72E-02 | 0.00E+00                 | 1.72E-02 |
|            |        |               |                       | Be-7    | <1.63E-01 | 0.00E+00                 | 1.63E-01 |
|            |        |               |                       | K-40    | <5.99E-01 | 0.00E+00                 | 5.99E-01 |
| Sample ID: | 281168 | Sample Dates: | 1/13/2014 - 1/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.37E-02 | 0.00E+00                 | 1.37E-02 |
|            |        |               |                       | Cs-134  | <1.37E-02 | 0.00E+00                 | 1.37E-02 |
|            |        |               |                       | Cs-137  | <9.40E-03 | 0.00E+00                 | 9.40E-03 |
|            |        |               |                       | Be-7    | <7.18E-02 | 0.00E+00                 | 7.18E-02 |
|            |        |               |                       | K-40    | 4.99E-01  | 1.04E-01                 | 1.56E-01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 077 [ INDICATOR - SW @ 1 miles ]

|                   |                                     |         |           |                          |          |
|-------------------|-------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 281489 | Sample Dates: 1/20/2014 - 1/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.30E-02 | 0.00E+00                 | 1.30E-02 |
|                   |                                     | Cs-134  | <9.69E-03 | 0.00E+00                 | 9.69E-03 |
|                   |                                     | Cs-137  | <8.40E-03 | 0.00E+00                 | 8.40E-03 |
|                   |                                     | Be-7    | <7.24E-02 | 0.00E+00                 | 7.24E-02 |
|                   |                                     | K-40    | 5.25E-01  | 7.91E-02                 | 1.54E-01 |
| Sample ID: 282112 | Sample Dates: 1/27/2014 - 2/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.22E-02 | 0.00E+00                 | 2.22E-02 |
|                   |                                     | Cs-134  | <1.56E-02 | 0.00E+00                 | 1.56E-02 |
|                   |                                     | Cs-137  | <1.43E-02 | 0.00E+00                 | 1.43E-02 |
|                   |                                     | Be-7    | <1.69E-01 | 0.00E+00                 | 1.69E-01 |
|                   |                                     | K-40    | 5.26E-01  | 1.43E-01                 | 2.57E-01 |
| Sample ID: 282924 | Sample Dates: 2/3/2014 - 2/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.80E-02 | 0.00E+00                 | 2.80E-02 |
|                   |                                     | Cs-134  | <1.62E-02 | 0.00E+00                 | 1.62E-02 |
|                   |                                     | Cs-137  | <1.72E-02 | 0.00E+00                 | 1.72E-02 |
|                   |                                     | Be-7    | <1.45E-01 | 0.00E+00                 | 1.45E-01 |
|                   |                                     | K-40    | 4.65E-01  | 1.16E-01                 | 2.18E-01 |
| Sample ID: 283371 | Sample Dates: 2/10/2014 - 2/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.68E-02 | 0.00E+00                 | 1.68E-02 |
|                   |                                     | Cs-134  | <1.39E-02 | 0.00E+00                 | 1.39E-02 |
|                   |                                     | Cs-137  | <1.45E-02 | 0.00E+00                 | 1.45E-02 |
|                   |                                     | Be-7    | <1.17E-01 | 0.00E+00                 | 1.17E-01 |
|                   |                                     | K-40    | 2.80E-01  | 8.09E-02                 | 1.77E-01 |
| Sample ID: 284538 | Sample Dates: 2/17/2014 - 2/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.92E-02 | 0.00E+00                 | 1.92E-02 |
|                   |                                     | Cs-134  | <1.88E-02 | 0.00E+00                 | 1.88E-02 |
|                   |                                     | Cs-137  | <1.70E-02 | 0.00E+00                 | 1.70E-02 |
|                   |                                     | Be-7    | <1.33E-01 | 0.00E+00                 | 1.33E-01 |
|                   |                                     | K-40    | <4.54E-01 | 0.00E+00                 | 4.54E-01 |
| Sample ID: 285099 | Sample Dates: 2/24/2014 - 3/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.24E-02 | 0.00E+00                 | 2.24E-02 |
|                   |                                     | Cs-134  | <1.86E-02 | 0.00E+00                 | 1.86E-02 |
|                   |                                     | Cs-137  | <1.66E-02 | 0.00E+00                 | 1.66E-02 |
|                   |                                     | Be-7    | <1.10E-01 | 0.00E+00                 | 1.10E-01 |
|                   |                                     | K-40    | <3.67E-01 | 0.00E+00                 | 3.67E-01 |
| Sample ID: 285704 | Sample Dates: 3/3/2014 - 3/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.08E-02 | 0.00E+00                 | 1.08E-02 |
|                   |                                     | Cs-134  | <9.27E-03 | 0.00E+00                 | 9.27E-03 |
|                   |                                     | Cs-137  | <9.50E-03 | 0.00E+00                 | 9.50E-03 |
|                   |                                     | Be-7    | <6.89E-02 | 0.00E+00                 | 6.89E-02 |
|                   |                                     | K-40    | 4.88E-01  | 8.25E-02                 | 1.01E-01 |
| Sample ID: 286208 | Sample Dates: 3/10/2014 - 3/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.57E-02 | 0.00E+00                 | 2.57E-02 |
|                   |                                     | Cs-134  | <2.15E-02 | 0.00E+00                 | 2.15E-02 |
|                   |                                     | Cs-137  | <2.11E-02 | 0.00E+00                 | 2.11E-02 |
|                   |                                     | Be-7    | <1.51E-01 | 0.00E+00                 | 1.51E-01 |
|                   |                                     | K-40    | 3.74E-01  | 1.04E-01                 | 2.06E-01 |
| Sample ID: 287093 | Sample Dates: 3/17/2014 - 3/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.44E-02 | 0.00E+00                 | 1.44E-02 |
|                   |                                     | Cs-134  | <1.06E-02 | 0.00E+00                 | 1.06E-02 |
|                   |                                     | Cs-137  | <1.46E-02 | 0.00E+00                 | 1.46E-02 |
|                   |                                     | Be-7    | <7.50E-02 | 0.00E+00                 | 7.50E-02 |
|                   |                                     | K-40    | 3.59E-01  | 1.04E-01                 | 5.83E-02 |
| Sample ID: 288344 | Sample Dates: 3/24/2014 - 3/31/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.71E-02 | 0.00E+00                 | 1.71E-02 |
|                   |                                     | Cs-134  | <6.88E-03 | 0.00E+00                 | 6.88E-03 |
|                   |                                     | Cs-137  | <1.50E-02 | 0.00E+00                 | 1.50E-02 |
|                   |                                     | Be-7    | <9.05E-02 | 0.00E+00                 | 9.05E-02 |
|                   |                                     | K-40    | 3.33E-01  | 1.13E-01                 | 2.45E-01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 077 [ INDICATOR - SW @ 1 miles ]

|                   |                                     |         |           |                          |          |
|-------------------|-------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 289068 | Sample Dates: 3/31/2014 - 4/7/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.76E-02 | 0.00E+00                 | 2.76E-02 |
|                   |                                     | Cs-134  | <1.48E-02 | 0.00E+00                 | 1.48E-02 |
|                   |                                     | Cs-137  | <2.90E-02 | 0.00E+00                 | 2.90E-02 |
|                   |                                     | Be-7    | <1.83E-01 | 0.00E+00                 | 1.83E-01 |
|                   |                                     | K-40    | 6.22E-01  | 1.36E-01                 | 8.01E-02 |
| Sample ID: 289454 | Sample Dates: 4/7/2014 - 4/14/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.30E-02 | 0.00E+00                 | 2.30E-02 |
|                   |                                     | Cs-134  | <1.42E-02 | 0.00E+00                 | 1.42E-02 |
|                   |                                     | Cs-137  | <1.67E-02 | 0.00E+00                 | 1.67E-02 |
|                   |                                     | Be-7    | <1.55E-01 | 0.00E+00                 | 1.55E-01 |
|                   |                                     | K-40    | <6.47E-01 | 0.00E+00                 | 6.47E-01 |
| Sample ID: 289864 | Sample Dates: 4/14/2014 - 4/21/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.28E-02 | 0.00E+00                 | 2.28E-02 |
|                   |                                     | Cs-134  | <1.85E-02 | 0.00E+00                 | 1.85E-02 |
|                   |                                     | Cs-137  | <1.59E-02 | 0.00E+00                 | 1.59E-02 |
|                   |                                     | Be-7    | <1.89E-01 | 0.00E+00                 | 1.89E-01 |
|                   |                                     | K-40    | <5.01E-01 | 0.00E+00                 | 5.01E-01 |
| Sample ID: 291469 | Sample Dates: 4/21/2014 - 4/28/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.44E-02 | 0.00E+00                 | 2.44E-02 |
|                   |                                     | Cs-134  | <1.58E-02 | 0.00E+00                 | 1.58E-02 |
|                   |                                     | Cs-137  | <2.15E-02 | 0.00E+00                 | 2.15E-02 |
|                   |                                     | Be-7    | <1.63E-01 | 0.00E+00                 | 1.63E-01 |
|                   |                                     | K-40    | 4.79E-01  | 1.16E-01                 | 7.62E-02 |
| Sample ID: 292763 | Sample Dates: 4/28/2014 - 5/5/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.22E-02 | 0.00E+00                 | 1.22E-02 |
|                   |                                     | Cs-134  | <1.12E-02 | 0.00E+00                 | 1.12E-02 |
|                   |                                     | Cs-137  | <1.14E-02 | 0.00E+00                 | 1.14E-02 |
|                   |                                     | Be-7    | <1.07E-01 | 0.00E+00                 | 1.07E-01 |
|                   |                                     | K-40    | 2.90E-01  | 1.03E-01                 | 1.72E-01 |
| Sample ID: 293025 | Sample Dates: 5/5/2014 - 5/12/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.47E-02 | 0.00E+00                 | 1.47E-02 |
|                   |                                     | Cs-134  | <7.49E-03 | 0.00E+00                 | 7.49E-03 |
|                   |                                     | Cs-137  | <1.74E-02 | 0.00E+00                 | 1.74E-02 |
|                   |                                     | Be-7    | <7.87E-02 | 0.00E+00                 | 7.87E-02 |
|                   |                                     | K-40    | <3.82E-01 | 0.00E+00                 | 3.82E-01 |
| Sample ID: 294656 | Sample Dates: 5/12/2014 - 5/19/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.28E-02 | 0.00E+00                 | 1.28E-02 |
|                   |                                     | Cs-134  | <1.27E-02 | 0.00E+00                 | 1.27E-02 |
|                   |                                     | Cs-137  | <1.50E-02 | 0.00E+00                 | 1.50E-02 |
|                   |                                     | Be-7    | <9.46E-02 | 0.00E+00                 | 9.46E-02 |
|                   |                                     | K-40    | 5.69E-01  | 1.12E-01                 | 5.91E-02 |
| Sample ID: 295165 | Sample Dates: 5/19/2014 - 5/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <3.33E-02 | 0.00E+00                 | 3.33E-02 |
|                   |                                     | Cs-134  | <1.86E-02 | 0.00E+00                 | 1.86E-02 |
|                   |                                     | Cs-137  | <1.87E-02 | 0.00E+00                 | 1.87E-02 |
|                   |                                     | Be-7    | <1.15E-01 | 0.00E+00                 | 1.15E-01 |
|                   |                                     | K-40    | 3.68E-01  | 9.51E-02                 | 1.77E-01 |
| Sample ID: 295426 | Sample Dates: 5/27/2014 - 6/2/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.63E-02 | 0.00E+00                 | 2.63E-02 |
|                   |                                     | Cs-134  | <1.92E-02 | 0.00E+00                 | 1.92E-02 |
|                   |                                     | Cs-137  | <2.44E-02 | 0.00E+00                 | 2.44E-02 |
|                   |                                     | Be-7    | <1.44E-01 | 0.00E+00                 | 1.44E-01 |
|                   |                                     | K-40    | 5.82E-01  | 1.41E-01                 | 9.26E-02 |
| Sample ID: 295941 | Sample Dates: 6/2/2014 - 6/9/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.05E-02 | 0.00E+00                 | 2.05E-02 |
|                   |                                     | Cs-134  | <2.60E-02 | 0.00E+00                 | 2.60E-02 |
|                   |                                     | Cs-137  | <2.33E-02 | 0.00E+00                 | 2.33E-02 |
|                   |                                     | Be-7    | <1.53E-01 | 0.00E+00                 | 1.53E-01 |
|                   |                                     | K-40    | 3.97E-01  | 1.06E-01                 | 7.66E-02 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 077 [ INDICATOR - SW @ 1 miles ]

|                   |                                     |         |           |                          |          |
|-------------------|-------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 296186 | Sample Dates: 6/9/2014 - 6/16/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.36E-02 | 0.00E+00                 | 1.36E-02 |
|                   |                                     | Cs-134  | <9.19E-03 | 0.00E+00                 | 9.19E-03 |
|                   |                                     | Cs-137  | <1.21E-02 | 0.00E+00                 | 1.21E-02 |
|                   |                                     | Be-7    | <7.31E-02 | 0.00E+00                 | 7.31E-02 |
|                   |                                     | K-40    | 6.03E-01  | 8.52E-02                 | 1.13E-01 |
| Sample ID: 296707 | Sample Dates: 6/16/2014 - 6/23/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.27E-02 | 0.00E+00                 | 2.27E-02 |
|                   |                                     | Cs-134  | <1.51E-02 | 0.00E+00                 | 1.51E-02 |
|                   |                                     | Cs-137  | <2.45E-02 | 0.00E+00                 | 2.45E-02 |
|                   |                                     | Be-7    | <1.24E-01 | 0.00E+00                 | 1.24E-01 |
|                   |                                     | K-40    | 5.87E-01  | 1.28E-01                 | 2.02E-01 |
| Sample ID: 296934 | Sample Dates: 6/23/2014 - 6/30/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.13E-02 | 0.00E+00                 | 1.13E-02 |
|                   |                                     | Cs-134  | <6.95E-03 | 0.00E+00                 | 6.95E-03 |
|                   |                                     | Cs-137  | <1.04E-02 | 0.00E+00                 | 1.04E-02 |
|                   |                                     | Be-7    | <7.60E-02 | 0.00E+00                 | 7.60E-02 |
|                   |                                     | K-40    | 6.69E-01  | 1.06E-01                 | 1.42E-01 |
| Sample ID: 297331 | Sample Dates: 6/30/2014 - 7/7/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.99E-02 | 0.00E+00                 | 1.99E-02 |
|                   |                                     | Cs-134  | <1.26E-02 | 0.00E+00                 | 1.26E-02 |
|                   |                                     | Cs-137  | <3.61E-03 | 0.00E+00                 | 3.61E-03 |
|                   |                                     | Be-7    | <9.12E-02 | 0.00E+00                 | 9.12E-02 |
|                   |                                     | K-40    | 4.44E-01  | 1.02E-01                 | 1.76E-01 |
| Sample ID: 297619 | Sample Dates: 7/7/2014 - 7/14/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.72E-02 | 0.00E+00                 | 2.72E-02 |
|                   |                                     | Cs-134  | <1.17E-02 | 0.00E+00                 | 1.17E-02 |
|                   |                                     | Cs-137  | <1.57E-02 | 0.00E+00                 | 1.57E-02 |
|                   |                                     | Be-7    | <1.13E-01 | 0.00E+00                 | 1.13E-01 |
|                   |                                     | K-40    | 4.62E-01  | 1.94E-01                 | 1.98E-01 |
| Sample ID: 298155 | Sample Dates: 7/14/2014 - 7/21/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <3.71E-02 | 0.00E+00                 | 3.71E-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    | <1.32E-01 | 0.00E+00                 | 1.32E-01 |
|                   |                                     | K-40    | 3.34E-01  | 2.46E-01                 | 3.17E-01 |
| Sample ID: 350194 | Sample Dates: 7/21/2014 - 7/28/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.71E-02 | 0.00E+00                 | 2.71E-02 |
|                   |                                     | Cs-134  | <1.74E-02 | 0.00E+00                 | 1.74E-02 |
|                   |                                     | Cs-137  | <1.94E-02 | 0.00E+00                 | 1.94E-02 |
|                   |                                     | Be-7    | <1.24E-01 | 0.00E+00                 | 1.24E-01 |
|                   |                                     | K-40    | 5.85E-01  | 3.02E-01                 | 3.02E-01 |
| Sample ID: 350935 | Sample Dates: 7/28/2014 - 8/4/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.02E-02 | 0.00E+00                 | 2.02E-02 |
|                   |                                     | Cs-134  | <1.03E-02 | 0.00E+00                 | 1.03E-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    | <5.35E-01 | 0.00E+00                 | 5.35E-01 |
| Sample ID: 351181 | Sample Dates: 8/4/2014 - 8/11/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.54E-02 | 0.00E+00                 | 2.54E-02 |
|                   |                                     | Cs-134  | <1.88E-02 | 0.00E+00                 | 1.88E-02 |
|                   |                                     | Cs-137  | <1.31E-02 | 0.00E+00                 | 1.31E-02 |
|                   |                                     | Be-7    | <1.36E-01 | 0.00E+00                 | 1.36E-01 |
|                   |                                     | K-40    | <5.68E-01 | 0.00E+00                 | 5.68E-01 |
| Sample ID: 351620 | Sample Dates: 8/11/2014 - 8/18/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.49E-02 | 0.00E+00                 | 2.49E-02 |
|                   |                                     | Cs-134  | <2.70E-02 | 0.00E+00                 | 2.70E-02 |
|                   |                                     | Cs-137  | <1.85E-02 | 0.00E+00                 | 1.85E-02 |
|                   |                                     | Be-7    | <1.52E-01 | 0.00E+00                 | 1.52E-01 |
|                   |                                     | K-40    | <6.02E-01 | 0.00E+00                 | 6.02E-01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 077 [ INDICATOR - SW @ 1 miles ]

|                   |                                       |         |           |                          |          |
|-------------------|---------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 353431 | Sample Dates: 8/18/2014 - 8/25/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.52E-02 | 0.00E+00                 | 2.52E-02 |
|                   |                                       | Cs-134  | <1.59E-02 | 0.00E+00                 | 1.59E-02 |
|                   |                                       | Cs-137  | <2.86E-02 | 0.00E+00                 | 2.86E-02 |
|                   |                                       | Be-7    | <1.72E-01 | 0.00E+00                 | 1.72E-01 |
|                   |                                       | K-40    | 7.30E-01  | 3.05E-01                 | 8.25E-02 |
| Sample ID: 354068 | Sample Dates: 8/25/2014 - 9/2/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.02E-02 | 0.00E+00                 | 2.02E-02 |
|                   |                                       | Cs-134  | <2.20E-02 | 0.00E+00                 | 2.20E-02 |
|                   |                                       | Cs-137  | <1.65E-02 | 0.00E+00                 | 1.65E-02 |
|                   |                                       | Be-7    | <7.15E-02 | 0.00E+00                 | 7.15E-02 |
|                   |                                       | K-40    | 4.74E-01  | 2.50E-01                 | 2.50E-01 |
| Sample ID: 354450 | Sample Dates: 9/2/2014 - 9/8/2014     | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.93E-02 | 0.00E+00                 | 2.93E-02 |
|                   |                                       | Cs-134  | <2.67E-02 | 0.00E+00                 | 2.67E-02 |
|                   |                                       | Cs-137  | <2.23E-02 | 0.00E+00                 | 2.23E-02 |
|                   |                                       | Be-7    | <1.40E-01 | 0.00E+00                 | 1.40E-01 |
|                   |                                       | K-40    | <7.66E-01 | 0.00E+00                 | 7.66E-01 |
| Sample ID: 354766 | Sample Dates: 9/8/2014 - 9/15/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.50E-02 | 0.00E+00                 | 1.50E-02 |
|                   |                                       | Cs-134  | <1.77E-02 | 0.00E+00                 | 1.77E-02 |
|                   |                                       | Cs-137  | <1.26E-02 | 0.00E+00                 | 1.26E-02 |
|                   |                                       | Be-7    | <6.16E-02 | 0.00E+00                 | 6.16E-02 |
|                   |                                       | K-40    | 2.86E-01  | 2.13E-01                 | 2.81E-01 |
| Sample ID: 355175 | Sample Dates: 9/15/2014 - 9/22/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.86E-02 | 0.00E+00                 | 1.86E-02 |
|                   |                                       | Cs-134  | <1.33E-02 | 0.00E+00                 | 1.33E-02 |
|                   |                                       | Cs-137  | <2.35E-02 | 0.00E+00                 | 2.35E-02 |
|                   |                                       | Be-7    | <8.25E-02 | 0.00E+00                 | 8.25E-02 |
|                   |                                       | K-40    | 5.32E-01  | 2.81E-01                 | 2.69E-01 |
| Sample ID: 355644 | Sample Dates: 9/22/2014 - 9/29/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.98E-02 | 0.00E+00                 | 1.98E-02 |
|                   |                                       | Cs-134  | <1.69E-02 | 0.00E+00                 | 1.69E-02 |
|                   |                                       | Cs-137  | <2.30E-02 | 0.00E+00                 | 2.30E-02 |
|                   |                                       | Be-7    | <1.02E-01 | 0.00E+00                 | 1.02E-01 |
|                   |                                       | K-40    | 3.25E-01  | 2.57E-01                 | 3.50E-01 |
| Sample ID: 356508 | Sample Dates: 9/29/2014 - 10/6/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.22E-02 | 0.00E+00                 | 2.22E-02 |
|                   |                                       | Cs-134  | <1.84E-02 | 0.00E+00                 | 1.84E-02 |
|                   |                                       | Cs-137  | <1.89E-02 | 0.00E+00                 | 1.89E-02 |
|                   |                                       | Be-7    | <1.86E-01 | 0.00E+00                 | 1.86E-01 |
|                   |                                       | K-40    | <5.57E-01 | 0.00E+00                 | 5.57E-01 |
| Sample ID: 357053 | Sample Dates: 10/6/2014 - 10/13/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.32E-02 | 0.00E+00                 | 2.32E-02 |
|                   |                                       | Cs-134  | <1.83E-02 | 0.00E+00                 | 1.83E-02 |
|                   |                                       | Cs-137  | <1.87E-02 | 0.00E+00                 | 1.87E-02 |
|                   |                                       | Be-7    | <8.12E-02 | 0.00E+00                 | 8.12E-02 |
|                   |                                       | K-40    | <6.25E-01 | 0.00E+00                 | 6.25E-01 |
| Sample ID: 358052 | Sample Dates: 10/13/2014 - 10/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.55E-02 | 0.00E+00                 | 1.55E-02 |
|                   |                                       | Cs-134  | <1.34E-02 | 0.00E+00                 | 1.34E-02 |
|                   |                                       | Cs-137  | <1.68E-02 | 0.00E+00                 | 1.68E-02 |
|                   |                                       | Be-7    | <1.37E-01 | 0.00E+00                 | 1.37E-01 |
|                   |                                       | K-40    | <5.73E-01 | 0.00E+00                 | 5.73E-01 |
| Sample ID: 358660 | Sample Dates: 10/20/2014 - 10/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.51E-02 | 0.00E+00                 | 2.51E-02 |
|                   |                                       | Cs-134  | <1.03E-02 | 0.00E+00                 | 1.03E-02 |
|                   |                                       | Cs-137  | <1.88E-02 | 0.00E+00                 | 1.88E-02 |
|                   |                                       | Be-7    | <1.54E-01 | 0.00E+00                 | 1.54E-01 |
|                   |                                       | K-40    | 1.52E-01  | 1.96E-01                 | 3.14E-01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 077 [ INDICATOR - SW @ 1 miles ]

|   |                                       |         |           |                          |          |
|---|---------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 359302                                   | Sample Dates: 10/27/2014 - 11/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <1.12E-02 | 0.00E+00                 | 1.12E-02 |
|   |                                       | Cs-134  | <2.25E-02 | 0.00E+00                 | 2.25E-02 |
|   |                                       | Cs-137  | <4.80E-03 | 0.00E+00                 | 4.80E-03 |
|   |                                       | Be-7    | <1.19E-01 | 0.00E+00                 | 1.19E-01 |
|   |                                       | K-40    | 5.36E-01  | 3.11E-01                 | 3.69E-01 |
| Sample ID: 360034                                   | Sample Dates: 11/3/2014 - 11/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <2.01E-02 | 0.00E+00                 | 2.01E-02 |
|   |                                       | Cs-134  | <1.17E-02 | 0.00E+00                 | 1.17E-02 |
|   |                                       | Cs-137  | <9.99E-03 | 0.00E+00                 | 9.99E-03 |
|   |                                       | Be-7    | <1.43E-01 | 0.00E+00                 | 1.43E-01 |
|   |                                       | K-40    | 3.65E-01  | 2.15E-01                 | 2.34E-01 |
| Sample ID: 360716                                   | Sample Dates: 11/10/2014 - 11/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <1.79E-02 | 0.00E+00                 | 1.79E-02 |
|   |                                       | Cs-134  | <1.54E-02 | 0.00E+00                 | 1.54E-02 |
|   |                                       | Cs-137  | <1.92E-02 | 0.00E+00                 | 1.92E-02 |
|   |                                       | Be-7    | <1.22E-01 | 0.00E+00                 | 1.22E-01 |
|   |                                       | K-40    | 3.83E-01  | 2.41E-01                 | 2.56E-01 |
| Sample ID: 361578                                   | Sample Dates: 11/17/2014 - 11/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <1.99E-02 | 0.00E+00                 | 1.99E-02 |
|   |                                       | Cs-134  | <1.71E-02 | 0.00E+00                 | 1.71E-02 |
|   |                                       | Cs-137  | <1.65E-02 | 0.00E+00                 | 1.65E-02 |
|   |                                       | Be-7    | <1.57E-01 | 0.00E+00                 | 1.57E-01 |
|   |                                       | K-40    | <6.56E-01 | 0.00E+00                 | 6.56E-01 |
| Sample ID: 361957                                   | Sample Dates: 11/24/2014 - 12/1/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <1.23E-02 | 0.00E+00                 | 1.23E-02 |
|   |                                       | Cs-134  | <9.52E-03 | 0.00E+00                 | 9.52E-03 |
|   |                                       | Cs-137  | <9.33E-03 | 0.00E+00                 | 9.33E-03 |
|   |                                       | Be-7    | <3.38E-02 | 0.00E+00                 | 3.38E-02 |
|   |                                       | K-40    | 5.26E-01  | 1.82E-01                 | 1.49E-01 |
| Sample ID: 362787                                   | Sample Dates: 12/1/2014 - 12/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <2.73E-02 | 0.00E+00                 | 2.73E-02 |
|   |                                       | Cs-134  | <1.32E-02 | 0.00E+00                 | 1.32E-02 |
|   |                                       | Cs-137  | <4.14E-03 | 0.00E+00                 | 4.14E-03 |
|   |                                       | Be-7    | <1.06E-01 | 0.00E+00                 | 1.06E-01 |
|   |                                       | K-40    | 7.02E-01  | 4.63E-01                 | 6.80E-01 |
| Sample ID: 363527                                   | Sample Dates: 12/8/2014 - 12/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <1.25E-02 | 0.00E+00                 | 1.25E-02 |
|   |                                       | Cs-134  | <1.11E-02 | 0.00E+00                 | 1.11E-02 |
|   |                                       | Cs-137  | <1.39E-02 | 0.00E+00                 | 1.39E-02 |
|   |                                       | Be-7    | <6.69E-02 | 0.00E+00                 | 6.69E-02 |
|   |                                       | K-40    | 4.35E-01  | 1.63E-01                 | 3.93E-02 |
| Sample ID: 363974                                   | Sample Dates: 12/15/2014 - 12/22/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <1.53E-02 | 0.00E+00                 | 1.53E-02 |
|   |                                       | Cs-134  | <1.06E-02 | 0.00E+00                 | 1.06E-02 |
|   |                                       | Cs-137  | <1.17E-02 | 0.00E+00                 | 1.17E-02 |
|   |                                       | Be-7    | <1.00E-01 | 0.00E+00                 | 1.00E-01 |
|   |                                       | K-40    | 4.04E-01  | 1.72E-01                 | 4.76E-02 |
| Sample ID: 364516                                   | Sample Dates: 12/22/2014 - 12/29/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <1.08E-02 | 0.00E+00                 | 1.08E-02 |
|   |                                       | Cs-134  | <1.09E-02 | 0.00E+00                 | 1.09E-02 |
|   |                                       | Cs-137  | <1.21E-02 | 0.00E+00                 | 1.21E-02 |
|   |                                       | Be-7    | <8.21E-02 | 0.00E+00                 | 8.21E-02 |
|   |                                       | K-40    | 4.41E-01  | 1.63E-01                 | 3.86E-02 |
| Sample Point 078.1 [ INDICATOR - WSW @ 0.53 miles ] |                                       |         |           |                          |          |
| Sample ID: 280640                                   | Sample Dates: 12/30/2013 - 1/6/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <2.49E-02 | 0.00E+00                 | 2.49E-02 |
|   |                                       | Cs-134  | <1.80E-02 | 0.00E+00                 | 1.80E-02 |
|   |                                       | Cs-137  | <1.98E-02 | 0.00E+00                 | 1.98E-02 |
|   |                                       | Be-7    | <1.71E-01 | 0.00E+00                 | 1.71E-01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 078.1 [ INDICATOR - WSW @ 0.53 miles ]

|            |        |               |                       |         |           |                          |          |
|------------|--------|---------------|-----------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 280640 | Sample Dates: | 12/30/2013 - 1/6/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | K-40    | 4.63E-01  | 1.38E-01                 | 7.62E-02 |
| Sample ID: | 280813 | Sample Dates: | 1/6/2014 - 1/13/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <2.18E-02 | 0.00E+00                 | 2.18E-02 |
|            |        |               |                       | Cs-134  | <1.45E-02 | 0.00E+00                 | 1.45E-02 |
|            |        |               |                       | Cs-137  | <2.53E-02 | 0.00E+00                 | 2.53E-02 |
|            |        |               |                       | Be-7    | <1.32E-01 | 0.00E+00                 | 1.32E-01 |
|            |        |               |                       | K-40    | 6.30E-01  | 1.56E-01                 | 7.82E-02 |
| Sample ID: | 281172 | Sample Dates: | 1/13/2014 - 1/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.26E-02 | 0.00E+00                 | 1.26E-02 |
|            |        |               |                       | Cs-134  | <1.16E-02 | 0.00E+00                 | 1.16E-02 |
|            |        |               |                       | Cs-137  | <1.11E-02 | 0.00E+00                 | 1.11E-02 |
|            |        |               |                       | Be-7    | <8.19E-02 | 0.00E+00                 | 8.19E-02 |
|            |        |               |                       | K-40    | 3.13E-01  | 7.83E-02                 | 5.29E-02 |
| Sample ID: | 281493 | Sample Dates: | 1/20/2014 - 1/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.47E-02 | 0.00E+00                 | 1.47E-02 |
|            |        |               |                       | Cs-134  | <1.24E-02 | 0.00E+00                 | 1.24E-02 |
|            |        |               |                       | Cs-137  | <1.33E-02 | 0.00E+00                 | 1.33E-02 |
|            |        |               |                       | Be-7    | <5.44E-02 | 0.00E+00                 | 5.44E-02 |
|            |        |               |                       | K-40    | 3.32E-01  | 1.05E-01                 | 2.09E-01 |
| Sample ID: | 282116 | Sample Dates: | 1/27/2014 - 2/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.97E-02 | 0.00E+00                 | 1.97E-02 |
|            |        |               |                       | Cs-134  | <1.83E-02 | 0.00E+00                 | 1.83E-02 |
|            |        |               |                       | Cs-137  | <1.14E-02 | 0.00E+00                 | 1.14E-02 |
|            |        |               |                       | Be-7    | <1.47E-01 | 0.00E+00                 | 1.47E-01 |
|            |        |               |                       | K-40    | 6.17E-01  | 1.32E-01                 | 2.57E-01 |
| Sample ID: | 282928 | Sample Dates: | 2/3/2014 - 2/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.41E-02 | 0.00E+00                 | 1.41E-02 |
|            |        |               |                       | Cs-134  | <8.47E-03 | 0.00E+00                 | 8.47E-03 |
|            |        |               |                       | Cs-137  | <9.07E-03 | 0.00E+00                 | 9.07E-03 |
|            |        |               |                       | Be-7    | <6.38E-02 | 0.00E+00                 | 6.38E-02 |
|            |        |               |                       | K-40    | 4.94E-01  | 1.01E-01                 | 1.47E-01 |
| Sample ID: | 283375 | Sample Dates: | 2/10/2014 - 2/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.39E-02 | 0.00E+00                 | 1.39E-02 |
|            |        |               |                       | Cs-134  | <9.44E-03 | 0.00E+00                 | 9.44E-03 |
|            |        |               |                       | Cs-137  | <8.49E-03 | 0.00E+00                 | 8.49E-03 |
|            |        |               |                       | Be-7    | <7.53E-02 | 0.00E+00                 | 7.53E-02 |
|            |        |               |                       | K-40    | 6.75E-01  | 8.94E-02                 | 3.20E-02 |
| Sample ID: | 284542 | Sample Dates: | 2/17/2014 - 2/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.45E-02 | 0.00E+00                 | 1.45E-02 |
|            |        |               |                       | Cs-134  | <9.56E-03 | 0.00E+00                 | 9.56E-03 |
|            |        |               |                       | Cs-137  | <1.12E-02 | 0.00E+00                 | 1.12E-02 |
|            |        |               |                       | Be-7    | <1.08E-01 | 0.00E+00                 | 1.08E-01 |
|            |        |               |                       | K-40    | <3.93E-01 | 0.00E+00                 | 3.93E-01 |
| Sample ID: | 285103 | Sample Dates: | 2/24/2014 - 3/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.85E-02 | 0.00E+00                 | 1.85E-02 |
|            |        |               |                       | Cs-134  | <1.24E-02 | 0.00E+00                 | 1.24E-02 |
|            |        |               |                       | Cs-137  | <1.14E-02 | 0.00E+00                 | 1.14E-02 |
|            |        |               |                       | Be-7    | <1.41E-01 | 0.00E+00                 | 1.41E-01 |
|            |        |               |                       | K-40    | 3.82E-01  | 1.33E-01                 | 2.70E-01 |
| Sample ID: | 285708 | Sample Dates: | 3/3/2014 - 3/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.00E-02 | 0.00E+00                 | 1.00E-02 |
|            |        |               |                       | Cs-134  | <6.32E-03 | 0.00E+00                 | 6.32E-03 |
|            |        |               |                       | Cs-137  | <9.77E-03 | 0.00E+00                 | 9.77E-03 |
|            |        |               |                       | Be-7    | <6.91E-02 | 0.00E+00                 | 6.91E-02 |
|            |        |               |                       | K-40    | 2.79E-01  | 6.71E-02                 | 8.77E-02 |
| Sample ID: | 286212 | Sample Dates: | 3/10/2014 - 3/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <2.53E-02 | 0.00E+00                 | 2.53E-02 |
|            |        |               |                       | Cs-134  | <2.26E-02 | 0.00E+00                 | 2.26E-02 |
|            |        |               |                       | Cs-137  | <1.37E-02 | 0.00E+00                 | 1.37E-02 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 078.1 [ INDICATOR - WSW @ 0.53 miles ]

|            |        |               |                       |         |           |                          |          |
|------------|--------|---------------|-----------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 286212 | Sample Dates: | 3/10/2014 - 3/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Be-7    | <1.57E-01 | 0.00E+00                 | 1.57E-01 |
|            |        |               |                       | K-40    | <6.23E-01 | 0.00E+00                 | 6.23E-01 |
| Sample ID: | 287097 | Sample Dates: | 3/17/2014 - 3/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.28E-02 | 0.00E+00                 | 1.28E-02 |
|            |        |               |                       | Cs-134  | <1.21E-02 | 0.00E+00                 | 1.21E-02 |
|            |        |               |                       | Cs-137  | <1.05E-02 | 0.00E+00                 | 1.05E-02 |
|            |        |               |                       | Be-7    | <8.88E-02 | 0.00E+00                 | 8.88E-02 |
|            |        |               |                       | K-40    | 3.49E-01  | 8.23E-02                 | 1.87E-01 |
| Sample ID: | 288348 | Sample Dates: | 3/24/2014 - 3/31/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.27E-02 | 0.00E+00                 | 1.27E-02 |
|            |        |               |                       | Cs-134  | <1.12E-02 | 0.00E+00                 | 1.12E-02 |
|            |        |               |                       | Cs-137  | <1.21E-02 | 0.00E+00                 | 1.21E-02 |
|            |        |               |                       | Be-7    | <1.03E-01 | 0.00E+00                 | 1.03E-01 |
|            |        |               |                       | K-40    | 4.57E-01  | 1.02E-01                 | 2.07E-01 |
| Sample ID: | 289072 | Sample Dates: | 3/31/2014 - 4/7/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <2.06E-02 | 0.00E+00                 | 2.06E-02 |
|            |        |               |                       | Cs-134  | <1.30E-02 | 0.00E+00                 | 1.30E-02 |
|            |        |               |                       | Cs-137  | <1.98E-02 | 0.00E+00                 | 1.98E-02 |
|            |        |               |                       | Be-7    | <1.29E-01 | 0.00E+00                 | 1.29E-01 |
|            |        |               |                       | K-40    | 6.48E-01  | 1.38E-01                 | 2.22E-01 |
| Sample ID: | 289458 | Sample Dates: | 4/7/2014 - 4/14/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <2.20E-02 | 0.00E+00                 | 2.20E-02 |
|            |        |               |                       | Cs-134  | <2.31E-02 | 0.00E+00                 | 2.31E-02 |
|            |        |               |                       | Cs-137  | <2.18E-02 | 0.00E+00                 | 2.18E-02 |
|            |        |               |                       | Be-7    | <1.95E-01 | 0.00E+00                 | 1.95E-01 |
|            |        |               |                       | K-40    | 2.46E-01  | 1.03E-01                 | 2.99E-01 |
| Sample ID: | 289868 | Sample Dates: | 4/14/2014 - 4/21/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.36E-02 | 0.00E+00                 | 1.36E-02 |
|            |        |               |                       | Cs-134  | <1.29E-02 | 0.00E+00                 | 1.29E-02 |
|            |        |               |                       | Cs-137  | <1.42E-02 | 0.00E+00                 | 1.42E-02 |
|            |        |               |                       | Be-7    | <7.23E-02 | 0.00E+00                 | 7.23E-02 |
|            |        |               |                       | K-40    | 4.75E-01  | 9.87E-02                 | 1.30E-01 |
| Sample ID: | 291473 | Sample Dates: | 4/21/2014 - 4/28/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <2.52E-02 | 0.00E+00                 | 2.52E-02 |
|            |        |               |                       | Cs-134  | <1.76E-02 | 0.00E+00                 | 1.76E-02 |
|            |        |               |                       | Cs-137  | <1.77E-02 | 0.00E+00                 | 1.77E-02 |
|            |        |               |                       | Be-7    | <1.10E-01 | 0.00E+00                 | 1.10E-01 |
|            |        |               |                       | K-40    | 5.64E-01  | 1.26E-01                 | 3.47E-01 |
| Sample ID: | 292767 | Sample Dates: | 4/28/2014 - 5/5/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <2.06E-02 | 0.00E+00                 | 2.06E-02 |
|            |        |               |                       | Cs-134  | <1.46E-02 | 0.00E+00                 | 1.46E-02 |
|            |        |               |                       | Cs-137  | <2.22E-02 | 0.00E+00                 | 2.22E-02 |
|            |        |               |                       | Be-7    | <1.62E-01 | 0.00E+00                 | 1.62E-01 |
|            |        |               |                       | K-40    | 4.07E-01  | 1.09E-01                 | 2.63E-01 |
| Sample ID: | 293029 | Sample Dates: | 5/5/2014 - 5/12/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.34E-02 | 0.00E+00                 | 1.34E-02 |
|            |        |               |                       | Cs-134  | <1.39E-02 | 0.00E+00                 | 1.39E-02 |
|            |        |               |                       | Cs-137  | <1.59E-02 | 0.00E+00                 | 1.59E-02 |
|            |        |               |                       | Be-7    | <8.65E-02 | 0.00E+00                 | 8.65E-02 |
|            |        |               |                       | K-40    | 1.46E-01  | 7.70E-02                 | 6.26E-02 |
| Sample ID: | 294660 | Sample Dates: | 5/12/2014 - 5/19/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.40E-02 | 0.00E+00                 | 1.40E-02 |
|            |        |               |                       | Cs-134  | <1.22E-02 | 0.00E+00                 | 1.22E-02 |
|            |        |               |                       | Cs-137  | <1.44E-02 | 0.00E+00                 | 1.44E-02 |
|            |        |               |                       | Be-7    | <9.92E-02 | 0.00E+00                 | 9.92E-02 |
|            |        |               |                       | K-40    | 3.06E-01  | 9.71E-02                 | 1.72E-01 |
| Sample ID: | 295169 | Sample Dates: | 5/19/2014 - 5/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <4.34E-02 | 0.00E+00                 | 4.34E-02 |
|            |        |               |                       | Cs-134  | <1.08E-02 | 0.00E+00                 | 1.08E-02 |

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





# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 078.1 [ INDICATOR - WSW @ 0.53 miles ]

|                   |                                     |         |           |                          |          |
|-------------------|-------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 295169 | Sample Dates: 5/19/2014 - 5/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Cs-137  | <1.64E-02 | 0.00E+00                 | 1.64E-02 |
|                   |                                     | Be-7    | <1.52E-01 | 0.00E+00                 | 1.52E-01 |
|                   |                                     | K-40    | 2.95E-01  | 8.50E-02                 | 2.22E-01 |
| Sample ID: 295430 | Sample Dates: 5/27/2014 - 6/2/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.63E-02 | 0.00E+00                 | 2.63E-02 |
|                   |                                     | Cs-134  | <2.39E-02 | 0.00E+00                 | 2.39E-02 |
|                   |                                     | Cs-137  | <2.43E-02 | 0.00E+00                 | 2.43E-02 |
|                   |                                     | Be-7    | <2.22E-01 | 0.00E+00                 | 2.22E-01 |
| Sample ID: 295945 | Sample Dates: 6/2/2014 - 6/9/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.81E-02 | 0.00E+00                 | 2.81E-02 |
|                   |                                     | Cs-134  | <1.26E-02 | 0.00E+00                 | 1.26E-02 |
|                   |                                     | Cs-137  | <2.61E-02 | 0.00E+00                 | 2.61E-02 |
|                   |                                     | Be-7    | <1.48E-01 | 0.00E+00                 | 1.48E-01 |
| Sample ID: 296190 | Sample Dates: 6/9/2014 - 6/16/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.17E-02 | 0.00E+00                 | 2.17E-02 |
|                   |                                     | Cs-134  | <1.68E-02 | 0.00E+00                 | 1.68E-02 |
|                   |                                     | Cs-137  | <2.02E-02 | 0.00E+00                 | 2.02E-02 |
|                   |                                     | Be-7    | <1.65E-01 | 0.00E+00                 | 1.65E-01 |
| Sample ID: 296711 | Sample Dates: 6/16/2014 - 6/23/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.42E-02 | 0.00E+00                 | 2.42E-02 |
|                   |                                     | Cs-134  | <1.56E-02 | 0.00E+00                 | 1.56E-02 |
|                   |                                     | Cs-137  | <2.83E-02 | 0.00E+00                 | 2.83E-02 |
|                   |                                     | Be-7    | <1.46E-01 | 0.00E+00                 | 1.46E-01 |
| Sample ID: 296938 | Sample Dates: 6/23/2014 - 6/30/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.24E-02 | 0.00E+00                 | 2.24E-02 |
|                   |                                     | Cs-134  | <1.82E-02 | 0.00E+00                 | 1.82E-02 |
|                   |                                     | Cs-137  | <1.50E-02 | 0.00E+00                 | 1.50E-02 |
|                   |                                     | Be-7    | <1.36E-01 | 0.00E+00                 | 1.36E-01 |
| Sample ID: 297335 | Sample Dates: 6/30/2014 - 7/7/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.54E-02 | 0.00E+00                 | 2.54E-02 |
|                   |                                     | Cs-134  | <2.48E-02 | 0.00E+00                 | 2.48E-02 |
|                   |                                     | Cs-137  | <2.48E-02 | 0.00E+00                 | 2.48E-02 |
|                   |                                     | Be-7    | <1.78E-01 | 0.00E+00                 | 1.78E-01 |
| Sample ID: 297623 | Sample Dates: 7/7/2014 - 7/14/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.82E-02 | 0.00E+00                 | 2.82E-02 |
|                   |                                     | Cs-134  | <1.01E-02 | 0.00E+00                 | 1.01E-02 |
|                   |                                     | Cs-137  | <1.26E-02 | 0.00E+00                 | 1.26E-02 |
|                   |                                     | Be-7    | <9.69E-02 | 0.00E+00                 | 9.69E-02 |
| Sample ID: 298159 | Sample Dates: 7/14/2014 - 7/21/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <4.76E-02 | 0.00E+00                 | 4.76E-02 |
|                   |                                     | Cs-134  | <1.02E-02 | 0.00E+00                 | 1.02E-02 |
|                   |                                     | Cs-137  | <1.26E-02 | 0.00E+00                 | 1.26E-02 |
|                   |                                     | Be-7    | <1.69E-01 | 0.00E+00                 | 1.69E-01 |
| Sample ID: 350195 | Sample Dates: 7/21/2014 - 7/28/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.71E-02 | 0.00E+00                 | 2.71E-02 |
|                   |                                     | Cs-134  | <2.03E-02 | 0.00E+00                 | 2.03E-02 |
|                   |                                     | Cs-137  | <2.16E-02 | 0.00E+00                 | 2.16E-02 |
|                   |                                     | Be-7    | <1.73E-01 | 0.00E+00                 | 1.73E-01 |
| Sample ID: 350936 | Sample Dates: 7/28/2014 - 8/4/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.66E-02 | 0.00E+00                 | 1.66E-02 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 078.1 [ INDICATOR - WSW @ 0.53 miles ]

|                   |                                     |         |           |                          |          |
|-------------------|-------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 350936 | Sample Dates: 7/28/2014 - 8/4/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Cs-134  | <1.30E-02 | 0.00E+00                 | 1.30E-02 |
|                   |                                     | Cs-137  | <1.88E-02 | 0.00E+00                 | 1.88E-02 |
|                   |                                     | Be-7    | <1.44E-01 | 0.00E+00                 | 1.44E-01 |
|                   |                                     | K-40    | <5.75E-01 | 0.00E+00                 | 5.75E-01 |
| Sample ID: 351182 | Sample Dates: 8/4/2014 - 8/11/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.04E-02 | 0.00E+00                 | 2.04E-02 |
|                   |                                     | Cs-134  | <1.88E-02 | 0.00E+00                 | 1.88E-02 |
|                   |                                     | Cs-137  | <1.92E-02 | 0.00E+00                 | 1.92E-02 |
|                   |                                     | Be-7    | <1.80E-01 | 0.00E+00                 | 1.80E-01 |
| Sample ID: 351621 | Sample Dates: 8/11/2014 - 8/18/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.61E-02 | 0.00E+00                 | 1.61E-02 |
|                   |                                     | Cs-134  | <1.92E-02 | 0.00E+00                 | 1.92E-02 |
|                   |                                     | Cs-137  | <1.60E-02 | 0.00E+00                 | 1.60E-02 |
|                   |                                     | Be-7    | <1.00E-01 | 0.00E+00                 | 1.00E-01 |
| Sample ID: 353432 | Sample Dates: 8/18/2014 - 8/25/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.20E-02 | 0.00E+00                 | 2.20E-02 |
|                   |                                     | Cs-134  | <3.43E-02 | 0.00E+00                 | 3.43E-02 |
|                   |                                     | Cs-137  | <1.67E-02 | 0.00E+00                 | 1.67E-02 |
|                   |                                     | Be-7    | <1.50E-01 | 0.00E+00                 | 1.50E-01 |
| Sample ID: 354069 | Sample Dates: 8/25/2014 - 9/2/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.73E-02 | 0.00E+00                 | 1.73E-02 |
|                   |                                     | Cs-134  | <1.70E-02 | 0.00E+00                 | 1.70E-02 |
|                   |                                     | Cs-137  | <1.13E-02 | 0.00E+00                 | 1.13E-02 |
|                   |                                     | Be-7    | <9.03E-02 | 0.00E+00                 | 9.03E-02 |
| Sample ID: 354451 | Sample Dates: 9/2/2014 - 9/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.72E-02 | 0.00E+00                 | 1.72E-02 |
|                   |                                     | Cs-134  | <2.30E-02 | 0.00E+00                 | 2.30E-02 |
|                   |                                     | Cs-137  | <1.92E-02 | 0.00E+00                 | 1.92E-02 |
|                   |                                     | Be-7    | <1.40E-01 | 0.00E+00                 | 1.40E-01 |
| Sample ID: 354767 | Sample Dates: 9/8/2014 - 9/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <8.54E-03 | 0.00E+00                 | 8.54E-03 |
|                   |                                     | Cs-134  | <9.38E-03 | 0.00E+00                 | 9.38E-03 |
|                   |                                     | Cs-137  | <9.23E-03 | 0.00E+00                 | 9.23E-03 |
|                   |                                     | Be-7    | <5.94E-02 | 0.00E+00                 | 5.94E-02 |
| Sample ID: 355176 | Sample Dates: 9/15/2014 - 9/22/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.86E-02 | 0.00E+00                 | 1.86E-02 |
|                   |                                     | Cs-134  | <1.54E-02 | 0.00E+00                 | 1.54E-02 |
|                   |                                     | Cs-137  | <1.66E-02 | 0.00E+00                 | 1.66E-02 |
|                   |                                     | Be-7    | <1.35E-01 | 0.00E+00                 | 1.35E-01 |
| Sample ID: 355645 | Sample Dates: 9/22/2014 - 9/29/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.11E-02 | 0.00E+00                 | 1.11E-02 |
|                   |                                     | Cs-134  | <8.53E-03 | 0.00E+00                 | 8.53E-03 |
|                   |                                     | Cs-137  | <1.06E-02 | 0.00E+00                 | 1.06E-02 |
|                   |                                     | Be-7    | <5.41E-02 | 0.00E+00                 | 5.41E-02 |
| Sample ID: 356509 | Sample Dates: 9/29/2014 - 10/6/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.82E-02 | 0.00E+00                 | 1.82E-02 |
|                   |                                     | Cs-134  | <1.30E-02 | 0.00E+00                 | 1.30E-02 |
|                   |                                     | Cs-137  | <1.89E-02 | 0.00E+00                 | 1.89E-02 |
|                   |                                     | Be-7    | <1.67E-01 | 0.00E+00                 | 1.67E-01 |
| Sample ID: 356509 | Sample Dates: 9/29/2014 - 10/6/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | K-40    | <5.36E-01 | 0.00E+00                 | 5.36E-01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 078.1 [ INDICATOR - WSW @ 0.53 miles ]

|                   |                                       |         |           |                          |          |
|-------------------|---------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 357054 | Sample Dates: 10/6/2014 - 10/13/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.22E-02 | 0.00E+00                 | 1.22E-02 |
|                   |                                       | Cs-134  | <1.30E-02 | 0.00E+00                 | 1.30E-02 |
|                   |                                       | Cs-137  | <1.28E-02 | 0.00E+00                 | 1.28E-02 |
|                   |                                       | Be-7    | <1.19E-01 | 0.00E+00                 | 1.19E-01 |
|                   |                                       | K-40    | 6.47E-01  | 2.81E-01                 | 7.97E-02 |
| Sample ID: 358053 | Sample Dates: 10/13/2014 - 10/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.19E-02 | 0.00E+00                 | 2.19E-02 |
|                   |                                       | Cs-134  | <1.34E-02 | 0.00E+00                 | 1.34E-02 |
|                   |                                       | Cs-137  | <1.67E-02 | 0.00E+00                 | 1.67E-02 |
|                   |                                       | Be-7    | <1.49E-01 | 0.00E+00                 | 1.49E-01 |
|                   |                                       | K-40    | 3.34E-01  | 2.03E-01                 | 8.22E-02 |
| Sample ID: 358661 | Sample Dates: 10/20/2014 - 10/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.62E-02 | 0.00E+00                 | 1.62E-02 |
|                   |                                       | Cs-134  | <1.03E-02 | 0.00E+00                 | 1.03E-02 |
|                   |                                       | Cs-137  | <2.10E-02 | 0.00E+00                 | 2.10E-02 |
|                   |                                       | Be-7    | <1.32E-01 | 0.00E+00                 | 1.32E-01 |
|                   |                                       | K-40    | 4.45E-01  | 3.05E-01                 | 4.05E-01 |
| Sample ID: 359304 | Sample Dates: 10/27/2014 - 11/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.14E-02 | 0.00E+00                 | 2.14E-02 |
|                   |                                       | Cs-134  | <1.53E-02 | 0.00E+00                 | 1.53E-02 |
|                   |                                       | Cs-137  | <1.91E-02 | 0.00E+00                 | 1.91E-02 |
|                   |                                       | Be-7    | <1.56E-01 | 0.00E+00                 | 1.56E-01 |
|                   |                                       | K-40    | 5.11E-01  | 2.89E-01                 | 3.18E-01 |
| Sample ID: 360035 | Sample Dates: 11/3/2014 - 11/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.76E-02 | 0.00E+00                 | 1.76E-02 |
|                   |                                       | Cs-134  | <1.30E-02 | 0.00E+00                 | 1.30E-02 |
|                   |                                       | Cs-137  | <1.91E-02 | 0.00E+00                 | 1.91E-02 |
|                   |                                       | Be-7    | <9.22E-02 | 0.00E+00                 | 9.22E-02 |
|                   |                                       | K-40    | <5.61E-01 | 0.00E+00                 | 5.61E-01 |
| Sample ID: 360717 | Sample Dates: 11/10/2014 - 11/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.50E-02 | 0.00E+00                 | 2.50E-02 |
|                   |                                       | Cs-134  | <1.33E-02 | 0.00E+00                 | 1.33E-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    | <5.66E-01 | 0.00E+00                 | 5.66E-01 |
| Sample ID: 361579 | Sample Dates: 11/17/2014 - 11/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.99E-02 | 0.00E+00                 | 1.99E-02 |
|                   |                                       | Cs-134  | <1.53E-02 | 0.00E+00                 | 1.53E-02 |
|                   |                                       | Cs-137  | <1.65E-02 | 0.00E+00                 | 1.65E-02 |
|                   |                                       | Be-7    | <1.20E-01 | 0.00E+00                 | 1.20E-01 |
|                   |                                       | K-40    | 5.68E-01  | 2.65E-01                 | 8.11E-02 |
| Sample ID: 361958 | Sample Dates: 11/24/2014 - 12/1/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.74E-02 | 0.00E+00                 | 2.74E-02 |
|                   |                                       | Cs-134  | <1.19E-02 | 0.00E+00                 | 1.19E-02 |
|                   |                                       | Cs-137  | <1.49E-02 | 0.00E+00                 | 1.49E-02 |
|                   |                                       | Be-7    | <8.64E-02 | 0.00E+00                 | 8.64E-02 |
|                   |                                       | K-40    | 3.71E-01  | 2.53E-01                 | 3.37E-01 |
| Sample ID: 362788 | Sample Dates: 12/1/2014 - 12/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.52E-02 | 0.00E+00                 | 1.52E-02 |
|                   |                                       | Cs-134  | <1.47E-02 | 0.00E+00                 | 1.47E-02 |
|                   |                                       | Cs-137  | <2.43E-02 | 0.00E+00                 | 2.43E-02 |
|                   |                                       | Be-7    | <9.11E-02 | 0.00E+00                 | 9.11E-02 |
|                   |                                       | K-40    | 6.00E-01  | 2.74E-01                 | 2.30E-01 |
| Sample ID: 363528 | Sample Dates: 12/8/2014 - 12/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.18E-02 | 0.00E+00                 | 1.18E-02 |
|                   |                                       | Cs-134  | <1.11E-02 | 0.00E+00                 | 1.11E-02 |
|                   |                                       | Cs-137  | <1.31E-02 | 0.00E+00                 | 1.31E-02 |
|                   |                                       | Be-7    | <8.84E-02 | 0.00E+00                 | 8.84E-02 |
|                   |                                       | K-40    | 3.26E-01  | 1.65E-01                 | 1.82E-01 |

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



## OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 078.1 [ INDICATOR - WSW @ 0.53 miles ]

| Sample ID: | 363975 | Sample Dates: | 12/15/2014 - 12/22/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-------------------------|---------|-----------|--------------------------|----------|
|            |        |               |                         | I-131   | <9.48E-03 | 0.00E+00                 | 9.48E-03 |
|            |        |               |                         | Cs-134  | <1.24E-02 | 0.00E+00                 | 1.24E-02 |
|            |        |               |                         | Cs-137  | <1.43E-02 | 0.00E+00                 | 1.43E-02 |
|            |        |               |                         | Be-7    | <1.18E-01 | 0.00E+00                 | 1.18E-01 |
|            |        |               |                         | K-40    | 4.57E-01  | 1.83E-01                 | 4.77E-02 |

| Sample ID: | 364517 | Sample Dates: | 12/22/2014 - 12/29/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-------------------------|---------|-----------|--------------------------|----------|
|            |        |               |                         | I-131   | <1.30E-02 | 0.00E+00                 | 1.30E-02 |
|            |        |               |                         | Cs-134  | <9.72E-03 | 0.00E+00                 | 9.72E-03 |
|            |        |               |                         | Cs-137  | <1.36E-02 | 0.00E+00                 | 1.36E-02 |
|            |        |               |                         | Be-7    | <9.13E-02 | 0.00E+00                 | 9.13E-02 |
|            |        |               |                         | K-40    | 5.41E-01  | 1.82E-01                 | 3.86E-02 |

### Sample Point 079 [ INDICATOR - NE @ 0.56 miles ]

| Sample ID: | 280637 | Sample Dates: | 12/30/2013 - 1/6/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-----------------------|---------|-----------|--------------------------|----------|
|            |        |               |                       | I-131   | <2.30E-02 | 0.00E+00                 | 2.30E-02 |
|            |        |               |                       | Cs-134  | <2.34E-02 | 0.00E+00                 | 2.34E-02 |
|            |        |               |                       | Cs-137  | <1.14E-02 | 0.00E+00                 | 1.14E-02 |
|            |        |               |                       | Be-7    | <1.85E-01 | 0.00E+00                 | 1.85E-01 |
|            |        |               |                       | K-40    | <5.50E-01 | 0.00E+00                 | 5.50E-01 |

| Sample ID: | 280810 | Sample Dates: | 1/6/2014 - 1/13/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|----------------------|---------|-----------|--------------------------|----------|
|            |        |               |                      | I-131   | <2.66E-02 | 0.00E+00                 | 2.66E-02 |
|            |        |               |                      | Cs-134  | <1.70E-02 | 0.00E+00                 | 1.70E-02 |
|            |        |               |                      | Cs-137  | <2.18E-02 | 0.00E+00                 | 2.18E-02 |
|            |        |               |                      | Be-7    | <1.73E-01 | 0.00E+00                 | 1.73E-01 |
|            |        |               |                      | K-40    | <6.07E-01 | 0.00E+00                 | 6.07E-01 |

| Sample ID: | 281169 | Sample Dates: | 1/13/2014 - 1/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-----------------------|---------|-----------|--------------------------|----------|
|            |        |               |                       | I-131   | <1.20E-02 | 0.00E+00                 | 1.20E-02 |
|            |        |               |                       | Cs-134  | <8.76E-03 | 0.00E+00                 | 8.76E-03 |
|            |        |               |                       | Cs-137  | <7.72E-03 | 0.00E+00                 | 7.72E-03 |
|            |        |               |                       | Be-7    | <6.00E-02 | 0.00E+00                 | 6.00E-02 |
|            |        |               |                       | K-40    | 3.92E-01  | 8.76E-02                 | 1.40E-01 |

| Sample ID: | 281490 | Sample Dates: | 1/20/2014 - 1/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-----------------------|---------|-----------|--------------------------|----------|
|            |        |               |                       | I-131   | <1.44E-02 | 0.00E+00                 | 1.44E-02 |
|            |        |               |                       | Cs-134  | <1.35E-02 | 0.00E+00                 | 1.35E-02 |
|            |        |               |                       | Cs-137  | <1.25E-02 | 0.00E+00                 | 1.25E-02 |
|            |        |               |                       | Be-7    | <6.88E-02 | 0.00E+00                 | 6.88E-02 |
|            |        |               |                       | K-40    | 2.59E-01  | 7.47E-02                 | 2.74E-01 |

| Sample ID: | 282113 | Sample Dates: | 1/27/2014 - 2/3/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|----------------------|---------|-----------|--------------------------|----------|
|            |        |               |                      | I-131   | <2.14E-02 | 0.00E+00                 | 2.14E-02 |
|            |        |               |                      | Cs-134  | <2.36E-02 | 0.00E+00                 | 2.36E-02 |
|            |        |               |                      | Cs-137  | <1.66E-02 | 0.00E+00                 | 1.66E-02 |
|            |        |               |                      | Be-7    | <1.44E-01 | 0.00E+00                 | 1.44E-01 |
|            |        |               |                      | K-40    | 5.32E-01  | 1.22E-01                 | 2.03E-01 |

| Sample ID: | 282925 | Sample Dates: | 2/3/2014 - 2/10/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|----------------------|---------|-----------|--------------------------|----------|
|            |        |               |                      | I-131   | <2.06E-02 | 0.00E+00                 | 2.06E-02 |
|            |        |               |                      | Cs-134  | <1.28E-02 | 0.00E+00                 | 1.28E-02 |
|            |        |               |                      | Cs-137  | <1.82E-02 | 0.00E+00                 | 1.82E-02 |
|            |        |               |                      | Be-7    | 4.73E-02  | 3.34E-02                 | 8.81E-02 |
|            |        |               |                      | K-40    | 6.35E-01  | 1.25E-01                 | 6.60E-02 |

| Sample ID: | 283372 | Sample Dates: | 2/10/2014 - 2/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-----------------------|---------|-----------|--------------------------|----------|
|            |        |               |                       | I-131   | <1.62E-02 | 0.00E+00                 | 1.62E-02 |
|            |        |               |                       | Cs-134  | <1.25E-02 | 0.00E+00                 | 1.25E-02 |
|            |        |               |                       | Cs-137  | <1.01E-02 | 0.00E+00                 | 1.01E-02 |
|            |        |               |                       | Be-7    | <8.76E-02 | 0.00E+00                 | 8.76E-02 |
|            |        |               |                       | K-40    | 3.42E-01  | 8.55E-02                 | 5.78E-02 |

| Sample ID: | 284539 | Sample Dates: | 2/17/2014 - 2/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-----------------------|---------|-----------|--------------------------|----------|
|            |        |               |                       | I-131   | <2.24E-02 | 0.00E+00                 | 2.24E-02 |
|            |        |               |                       | Cs-134  | <1.60E-02 | 0.00E+00                 | 1.60E-02 |
|            |        |               |                       | Cs-137  | <1.46E-02 | 0.00E+00                 | 1.46E-02 |
|            |        |               |                       | Be-7    | <1.42E-01 | 0.00E+00                 | 1.42E-01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 079 [ INDICATOR - NE @ 0.56 miles ]

|                   |                                     |  |   |  |   |
|-------------------|-------------------------------------|--|---|--|---|
| Sample ID: 284539 | Sample Dates: 2/17/2014 - 2/24/2014 | Nuclide<br>K-40                                      | Activity<br><5.26E-01   | Sigma Error <sup>1</sup><br>0.00E+00   | LLD<br>5.26E-01   |
| Sample ID: 285100 | Sample Dates: 2/24/2014 - 3/3/2014  | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><1.82E-02<br><1.41E-02<br><2.18E-02<br><9.48E-02<br><4.89E-01 | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00 | LLD<br>1.82E-02<br>1.41E-02<br>2.18E-02<br>9.48E-02<br>4.89E-01 |
| Sample ID: 285705 | Sample Dates: 3/3/2014 - 3/10/2014  | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><2.40E-02<br><1.77E-02<br><1.68E-02<br><9.78E-02<br>5.99E-01  | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>1.57E-01 | LLD<br>2.40E-02<br>1.77E-02<br>1.68E-02<br>9.78E-02<br>3.70E-01 |
| Sample ID: 286209 | Sample Dates: 3/10/2014 - 3/17/2014 | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><2.31E-02<br><2.08E-02<br><1.83E-02<br><1.76E-01<br><4.05E-01 | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00 | LLD<br>2.31E-02<br>2.08E-02<br>1.83E-02<br>1.76E-01<br>4.05E-01 |
| Sample ID: 287094 | Sample Dates: 3/17/2014 - 3/24/2014 | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><1.58E-02<br><9.50E-03<br><1.48E-02<br><1.01E-01<br><4.66E-01 | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00 | LLD<br>1.58E-02<br>9.50E-03<br>1.48E-02<br>1.01E-01<br>4.66E-01 |
| Sample ID: 288345 | Sample Dates: 3/24/2014 - 3/31/2014 | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><1.14E-02<br><6.49E-03<br><7.80E-03<br><7.45E-02<br>5.99E-01  | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>8.39E-02 | LLD<br>1.14E-02<br>6.49E-03<br>7.80E-03<br>7.45E-02<br>3.17E-02 |
| Sample ID: 289069 | Sample Dates: 3/31/2014 - 4/7/2014  | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><2.70E-02<br><1.92E-02<br><2.38E-02<br><1.93E-01<br>5.50E-01  | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>1.26E-01 | LLD<br>2.70E-02<br>1.92E-02<br>2.38E-02<br>1.93E-01<br>2.77E-01 |
| Sample ID: 289455 | Sample Dates: 4/7/2014 - 4/14/2014  | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><1.21E-02<br><8.66E-03<br><1.40E-02<br><7.14E-02<br><4.34E-01 | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00 | LLD<br>1.21E-02<br>8.66E-03<br>1.40E-02<br>7.14E-02<br>4.34E-01 |
| Sample ID: 289865 | Sample Dates: 4/14/2014 - 4/21/2014 | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><1.00E-02<br><8.22E-03<br><1.34E-02<br><1.05E-01<br><3.98E-01 | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00 | LLD<br>1.00E-02<br>8.22E-03<br>1.34E-02<br>1.05E-01<br>3.98E-01 |
| Sample ID: 291470 | Sample Dates: 4/21/2014 - 4/28/2014 | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><2.12E-02<br><1.46E-02<br><2.38E-02<br><1.45E-01<br>5.07E-01  | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>1.19E-01 | LLD<br>2.12E-02<br>1.46E-02<br>2.38E-02<br>1.45E-01<br>7.61E-02 |
| Sample ID: 292764 | Sample Dates: 4/28/2014 - 5/5/2014  | Nuclide<br>I-131<br>Cs-134<br>Cs-137                 | Activity<br><1.48E-02<br><1.01E-02<br><1.53E-02                           | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00                         | LLD<br>1.48E-02<br>1.01E-02<br>1.53E-02                         |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 079 [ INDICATOR - NE @ 0.56 miles ]

|                   |                                     |         |           |                          |          |
|-------------------|-------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 292764 | Sample Dates: 4/28/2014 - 5/5/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Be-7    | <7.28E-02 | 0.00E+00                 | 7.28E-02 |
|                   |                                     | K-40    | <4.44E-01 | 0.00E+00                 | 4.44E-01 |
| Sample ID: 293026 | Sample Dates: 5/5/2014 - 5/12/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.68E-02 | 0.00E+00                 | 1.68E-02 |
|                   |                                     | Cs-134  | <1.14E-02 | 0.00E+00                 | 1.14E-02 |
|                   |                                     | Cs-137  | <1.39E-02 | 0.00E+00                 | 1.39E-02 |
|                   |                                     | Be-7    | <1.13E-01 | 0.00E+00                 | 1.13E-01 |
|                   |                                     | K-40    | 7.12E-01  | 1.52E-01                 | 1.69E-01 |
| Sample ID: 294657 | Sample Dates: 5/12/2014 - 5/19/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.69E-02 | 0.00E+00                 | 1.69E-02 |
|                   |                                     | Cs-134  | <1.36E-02 | 0.00E+00                 | 1.36E-02 |
|                   |                                     | Cs-137  | <1.92E-02 | 0.00E+00                 | 1.92E-02 |
|                   |                                     | Be-7    | <1.03E-01 | 0.00E+00                 | 1.03E-01 |
|                   |                                     | K-40    | 5.84E-01  | 1.19E-01                 | 6.58E-02 |
| Sample ID: 295166 | Sample Dates: 5/19/2014 - 5/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <3.95E-02 | 0.00E+00                 | 3.95E-02 |
|                   |                                     | Cs-134  | <1.45E-02 | 0.00E+00                 | 1.45E-02 |
|                   |                                     | Cs-137  | <1.71E-02 | 0.00E+00                 | 1.71E-02 |
|                   |                                     | Be-7    | <1.02E-01 | 0.00E+00                 | 1.02E-01 |
|                   |                                     | K-40    | 3.92E-01  | 9.80E-02                 | 6.62E-02 |
| Sample ID: 295427 | Sample Dates: 5/27/2014 - 6/2/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.55E-02 | 0.00E+00                 | 2.55E-02 |
|                   |                                     | Cs-134  | <2.42E-02 | 0.00E+00                 | 2.42E-02 |
|                   |                                     | Cs-137  | <2.66E-02 | 0.00E+00                 | 2.66E-02 |
|                   |                                     | Be-7    | <1.72E-01 | 0.00E+00                 | 1.72E-01 |
|                   |                                     | K-40    | 6.53E-01  | 1.50E-01                 | 9.30E-02 |
| Sample ID: 295942 | Sample Dates: 6/2/2014 - 6/9/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.47E-02 | 0.00E+00                 | 1.47E-02 |
|                   |                                     | Cs-134  | <4.83E-03 | 0.00E+00                 | 4.83E-03 |
|                   |                                     | Cs-137  | <1.33E-02 | 0.00E+00                 | 1.33E-02 |
|                   |                                     | Be-7    | <1.20E-01 | 0.00E+00                 | 1.20E-01 |
|                   |                                     | K-40    | 3.74E-01  | 9.34E-02                 | 1.66E-01 |
| Sample ID: 296187 | Sample Dates: 6/9/2014 - 6/16/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.21E-02 | 0.00E+00                 | 2.21E-02 |
|                   |                                     | Cs-134  | <1.88E-02 | 0.00E+00                 | 1.88E-02 |
|                   |                                     | Cs-137  | <1.81E-02 | 0.00E+00                 | 1.81E-02 |
|                   |                                     | Be-7    | <1.05E-01 | 0.00E+00                 | 1.05E-01 |
|                   |                                     | K-40    | 5.80E-01  | 1.18E-01                 | 2.68E-01 |
| Sample ID: 296708 | Sample Dates: 6/16/2014 - 6/23/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.07E-02 | 0.00E+00                 | 2.07E-02 |
|                   |                                     | Cs-134  | <1.64E-02 | 0.00E+00                 | 1.64E-02 |
|                   |                                     | Cs-137  | <2.26E-02 | 0.00E+00                 | 2.26E-02 |
|                   |                                     | Be-7    | <1.69E-01 | 0.00E+00                 | 1.69E-01 |
|                   |                                     | K-40    | 3.22E-01  | 1.22E-01                 | 3.84E-01 |
| Sample ID: 296935 | Sample Dates: 6/23/2014 - 6/30/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.34E-02 | 0.00E+00                 | 1.34E-02 |
|                   |                                     | Cs-134  | <6.61E-03 | 0.00E+00                 | 6.61E-03 |
|                   |                                     | Cs-137  | <3.05E-03 | 0.00E+00                 | 3.05E-03 |
|                   |                                     | Be-7    | <7.48E-02 | 0.00E+00                 | 7.48E-02 |
|                   |                                     | K-40    | 2.98E-01  | 7.70E-02                 | 1.43E-01 |
| Sample ID: 297332 | Sample Dates: 6/30/2014 - 7/7/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.31E-02 | 0.00E+00                 | 1.31E-02 |
|                   |                                     | Cs-134  | <8.81E-03 | 0.00E+00                 | 8.81E-03 |
|                   |                                     | Cs-137  | <1.52E-02 | 0.00E+00                 | 1.52E-02 |
|                   |                                     | Be-7    | <1.39E-01 | 0.00E+00                 | 1.39E-01 |
|                   |                                     | K-40    | 4.68E-01  | 1.05E-01                 | 1.76E-01 |
| Sample ID: 297620 | Sample Dates: 7/7/2014 - 7/14/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.16E-02 | 0.00E+00                 | 2.16E-02 |
|                   |                                     | Cs-134  | <6.54E-03 | 0.00E+00                 | 6.54E-03 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 079 [ INDICATOR - NE @ 0.56 miles ]

|                   |                                     |         |           |                          |          |
|-------------------|-------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 297620 | Sample Dates: 7/7/2014 - 7/14/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Cs-137  | <1.01E-02 | 0.00E+00                 | 1.01E-02 |
|                   |                                     | Be-7    | <3.58E-02 | 0.00E+00                 | 3.58E-02 |
|                   |                                     | K-40    | 4.86E-01  | 1.54E-01                 | 3.06E-02 |
| Sample ID: 298156 | Sample Dates: 7/14/2014 - 7/21/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <3.60E-02 | 0.00E+00                 | 3.60E-02 |
|                   |                                     | Cs-134  | <1.49E-02 | 0.00E+00                 | 1.49E-02 |
|                   |                                     | Cs-137  | <1.85E-02 | 0.00E+00                 | 1.85E-02 |
|                   |                                     | Be-7    | <3.23E-02 | 0.00E+00                 | 3.23E-02 |
| Sample ID: 350196 | Sample Dates: 7/21/2014 - 7/28/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.36E-02 | 0.00E+00                 | 2.36E-02 |
|                   |                                     | Cs-134  | <1.34E-02 | 0.00E+00                 | 1.34E-02 |
|                   |                                     | Cs-137  | <1.32E-02 | 0.00E+00                 | 1.32E-02 |
|                   |                                     | Be-7    | <1.63E-01 | 0.00E+00                 | 1.63E-01 |
| Sample ID: 350937 | Sample Dates: 7/28/2014 - 8/4/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.58E-02 | 0.00E+00                 | 2.58E-02 |
|                   |                                     | Cs-134  | <1.03E-02 | 0.00E+00                 | 1.03E-02 |
|                   |                                     | Cs-137  | <2.10E-02 | 0.00E+00                 | 2.10E-02 |
|                   |                                     | Be-7    | <1.02E-01 | 0.00E+00                 | 1.02E-01 |
| Sample ID: 351183 | Sample Dates: 8/4/2014 - 8/11/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.23E-02 | 0.00E+00                 | 2.23E-02 |
|                   |                                     | Cs-134  | <1.05E-02 | 0.00E+00                 | 1.05E-02 |
|                   |                                     | Cs-137  | <1.92E-02 | 0.00E+00                 | 1.92E-02 |
|                   |                                     | Be-7    | <1.49E-01 | 0.00E+00                 | 1.49E-01 |
| Sample ID: 351622 | Sample Dates: 8/11/2014 - 8/18/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.77E-02 | 0.00E+00                 | 1.77E-02 |
|                   |                                     | Cs-134  | <1.89E-02 | 0.00E+00                 | 1.89E-02 |
|                   |                                     | Cs-137  | <1.83E-02 | 0.00E+00                 | 1.83E-02 |
|                   |                                     | Be-7    | <9.89E-02 | 0.00E+00                 | 9.89E-02 |
| Sample ID: 353433 | Sample Dates: 8/18/2014 - 8/25/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.03E-02 | 0.00E+00                 | 2.03E-02 |
|                   |                                     | Cs-134  | <2.86E-02 | 0.00E+00                 | 2.86E-02 |
|                   |                                     | Cs-137  | <1.96E-02 | 0.00E+00                 | 1.96E-02 |
|                   |                                     | Be-7    | <1.51E-01 | 0.00E+00                 | 1.51E-01 |
| Sample ID: 354071 | Sample Dates: 8/25/2014 - 9/2/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.40E-02 | 0.00E+00                 | 2.40E-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    | <9.05E-02 | 0.00E+00                 | 9.05E-02 |
| Sample ID: 354452 | Sample Dates: 9/2/2014 - 9/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.60E-02 | 0.00E+00                 | 2.60E-02 |
|                   |                                     | Cs-134  | <2.67E-02 | 0.00E+00                 | 2.67E-02 |
|                   |                                     | Cs-137  | <2.23E-02 | 0.00E+00                 | 2.23E-02 |
|                   |                                     | Be-7    | <1.40E-01 | 0.00E+00                 | 1.40E-01 |
| Sample ID: 354768 | Sample Dates: 9/8/2014 - 9/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.00E-02 | 0.00E+00                 | 1.00E-02 |
|                   |                                     | Cs-134  | <1.09E-02 | 0.00E+00                 | 1.09E-02 |
|                   |                                     | Cs-137  | <7.81E-03 | 0.00E+00                 | 7.81E-03 |
|                   |                                     | Be-7    | <5.03E-02 | 0.00E+00                 | 5.03E-02 |
| Sample ID: 355178 | Sample Dates: 9/15/2014 - 9/22/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.87E-02 | 0.00E+00                 | 1.87E-02 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 079 [ INDICATOR - NE @ 0.56 miles ]

|                   |                                       |         |           |                          |          |
|-------------------|---------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 355178 | Sample Dates: 9/15/2014 - 9/22/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Cs-134  | <1.55E-02 | 0.00E+00                 | 1.55E-02 |
|                   |                                       | Cs-137  | <1.94E-02 | 0.00E+00                 | 1.94E-02 |
|                   |                                       | Be-7    | <1.22E-01 | 0.00E+00                 | 1.22E-01 |
|                   |                                       | K-40    | 3.42E-01  | 2.38E-01                 | 2.77E-01 |
| Sample ID: 355646 | Sample Dates: 9/22/2014 - 9/29/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.97E-02 | 0.00E+00                 | 1.97E-02 |
|                   |                                       | Cs-134  | <1.03E-02 | 0.00E+00                 | 1.03E-02 |
|                   |                                       | Cs-137  | <1.29E-02 | 0.00E+00                 | 1.29E-02 |
|                   |                                       | Be-7    | <1.32E-01 | 0.00E+00                 | 1.32E-01 |
| Sample ID: 356511 | Sample Dates: 9/29/2014 - 10/6/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.38E-02 | 0.00E+00                 | 2.38E-02 |
|                   |                                       | Cs-134  | <1.98E-02 | 0.00E+00                 | 1.98E-02 |
|                   |                                       | Cs-137  | <1.62E-02 | 0.00E+00                 | 1.62E-02 |
|                   |                                       | Be-7    | <1.34E-01 | 0.00E+00                 | 1.34E-01 |
| Sample ID: 357055 | Sample Dates: 10/6/2014 - 10/13/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.14E-02 | 0.00E+00                 | 2.14E-02 |
|                   |                                       | Cs-134  | <1.02E-02 | 0.00E+00                 | 1.02E-02 |
|                   |                                       | Cs-137  | <1.60E-02 | 0.00E+00                 | 1.60E-02 |
|                   |                                       | Be-7    | <1.31E-01 | 0.00E+00                 | 1.31E-01 |
| Sample ID: 358054 | Sample Dates: 10/13/2014 - 10/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.37E-02 | 0.00E+00                 | 2.37E-02 |
|                   |                                       | Cs-134  | <1.07E-02 | 0.00E+00                 | 1.07E-02 |
|                   |                                       | Cs-137  | <1.96E-02 | 0.00E+00                 | 1.96E-02 |
|                   |                                       | Be-7    | <8.48E-02 | 0.00E+00                 | 8.48E-02 |
| Sample ID: 358662 | Sample Dates: 10/20/2014 - 10/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.26E-02 | 0.00E+00                 | 2.26E-02 |
|                   |                                       | Cs-134  | <1.68E-02 | 0.00E+00                 | 1.68E-02 |
|                   |                                       | Cs-137  | <1.63E-02 | 0.00E+00                 | 1.63E-02 |
|                   |                                       | Be-7    | <1.44E-01 | 0.00E+00                 | 1.44E-01 |
| Sample ID: 359306 | Sample Dates: 10/27/2014 - 11/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.14E-02 | 0.00E+00                 | 2.14E-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    | <1.33E-01 | 0.00E+00                 | 1.33E-01 |
| Sample ID: 360036 | Sample Dates: 11/3/2014 - 11/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.75E-02 | 0.00E+00                 | 1.75E-02 |
|                   |                                       | Cs-134  | <1.00E-02 | 0.00E+00                 | 1.00E-02 |
|                   |                                       | Cs-137  | <1.63E-02 | 0.00E+00                 | 1.63E-02 |
|                   |                                       | Be-7    | <9.20E-02 | 0.00E+00                 | 9.20E-02 |
| Sample ID: 360718 | Sample Dates: 11/10/2014 - 11/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.00E-02 | 0.00E+00                 | 2.00E-02 |
|                   |                                       | Cs-134  | <1.87E-02 | 0.00E+00                 | 1.87E-02 |
|                   |                                       | Cs-137  | <1.65E-02 | 0.00E+00                 | 1.65E-02 |
|                   |                                       | Be-7    | <1.22E-01 | 0.00E+00                 | 1.22E-01 |
| Sample ID: 361580 | Sample Dates: 11/17/2014 - 11/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.00E-02 | 0.00E+00                 | 2.00E-02 |
|                   |                                       | Cs-134  | <1.05E-02 | 0.00E+00                 | 1.05E-02 |
|                   |                                       | Cs-137  | <1.31E-02 | 0.00E+00                 | 1.31E-02 |
|                   |                                       | Be-7    | <1.34E-01 | 0.00E+00                 | 1.34E-01 |
|                   |                                       | K-40    | 4.63E-01  | 2.86E-01                 | 3.41E-01 |

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





## OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 079 [ INDICATOR - NE @ 0.56 miles ]

|                   |                                       |         |           |                          |          |
|-------------------|---------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 361959 | Sample Dates: 11/24/2014 - 12/1/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.95E-02 | 0.00E+00                 | 2.95E-02 |
|                   |                                       | Cs-134  | <3.00E-03 | 0.00E+00                 | 3.00E-03 |
|                   |                                       | Cs-137  | <1.02E-02 | 0.00E+00                 | 1.02E-02 |
|                   |                                       | Be-7    | <1.12E-01 | 0.00E+00                 | 1.12E-01 |
|                   |                                       | K-40    | <5.03E-01 | 0.00E+00                 | 5.03E-01 |
| Sample ID: 362789 | Sample Dates: 12/1/2014 - 12/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.52E-02 | 0.00E+00                 | 1.52E-02 |
|                   |                                       | Cs-134  | <8.86E-03 | 0.00E+00                 | 8.86E-03 |
|                   |                                       | Cs-137  | <1.01E-02 | 0.00E+00                 | 1.01E-02 |
|                   |                                       | Be-7    | <8.80E-02 | 0.00E+00                 | 8.80E-02 |
|                   |                                       | K-40    | 6.27E-01  | 1.95E-01                 | 3.77E-02 |
| Sample ID: 363529 | Sample Dates: 12/8/2014 - 12/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.13E-02 | 0.00E+00                 | 2.13E-02 |
|                   |                                       | Cs-134  | <1.37E-02 | 0.00E+00                 | 1.37E-02 |
|                   |                                       | Cs-137  | <1.71E-02 | 0.00E+00                 | 1.71E-02 |
|                   |                                       | Be-7    | <1.48E-01 | 0.00E+00                 | 1.48E-01 |
|                   |                                       | K-40    | 5.17E-01  | 2.60E-01                 | 2.29E-01 |
| Sample ID: 363976 | Sample Dates: 12/15/2014 - 12/22/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.11E-02 | 0.00E+00                 | 2.11E-02 |
|                   |                                       | Cs-134  | <1.40E-02 | 0.00E+00                 | 1.40E-02 |
|                   |                                       | Cs-137  | <1.43E-02 | 0.00E+00                 | 1.43E-02 |
|                   |                                       | Be-7    | <1.18E-01 | 0.00E+00                 | 1.18E-01 |
|                   |                                       | K-40    | 5.60E-01  | 2.24E-01                 | 1.99E-01 |
| Sample ID: 364518 | Sample Dates: 12/22/2014 - 12/29/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.22E-02 | 0.00E+00                 | 1.22E-02 |
|                   |                                       | Cs-134  | <6.40E-03 | 0.00E+00                 | 6.40E-03 |
|                   |                                       | Cs-137  | <1.29E-02 | 0.00E+00                 | 1.29E-02 |
|                   |                                       | Be-7    | <7.71E-02 | 0.00E+00                 | 7.71E-02 |
|                   |                                       | K-40    | 4.72E-01  | 1.82E-01                 | 1.49E-01 |

### Sample Point 081 [ CONTROL - SE @ 9.33 miles ]

|                   |                                     |         |           |                          |          |
|-------------------|-------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 280638 | Sample Dates: 12/30/2013 - 1/6/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.50E-02 | 0.00E+00                 | 2.50E-02 |
|                   |                                     | Cs-134  | <2.19E-02 | 0.00E+00                 | 2.19E-02 |
|                   |                                     | Cs-137  | <1.44E-02 | 0.00E+00                 | 1.44E-02 |
|                   |                                     | Be-7    | <1.26E-01 | 0.00E+00                 | 1.26E-01 |
|                   |                                     | K-40    | 7.06E-01  | 1.41E-01                 | 2.68E-01 |
| Sample ID: 280811 | Sample Dates: 1/6/2014 - 1/13/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.11E-02 | 0.00E+00                 | 2.11E-02 |
|                   |                                     | Cs-134  | <1.95E-02 | 0.00E+00                 | 1.95E-02 |
|                   |                                     | Cs-137  | <2.26E-02 | 0.00E+00                 | 2.26E-02 |
|                   |                                     | Be-7    | <1.93E-01 | 0.00E+00                 | 1.93E-01 |
|                   |                                     | K-40    | 7.04E-01  | 1.70E-01                 | 2.62E-01 |
| Sample ID: 281170 | Sample Dates: 1/13/2014 - 1/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <9.26E-03 | 0.00E+00                 | 9.26E-03 |
|                   |                                     | Cs-134  | <7.75E-03 | 0.00E+00                 | 7.75E-03 |
|                   |                                     | Cs-137  | <1.17E-02 | 0.00E+00                 | 1.17E-02 |
|                   |                                     | Be-7    | <7.32E-02 | 0.00E+00                 | 7.32E-02 |
|                   |                                     | K-40    | 5.15E-01  | 7.85E-02                 | 1.28E-01 |
| Sample ID: 281491 | Sample Dates: 1/20/2014 - 1/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.00E-02 | 0.00E+00                 | 2.00E-02 |
|                   |                                     | Cs-134  | <1.11E-02 | 0.00E+00                 | 1.11E-02 |
|                   |                                     | Cs-137  | <1.20E-02 | 0.00E+00                 | 1.20E-02 |
|                   |                                     | Be-7    | <1.09E-01 | 0.00E+00                 | 1.09E-01 |
|                   |                                     | K-40    | 5.17E-01  | 1.34E-01                 | 1.71E-01 |
| Sample ID: 282114 | Sample Dates: 1/27/2014 - 2/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.00E-02 | 0.00E+00                 | 2.00E-02 |
|                   |                                     | Cs-134  | <1.46E-02 | 0.00E+00                 | 1.46E-02 |
|                   |                                     | Cs-137  | <2.18E-02 | 0.00E+00                 | 2.18E-02 |
|                   |                                     | Be-7    | <1.65E-01 | 0.00E+00                 | 1.65E-01 |
|                   |                                     |         |           |                          |          |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 081 [ CONTROL - SE @ 9.33 miles ]

|            |        |               |                       |         |           |                          |          |
|------------|--------|---------------|-----------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 282114 | Sample Dates: | 1/27/2014 - 2/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | K-40    | <5.66E-01 | 0.00E+00                 | 5.66E-01 |
| Sample ID: | 282926 | Sample Dates: | 2/3/2014 - 2/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.29E-02 | 0.00E+00                 | 1.29E-02 |
|            |        |               |                       | Cs-134  | <1.24E-02 | 0.00E+00                 | 1.24E-02 |
|            |        |               |                       | Cs-137  | <1.78E-02 | 0.00E+00                 | 1.78E-02 |
|            |        |               |                       | Be-7    | <1.02E-01 | 0.00E+00                 | 1.02E-01 |
|            |        |               |                       | K-40    | 3.73E-01  | 9.04E-02                 | 1.62E-01 |
| Sample ID: | 283373 | Sample Dates: | 2/10/2014 - 2/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <2.22E-02 | 0.00E+00                 | 2.22E-02 |
|            |        |               |                       | Cs-134  | <1.78E-02 | 0.00E+00                 | 1.78E-02 |
|            |        |               |                       | Cs-137  | <1.69E-02 | 0.00E+00                 | 1.69E-02 |
|            |        |               |                       | Be-7    | <1.67E-01 | 0.00E+00                 | 1.67E-01 |
|            |        |               |                       | K-40    | 4.27E-01  | 1.48E-01                 | 3.47E-01 |
| Sample ID: | 284540 | Sample Dates: | 2/17/2014 - 2/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <8.85E-03 | 0.00E+00                 | 8.85E-03 |
|            |        |               |                       | Cs-134  | <9.26E-03 | 0.00E+00                 | 9.26E-03 |
|            |        |               |                       | Cs-137  | <1.24E-02 | 0.00E+00                 | 1.24E-02 |
|            |        |               |                       | Be-7    | <7.36E-02 | 0.00E+00                 | 7.36E-02 |
|            |        |               |                       | K-40    | 1.72E-01  | 8.39E-02                 | 1.62E-01 |
| Sample ID: | 285101 | Sample Dates: | 2/24/2014 - 3/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <2.35E-02 | 0.00E+00                 | 2.35E-02 |
|            |        |               |                       | Cs-134  | <1.47E-02 | 0.00E+00                 | 1.47E-02 |
|            |        |               |                       | Cs-137  | <2.46E-02 | 0.00E+00                 | 2.46E-02 |
|            |        |               |                       | Be-7    | <1.42E-01 | 0.00E+00                 | 1.42E-01 |
|            |        |               |                       | K-40    | 4.50E-01  | 1.13E-01                 | 2.13E-01 |
| Sample ID: | 285706 | Sample Dates: | 3/3/2014 - 3/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.31E-02 | 0.00E+00                 | 1.31E-02 |
|            |        |               |                       | Cs-134  | <1.37E-02 | 0.00E+00                 | 1.37E-02 |
|            |        |               |                       | Cs-137  | <1.56E-02 | 0.00E+00                 | 1.56E-02 |
|            |        |               |                       | Be-7    | <1.50E-01 | 0.00E+00                 | 1.50E-01 |
|            |        |               |                       | K-40    | 5.30E-01  | 1.13E-01                 | 3.04E-01 |
| Sample ID: | 286210 | Sample Dates: | 3/10/2014 - 3/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <2.32E-02 | 0.00E+00                 | 2.32E-02 |
|            |        |               |                       | Cs-134  | <1.77E-02 | 0.00E+00                 | 1.77E-02 |
|            |        |               |                       | Cs-137  | <2.29E-02 | 0.00E+00                 | 2.29E-02 |
|            |        |               |                       | Be-7    | <1.39E-01 | 0.00E+00                 | 1.39E-01 |
|            |        |               |                       | K-40    | 3.89E-01  | 1.68E-01                 | 2.06E-01 |
| Sample ID: | 287095 | Sample Dates: | 3/17/2014 - 3/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <2.39E-02 | 0.00E+00                 | 2.39E-02 |
|            |        |               |                       | Cs-134  | <1.87E-02 | 0.00E+00                 | 1.87E-02 |
|            |        |               |                       | Cs-137  | <2.00E-02 | 0.00E+00                 | 2.00E-02 |
|            |        |               |                       | Be-7    | <1.53E-01 | 0.00E+00                 | 1.53E-01 |
|            |        |               |                       | K-40    | 5.12E-01  | 1.21E-01                 | 2.58E-01 |
| Sample ID: | 288346 | Sample Dates: | 3/24/2014 - 3/31/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.32E-02 | 0.00E+00                 | 1.32E-02 |
|            |        |               |                       | Cs-134  | <9.45E-03 | 0.00E+00                 | 9.45E-03 |
|            |        |               |                       | Cs-137  | <1.48E-02 | 0.00E+00                 | 1.48E-02 |
|            |        |               |                       | Be-7    | <7.21E-02 | 0.00E+00                 | 7.21E-02 |
|            |        |               |                       | K-40    | 4.31E-01  | 7.74E-02                 | 3.76E-02 |
| Sample ID: | 289070 | Sample Dates: | 3/31/2014 - 4/7/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <2.92E-02 | 0.00E+00                 | 2.92E-02 |
|            |        |               |                       | Cs-134  | <1.47E-02 | 0.00E+00                 | 1.47E-02 |
|            |        |               |                       | Cs-137  | <1.78E-02 | 0.00E+00                 | 1.78E-02 |
|            |        |               |                       | Be-7    | <1.53E-01 | 0.00E+00                 | 1.53E-01 |
|            |        |               |                       | K-40    | 4.82E-01  | 1.43E-01                 | 2.72E-01 |
| Sample ID: | 289456 | Sample Dates: | 4/7/2014 - 4/14/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.86E-02 | 0.00E+00                 | 1.86E-02 |
|            |        |               |                       | Cs-134  | <1.66E-02 | 0.00E+00                 | 1.66E-02 |
|            |        |               |                       | Cs-137  | <1.68E-02 | 0.00E+00                 | 1.68E-02 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 081 [ CONTROL - SE @ 9.33 miles ]

|                   |                                     |         |           |                          |          |
|-------------------|-------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 289456 | Sample Dates: 4/7/2014 - 4/14/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Be-7    | <1.78E-01 | 0.00E+00                 | 1.78E-01 |
|                   |                                     | K-40    | <5.83E-01 | 0.00E+00                 | 5.83E-01 |
| Sample ID: 289866 | Sample Dates: 4/14/2014 - 4/21/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.49E-02 | 0.00E+00                 | 2.49E-02 |
|                   |                                     | Cs-134  | <1.50E-02 | 0.00E+00                 | 1.50E-02 |
|                   |                                     | Cs-137  | <1.23E-02 | 0.00E+00                 | 1.23E-02 |
|                   |                                     | Be-7    | <1.80E-01 | 0.00E+00                 | 1.80E-01 |
|                   |                                     | K-40    | <5.60E-01 | 0.00E+00                 | 5.60E-01 |
| Sample ID: 291471 | Sample Dates: 4/21/2014 - 4/28/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.53E-02 | 0.00E+00                 | 2.53E-02 |
|                   |                                     | Cs-134  | <2.19E-02 | 0.00E+00                 | 2.19E-02 |
|                   |                                     | Cs-137  | <1.85E-02 | 0.00E+00                 | 1.85E-02 |
|                   |                                     | Be-7    | <1.12E-01 | 0.00E+00                 | 1.12E-01 |
|                   |                                     | K-40    | 3.87E-01  | 1.29E-01                 | 7.62E-02 |
| Sample ID: 292765 | Sample Dates: 4/28/2014 - 5/5/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.36E-02 | 0.00E+00                 | 2.36E-02 |
|                   |                                     | Cs-134  | <1.63E-02 | 0.00E+00                 | 1.63E-02 |
|                   |                                     | Cs-137  | <2.86E-02 | 0.00E+00                 | 2.86E-02 |
|                   |                                     | Be-7    | <1.62E-01 | 0.00E+00                 | 1.62E-01 |
|                   |                                     | K-40    | <5.48E-01 | 0.00E+00                 | 5.48E-01 |
| Sample ID: 293027 | Sample Dates: 5/5/2014 - 5/12/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.74E-02 | 0.00E+00                 | 1.74E-02 |
|                   |                                     | Cs-134  | <1.68E-02 | 0.00E+00                 | 1.68E-02 |
|                   |                                     | Cs-137  | <2.37E-02 | 0.00E+00                 | 2.37E-02 |
|                   |                                     | Be-7    | <1.56E-01 | 0.00E+00                 | 1.56E-01 |
|                   |                                     | K-40    | 7.33E-01  | 1.44E-01                 | 7.62E-02 |
| Sample ID: 294658 | Sample Dates: 5/12/2014 - 5/19/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.24E-02 | 0.00E+00                 | 1.24E-02 |
|                   |                                     | Cs-134  | <9.21E-03 | 0.00E+00                 | 9.21E-03 |
|                   |                                     | Cs-137  | <1.51E-02 | 0.00E+00                 | 1.51E-02 |
|                   |                                     | Be-7    | <6.89E-02 | 0.00E+00                 | 6.89E-02 |
|                   |                                     | K-40    | 3.50E-01  | 7.00E-02                 | 3.78E-02 |
| Sample ID: 295167 | Sample Dates: 5/19/2014 - 5/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <3.50E-02 | 0.00E+00                 | 3.50E-02 |
|                   |                                     | Cs-134  | <1.73E-02 | 0.00E+00                 | 1.73E-02 |
|                   |                                     | Cs-137  | <2.12E-02 | 0.00E+00                 | 2.12E-02 |
|                   |                                     | Be-7    | <1.04E-01 | 0.00E+00                 | 1.04E-01 |
|                   |                                     | K-40    | 1.72E-01  | 1.07E-01                 | 2.23E-01 |
| Sample ID: 295428 | Sample Dates: 5/27/2014 - 6/2/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.85E-02 | 0.00E+00                 | 2.85E-02 |
|                   |                                     | Cs-134  | <2.09E-02 | 0.00E+00                 | 2.09E-02 |
|                   |                                     | Cs-137  | <3.00E-02 | 0.00E+00                 | 3.00E-02 |
|                   |                                     | Be-7    | <1.46E-01 | 0.00E+00                 | 1.46E-01 |
|                   |                                     | K-40    | <6.97E-01 | 0.00E+00                 | 6.97E-01 |
| Sample ID: 295943 | Sample Dates: 6/2/2014 - 6/9/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.39E-02 | 0.00E+00                 | 2.39E-02 |
|                   |                                     | Cs-134  | <1.46E-02 | 0.00E+00                 | 1.46E-02 |
|                   |                                     | Cs-137  | <1.40E-02 | 0.00E+00                 | 1.40E-02 |
|                   |                                     | Be-7    | <9.58E-02 | 0.00E+00                 | 9.58E-02 |
|                   |                                     | K-40    | 3.74E-01  | 1.23E-01                 | 2.67E-01 |
| Sample ID: 296188 | Sample Dates: 6/9/2014 - 6/16/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.31E-02 | 0.00E+00                 | 2.31E-02 |
|                   |                                     | Cs-134  | <1.52E-02 | 0.00E+00                 | 1.52E-02 |
|                   |                                     | Cs-137  | <2.60E-02 | 0.00E+00                 | 2.60E-02 |
|                   |                                     | Be-7    | <2.04E-01 | 0.00E+00                 | 2.04E-01 |
|                   |                                     | K-40    | <6.84E-01 | 0.00E+00                 | 6.84E-01 |
| Sample ID: 296709 | Sample Dates: 6/16/2014 - 6/23/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.41E-02 | 0.00E+00                 | 2.41E-02 |
|                   |                                     | Cs-134  | <1.21E-02 | 0.00E+00                 | 1.21E-02 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 081 [ CONTROL - SE @ 9.33 miles ]

|                   |                                     |         |           |                          |          |
|-------------------|-------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 296709 | Sample Dates: 6/16/2014 - 6/23/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Cs-137  | <4.41E-03 | 0.00E+00                 | 4.41E-03 |
|                   |                                     | Be-7    | <1.52E-01 | 0.00E+00                 | 1.52E-01 |
|                   |                                     | K-40    | <5.96E-01 | 0.00E+00                 | 5.96E-01 |
| Sample ID: 296936 | Sample Dates: 6/23/2014 - 6/30/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.34E-02 | 0.00E+00                 | 2.34E-02 |
|                   |                                     | Cs-134  | <1.72E-02 | 0.00E+00                 | 1.72E-02 |
|                   |                                     | Cs-137  | <1.76E-02 | 0.00E+00                 | 1.76E-02 |
|                   |                                     | Be-7    | <9.85E-02 | 0.00E+00                 | 9.85E-02 |
| Sample ID: 297333 | Sample Dates: 6/30/2014 - 7/7/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.88E-02 | 0.00E+00                 | 2.88E-02 |
|                   |                                     | Cs-134  | <1.42E-02 | 0.00E+00                 | 1.42E-02 |
|                   |                                     | Cs-137  | <1.80E-02 | 0.00E+00                 | 1.80E-02 |
|                   |                                     | Be-7    | <1.96E-01 | 0.00E+00                 | 1.96E-01 |
| Sample ID: 297621 | Sample Dates: 7/7/2014 - 7/14/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <4.44E-02 | 0.00E+00                 | 4.44E-02 |
|                   |                                     | Cs-134  | <1.06E-02 | 0.00E+00                 | 1.06E-02 |
|                   |                                     | Cs-137  | <1.65E-02 | 0.00E+00                 | 1.65E-02 |
|                   |                                     | Be-7    | <1.51E-01 | 0.00E+00                 | 1.51E-01 |
| Sample ID: 298157 | Sample Dates: 7/14/2014 - 7/21/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <3.99E-02 | 0.00E+00                 | 3.99E-02 |
|                   |                                     | Cs-134  | <1.82E-02 | 0.00E+00                 | 1.82E-02 |
|                   |                                     | Cs-137  | <1.86E-02 | 0.00E+00                 | 1.86E-02 |
|                   |                                     | Be-7    | <1.44E-01 | 0.00E+00                 | 1.44E-01 |
| Sample ID: 350197 | Sample Dates: 7/21/2014 - 7/28/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.39E-02 | 0.00E+00                 | 2.39E-02 |
|                   |                                     | Cs-134  | <1.55E-02 | 0.00E+00                 | 1.55E-02 |
|                   |                                     | Cs-137  | <1.67E-02 | 0.00E+00                 | 1.67E-02 |
|                   |                                     | Be-7    | <1.24E-01 | 0.00E+00                 | 1.24E-01 |
| Sample ID: 350938 | Sample Dates: 7/28/2014 - 8/4/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.88E-02 | 0.00E+00                 | 1.88E-02 |
|                   |                                     | Cs-134  | <1.30E-02 | 0.00E+00                 | 1.30E-02 |
|                   |                                     | Cs-137  | <2.29E-02 | 0.00E+00                 | 2.29E-02 |
|                   |                                     | Be-7    | <1.18E-01 | 0.00E+00                 | 1.18E-01 |
| Sample ID: 351184 | Sample Dates: 8/4/2014 - 8/11/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.84E-02 | 0.00E+00                 | 1.84E-02 |
|                   |                                     | Cs-134  | <1.05E-02 | 0.00E+00                 | 1.05E-02 |
|                   |                                     | Cs-137  | <2.14E-02 | 0.00E+00                 | 2.14E-02 |
|                   |                                     | Be-7    | <1.97E-01 | 0.00E+00                 | 1.97E-01 |
| Sample ID: 351623 | Sample Dates: 8/11/2014 - 8/18/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.81E-02 | 0.00E+00                 | 1.81E-02 |
|                   |                                     | Cs-134  | <5.58E-03 | 0.00E+00                 | 5.58E-03 |
|                   |                                     | Cs-137  | <2.26E-02 | 0.00E+00                 | 2.26E-02 |
|                   |                                     | Be-7    | <1.72E-01 | 0.00E+00                 | 1.72E-01 |
| Sample ID: 353434 | Sample Dates: 8/18/2014 - 8/25/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <3.07E-02 | 0.00E+00                 | 3.07E-02 |
|                   |                                     | Cs-134  | <2.60E-02 | 0.00E+00                 | 2.60E-02 |
|                   |                                     | Cs-137  | <1.94E-02 | 0.00E+00                 | 1.94E-02 |
|                   |                                     | Be-7    | 6.48E-02  | 8.67E-02                 | 1.42E-01 |
| Sample ID: 354073 | Sample Dates: 8/25/2014 - 9/2/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.05E-02 | 0.00E+00                 | 2.05E-02 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 081 [ CONTROL - SE @ 9.33 miles ]

|                   |                                       |         |           |                          |          |
|-------------------|---------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 354073 | Sample Dates: 8/25/2014 - 9/2/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Cs-134  | <4.97E-03 | 0.00E+00                 | 4.97E-03 |
|                   |                                       | Cs-137  | <1.65E-02 | 0.00E+00                 | 1.65E-02 |
|                   |                                       | Be-7    | <1.28E-01 | 0.00E+00                 | 1.28E-01 |
|                   |                                       | K-40    | 4.33E-01  | 2.33E-01                 | 2.17E-01 |
| Sample ID: 354453 | Sample Dates: 9/2/2014 - 9/8/2014     | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.24E-02 | 0.00E+00                 | 2.24E-02 |
|                   |                                       | Cs-134  | <2.98E-02 | 0.00E+00                 | 2.98E-02 |
|                   |                                       | Cs-137  | <2.23E-02 | 0.00E+00                 | 2.23E-02 |
|                   |                                       | Be-7    | <1.96E-01 | 0.00E+00                 | 1.96E-01 |
| Sample ID: 354769 | Sample Dates: 9/8/2014 - 9/15/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.73E-02 | 0.00E+00                 | 1.73E-02 |
|                   |                                       | Cs-134  | <1.98E-02 | 0.00E+00                 | 1.98E-02 |
|                   |                                       | Cs-137  | <1.26E-02 | 0.00E+00                 | 1.26E-02 |
|                   |                                       | Be-7    | <1.18E-01 | 0.00E+00                 | 1.18E-01 |
| Sample ID: 355180 | Sample Dates: 9/15/2014 - 9/22/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.20E-02 | 0.00E+00                 | 2.20E-02 |
|                   |                                       | Cs-134  | <1.88E-02 | 0.00E+00                 | 1.88E-02 |
|                   |                                       | Cs-137  | <1.32E-02 | 0.00E+00                 | 1.32E-02 |
|                   |                                       | Be-7    | <1.35E-01 | 0.00E+00                 | 1.35E-01 |
| Sample ID: 355647 | Sample Dates: 9/22/2014 - 9/29/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.15E-02 | 0.00E+00                 | 2.15E-02 |
|                   |                                       | Cs-134  | <3.80E-03 | 0.00E+00                 | 3.80E-03 |
|                   |                                       | Cs-137  | <2.47E-02 | 0.00E+00                 | 2.47E-02 |
|                   |                                       | Be-7    | <8.09E-02 | 0.00E+00                 | 8.09E-02 |
| Sample ID: 356513 | Sample Dates: 9/29/2014 - 10/6/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.86E-02 | 0.00E+00                 | 1.86E-02 |
|                   |                                       | Cs-134  | <1.53E-02 | 0.00E+00                 | 1.53E-02 |
|                   |                                       | Cs-137  | <1.64E-02 | 0.00E+00                 | 1.64E-02 |
|                   |                                       | Be-7    | <1.05E-01 | 0.00E+00                 | 1.05E-01 |
| Sample ID: 357056 | Sample Dates: 10/6/2014 - 10/13/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.82E-02 | 0.00E+00                 | 1.82E-02 |
|                   |                                       | Cs-134  | <1.84E-02 | 0.00E+00                 | 1.84E-02 |
|                   |                                       | Cs-137  | <2.47E-02 | 0.00E+00                 | 2.47E-02 |
|                   |                                       | Be-7    | <1.86E-01 | 0.00E+00                 | 1.86E-01 |
| Sample ID: 358055 | Sample Dates: 10/13/2014 - 10/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.51E-02 | 0.00E+00                 | 2.51E-02 |
|                   |                                       | Cs-134  | <1.87E-02 | 0.00E+00                 | 1.87E-02 |
|                   |                                       | Cs-137  | <2.33E-02 | 0.00E+00                 | 2.33E-02 |
|                   |                                       | Be-7    | <1.35E-01 | 0.00E+00                 | 1.35E-01 |
| Sample ID: 358663 | Sample Dates: 10/20/2014 - 10/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.15E-02 | 0.00E+00                 | 2.15E-02 |
|                   |                                       | Cs-134  | <1.30E-02 | 0.00E+00                 | 1.30E-02 |
|                   |                                       | Cs-137  | <1.88E-02 | 0.00E+00                 | 1.89E-02 |
|                   |                                       | Be-7    | <1.55E-01 | 0.00E+00                 | 1.55E-01 |
| Sample ID: 359307 | Sample Dates: 10/27/2014 - 11/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.65E-02 | 0.00E+00                 | 1.65E-02 |
|                   |                                       | Cs-134  | <1.86E-02 | 0.00E+00                 | 1.86E-02 |
|                   |                                       | Cs-137  | <1.91E-02 | 0.00E+00                 | 1.91E-02 |
|                   |                                       | Be-7    | <1.46E-01 | 0.00E+00                 | 1.46E-01 |
|                   |                                       | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | K-40    | <5.63E-01 | 0.00E+00                 | 5.63E-01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 081 [ CONTROL - SE @ 9.33 miles ]

|   |                                       |         |           |                          |          |
|---|---------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 360037                                 | Sample Dates: 11/3/2014 - 11/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <2.36E-02 | 0.00E+00                 | 2.36E-02 |
|   |                                       | Cs-134  | <1.42E-02 | 0.00E+00                 | 1.42E-02 |
|   |                                       | Cs-137  | <1.00E-02 | 0.00E+00                 | 1.00E-02 |
|   |                                       | Be-7    | <1.13E-01 | 0.00E+00                 | 1.13E-01 |
|   |                                       | K-40    | 6.92E-01  | 2.64E-01                 | 6.47E-02 |
| Sample ID: 360719                                 | Sample Dates: 11/10/2014 - 11/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <2.81E-02 | 0.00E+00                 | 2.81E-02 |
|   |                                       | Cs-134  | <1.33E-02 | 0.00E+00                 | 1.33E-02 |
|   |                                       | Cs-137  | <2.34E-02 | 0.00E+00                 | 2.34E-02 |
|   |                                       | Be-7    | <1.89E-01 | 0.00E+00                 | 1.89E-01 |
|   |                                       | K-40    | 2.40E-01  | 2.09E-01                 | 2.80E-01 |
| Sample ID: 361581                                 | Sample Dates: 11/17/2014 - 11/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <1.42E-02 | 0.00E+00                 | 1.42E-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    | <1.76E-01 | 0.00E+00                 | 1.76E-01 |
|   |                                       | K-40    | <4.48E-01 | 0.00E+00                 | 4.48E-01 |
| Sample ID: 361960                                 | Sample Dates: 11/24/2014 - 12/1/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <3.69E-02 | 0.00E+00                 | 3.69E-02 |
|   |                                       | Cs-134  | <1.19E-02 | 0.00E+00                 | 1.19E-02 |
|   |                                       | Cs-137  | <1.95E-02 | 0.00E+00                 | 1.95E-02 |
|   |                                       | Be-7    | <1.69E-01 | 0.00E+00                 | 1.69E-01 |
|   |                                       | K-40    | 6.08E-01  | 2.48E-01                 | 6.59E-02 |
| Sample ID: 362790                                 | Sample Dates: 12/1/2014 - 12/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <1.75E-02 | 0.00E+00                 | 1.75E-02 |
|   |                                       | Cs-134  | <1.01E-02 | 0.00E+00                 | 1.01E-02 |
|   |                                       | Cs-137  | <1.00E-02 | 0.00E+00                 | 1.00E-02 |
|   |                                       | Be-7    | <1.14E-01 | 0.00E+00                 | 1.14E-01 |
|   |                                       | K-40    | 1.98E-01  | 2.14E-01                 | 3.33E-01 |
| Sample ID: 363530                                 | Sample Dates: 12/8/2014 - 12/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <9.49E-03 | 0.00E+00                 | 9.49E-03 |
|   |                                       | Cs-134  | <1.41E-02 | 0.00E+00                 | 1.41E-02 |
|   |                                       | Cs-137  | <1.45E-02 | 0.00E+00                 | 1.45E-02 |
|   |                                       | Be-7    | <7.84E-02 | 0.00E+00                 | 7.84E-02 |
|   |                                       | K-40    | <3.76E-01 | 0.00E+00                 | 3.76E-01 |
| Sample ID: 363977                                 | Sample Dates: 12/15/2014 - 12/22/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <1.79E-02 | 0.00E+00                 | 1.79E-02 |
|   |                                       | Cs-134  | <1.32E-02 | 0.00E+00                 | 1.32E-02 |
|   |                                       | Cs-137  | <1.54E-02 | 0.00E+00                 | 1.54E-02 |
|   |                                       | Be-7    | <9.33E-02 | 0.00E+00                 | 9.33E-02 |
|   |                                       | K-40    | 4.92E-01  | 1.90E-01                 | 4.76E-02 |
| Sample ID: 364519                                 | Sample Dates: 12/22/2014 - 12/29/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <1.10E-02 | 0.00E+00                 | 1.10E-02 |
|   |                                       | Cs-134  | <1.35E-02 | 0.00E+00                 | 1.35E-02 |
|   |                                       | Cs-137  | <9.28E-03 | 0.00E+00                 | 9.28E-03 |
|   |                                       | Be-7    | <7.76E-02 | 0.00E+00                 | 7.76E-02 |
|   |                                       | K-40    | 3.73E-01  | 2.01E-01                 | 2.60E-01 |
| Sample Point 084 [ INDICATOR - NNE @ 2.58 miles ] |                                       |         |           |                          |          |
| Sample ID: 280639                                 | Sample Dates: 12/30/2013 - 1/6/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <2.77E-02 | 0.00E+00                 | 2.77E-02 |
|   |                                       | Cs-134  | <2.03E-02 | 0.00E+00                 | 2.03E-02 |
|   |                                       | Cs-137  | <1.86E-02 | 0.00E+00                 | 1.86E-02 |
|   |                                       | Be-7    | <1.26E-01 | 0.00E+00                 | 1.26E-01 |
|   |                                       | K-40    | <5.58E-01 | 0.00E+00                 | 5.58E-01 |
| Sample ID: 280812                                 | Sample Dates: 1/6/2014 - 1/13/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |                                       | I-131   | <2.17E-02 | 0.00E+00                 | 2.17E-02 |
|   |                                       | Cs-134  | <1.61E-02 | 0.00E+00                 | 1.61E-02 |
|   |                                       | Cs-137  | <2.55E-02 | 0.00E+00                 | 2.55E-02 |
|   |                                       | Be-7    | <1.51E-01 | 0.00E+00                 | 1.51E-01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 084 [ INDICATOR - NNE @ 2.58 miles ]

|            |        |               |                       |         |           |                          |          |
|------------|--------|---------------|-----------------------|---------|-----------|--------------------------|----------|
| Sample ID: | 280812 | Sample Dates: | 1/6/2014 - 1/13/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | K-40    | 4.06E-01  | 1.08E-01                 | 2.63E-01 |
| Sample ID: | 281171 | Sample Dates: | 1/13/2014 - 1/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <2.20E-02 | 0.00E+00                 | 2.20E-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    | <1.35E-01 | 0.00E+00                 | 1.35E-01 |
|            |        |               |                       | K-40    | 4.08E-01  | 1.21E-01                 | 2.76E-01 |
| Sample ID: | 281492 | Sample Dates: | 1/20/2014 - 1/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.12E-02 | 0.00E+00                 | 1.12E-02 |
|            |        |               |                       | Cs-134  | <9.64E-03 | 0.00E+00                 | 9.64E-03 |
|            |        |               |                       | Cs-137  | <1.12E-02 | 0.00E+00                 | 1.12E-02 |
|            |        |               |                       | Be-7    | <8.40E-02 | 0.00E+00                 | 8.40E-02 |
|            |        |               |                       | K-40    | 2.33E-01  | 6.73E-02                 | 5.26E-02 |
| Sample ID: | 282115 | Sample Dates: | 1/27/2014 - 2/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.93E-02 | 0.00E+00                 | 1.93E-02 |
|            |        |               |                       | Cs-134  | <1.39E-02 | 0.00E+00                 | 1.39E-02 |
|            |        |               |                       | Cs-137  | <1.75E-02 | 0.00E+00                 | 1.75E-02 |
|            |        |               |                       | Be-7    | <1.16E-01 | 0.00E+00                 | 1.16E-01 |
|            |        |               |                       | K-40    | 7.05E-01  | 1.29E-01                 | 1.69E-01 |
| Sample ID: | 282927 | Sample Dates: | 2/3/2014 - 2/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.08E-02 | 0.00E+00                 | 1.08E-02 |
|            |        |               |                       | Cs-134  | <1.22E-02 | 0.00E+00                 | 1.22E-02 |
|            |        |               |                       | Cs-137  | <9.84E-03 | 0.00E+00                 | 9.84E-03 |
|            |        |               |                       | Be-7    | <1.03E-01 | 0.00E+00                 | 1.03E-01 |
|            |        |               |                       | K-40    | 4.35E-01  | 9.28E-02                 | 5.35E-02 |
| Sample ID: | 283374 | Sample Dates: | 2/10/2014 - 2/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.66E-02 | 0.00E+00                 | 1.66E-02 |
|            |        |               |                       | Cs-134  | <4.29E-03 | 0.00E+00                 | 4.29E-03 |
|            |        |               |                       | Cs-137  | <1.73E-02 | 0.00E+00                 | 1.73E-02 |
|            |        |               |                       | Be-7    | <5.57E-02 | 0.00E+00                 | 5.57E-02 |
|            |        |               |                       | K-40    | 2.37E-01  | 8.90E-02                 | 5.22E-02 |
| Sample ID: | 284541 | Sample Dates: | 2/17/2014 - 2/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.28E-02 | 0.00E+00                 | 1.28E-02 |
|            |        |               |                       | Cs-134  | <1.29E-02 | 0.00E+00                 | 1.29E-02 |
|            |        |               |                       | Cs-137  | <1.08E-02 | 0.00E+00                 | 1.08E-02 |
|            |        |               |                       | Be-7    | <1.13E-01 | 0.00E+00                 | 1.13E-01 |
|            |        |               |                       | K-40    | 3.90E-01  | 9.18E-02                 | 2.63E-01 |
| Sample ID: | 285102 | Sample Dates: | 2/24/2014 - 3/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.56E-02 | 0.00E+00                 | 1.56E-02 |
|            |        |               |                       | Cs-134  | <1.39E-02 | 0.00E+00                 | 1.39E-02 |
|            |        |               |                       | Cs-137  | <9.32E-03 | 0.00E+00                 | 9.32E-03 |
|            |        |               |                       | Be-7    | <1.41E-01 | 0.00E+00                 | 1.41E-01 |
|            |        |               |                       | K-40    | 4.19E-01  | 1.18E-01                 | 2.54E-01 |
| Sample ID: | 285707 | Sample Dates: | 3/3/2014 - 3/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <2.52E-02 | 0.00E+00                 | 2.52E-02 |
|            |        |               |                       | Cs-134  | <1.97E-02 | 0.00E+00                 | 1.97E-02 |
|            |        |               |                       | Cs-137  | <2.54E-02 | 0.00E+00                 | 2.54E-02 |
|            |        |               |                       | Be-7    | <1.75E-01 | 0.00E+00                 | 1.75E-01 |
|            |        |               |                       | K-40    | 3.63E-01  | 1.88E-01                 | 3.38E-01 |
| Sample ID: | 286211 | Sample Dates: | 3/10/2014 - 3/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <2.50E-02 | 0.00E+00                 | 2.50E-02 |
|            |        |               |                       | Cs-134  | <1.62E-02 | 0.00E+00                 | 1.62E-02 |
|            |        |               |                       | Cs-137  | <1.91E-02 | 0.00E+00                 | 1.91E-02 |
|            |        |               |                       | Be-7    | <1.62E-01 | 0.00E+00                 | 1.62E-01 |
|            |        |               |                       | K-40    | 4.89E-01  | 1.18E-01                 | 2.06E-01 |
| Sample ID: | 287096 | Sample Dates: | 3/17/2014 - 3/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | I-131   | <1.20E-02 | 0.00E+00                 | 1.20E-02 |
|            |        |               |                       | Cs-134  | <1.34E-02 | 0.00E+00                 | 1.34E-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.



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 084 [ INDICATOR - NNE @ 2.58 miles ]

|                   |                                     |         |           |                          |          |
|-------------------|-------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 287096 | Sample Dates: 3/17/2014 - 3/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Be-7    | <6.63E-02 | 0.00E+00                 | 6.63E-02 |
|                   |                                     | K-40    | 2.35E-01  | 9.91E-02                 | 5.26E-02 |
| Sample ID: 288347 | Sample Dates: 3/24/2014 - 3/31/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.54E-02 | 0.00E+00                 | 2.54E-02 |
|                   |                                     | Cs-134  | <1.71E-02 | 0.00E+00                 | 1.71E-02 |
|                   |                                     | Cs-137  | <2.30E-02 | 0.00E+00                 | 2.30E-02 |
|                   |                                     | Be-7    | <1.70E-01 | 0.00E+00                 | 1.70E-01 |
|                   |                                     | K-40    | 6.17E-01  | 1.32E-01                 | 2.63E-01 |
| Sample ID: 289071 | Sample Dates: 3/31/2014 - 4/7/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.17E-02 | 0.00E+00                 | 2.17E-02 |
|                   |                                     | Cs-134  | <1.46E-02 | 0.00E+00                 | 1.46E-02 |
|                   |                                     | Cs-137  | <2.46E-02 | 0.00E+00                 | 2.46E-02 |
|                   |                                     | Be-7    | <1.56E-01 | 0.00E+00                 | 1.56E-01 |
|                   |                                     | K-40    | 3.82E-01  | 1.27E-01                 | 2.78E-01 |
| Sample ID: 289457 | Sample Dates: 4/7/2014 - 4/14/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.94E-02 | 0.00E+00                 | 1.94E-02 |
|                   |                                     | Cs-134  | <1.46E-02 | 0.00E+00                 | 1.46E-02 |
|                   |                                     | Cs-137  | <1.65E-02 | 0.00E+00                 | 1.65E-02 |
|                   |                                     | Be-7    | <8.40E-02 | 0.00E+00                 | 8.40E-02 |
|                   |                                     | K-40    | 5.90E-01  | 1.18E-01                 | 6.38E-02 |
| Sample ID: 289867 | Sample Dates: 4/14/2014 - 4/21/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.89E-02 | 0.00E+00                 | 1.89E-02 |
|                   |                                     | Cs-134  | <1.93E-02 | 0.00E+00                 | 1.93E-02 |
|                   |                                     | Cs-137  | <1.23E-02 | 0.00E+00                 | 1.23E-02 |
|                   |                                     | Be-7    | <1.36E-01 | 0.00E+00                 | 1.36E-01 |
|                   |                                     | K-40    | 4.89E-01  | 1.18E-01                 | 2.75E-01 |
| Sample ID: 291472 | Sample Dates: 4/21/2014 - 4/28/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.51E-02 | 0.00E+00                 | 2.51E-02 |
|                   |                                     | Cs-134  | <1.72E-02 | 0.00E+00                 | 1.72E-02 |
|                   |                                     | Cs-137  | <2.21E-02 | 0.00E+00                 | 2.21E-02 |
|                   |                                     | Be-7    | <1.23E-01 | 0.00E+00                 | 1.23E-01 |
|                   |                                     | K-40    | <6.30E-01 | 0.00E+00                 | 6.30E-01 |
| Sample ID: 292766 | Sample Dates: 4/28/2014 - 5/5/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.51E-02 | 0.00E+00                 | 1.51E-02 |
|                   |                                     | Cs-134  | <1.08E-02 | 0.00E+00                 | 1.08E-02 |
|                   |                                     | Cs-137  | <1.04E-02 | 0.00E+00                 | 1.04E-02 |
|                   |                                     | Be-7    | <8.19E-02 | 0.00E+00                 | 8.19E-02 |
|                   |                                     | K-40    | 4.17E-01  | 9.10E-02                 | 2.21E-01 |
| Sample ID: 293028 | Sample Dates: 5/5/2014 - 5/12/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.15E-02 | 0.00E+00                 | 1.15E-02 |
|                   |                                     | Cs-134  | <1.14E-02 | 0.00E+00                 | 1.14E-02 |
|                   |                                     | Cs-137  | <1.05E-02 | 0.00E+00                 | 1.05E-02 |
|                   |                                     | Be-7    | <6.47E-02 | 0.00E+00                 | 6.47E-02 |
|                   |                                     | K-40    | 3.64E-01  | 8.34E-02                 | 1.38E-01 |
| Sample ID: 294659 | Sample Dates: 5/12/2014 - 5/19/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.30E-02 | 0.00E+00                 | 2.30E-02 |
|                   |                                     | Cs-134  | <1.45E-02 | 0.00E+00                 | 1.45E-02 |
|                   |                                     | Cs-137  | <2.28E-02 | 0.00E+00                 | 2.28E-02 |
|                   |                                     | Be-7    | <1.38E-01 | 0.00E+00                 | 1.38E-01 |
|                   |                                     | K-40    | <5.80E-01 | 0.00E+00                 | 5.80E-01 |
| Sample ID: 295168 | Sample Dates: 5/19/2014 - 5/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <3.82E-02 | 0.00E+00                 | 3.82E-02 |
|                   |                                     | Cs-134  | <1.29E-02 | 0.00E+00                 | 1.29E-02 |
|                   |                                     | Cs-137  | <1.98E-02 | 0.00E+00                 | 1.98E-02 |
|                   |                                     | Be-7    | <1.36E-01 | 0.00E+00                 | 1.36E-01 |
|                   |                                     | K-40    | <5.09E-01 | 0.00E+00                 | 5.09E-01 |
| Sample ID: 295429 | Sample Dates: 5/27/2014 - 6/2/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <3.37E-02 | 0.00E+00                 | 3.37E-02 |
|                   |                                     | Cs-134  | <2.24E-02 | 0.00E+00                 | 2.24E-02 |

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





# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 084 [ INDICATOR - NNE @ 2.58 miles ]

|                   |                                     |         |           |                          |          |
|-------------------|-------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 295429 | Sample Dates: 5/27/2014 - 6/2/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Cs-137  | <2.14E-02 | 0.00E+00                 | 2.14E-02 |
|                   |                                     | Be-7    | <1.62E-01 | 0.00E+00                 | 1.62E-01 |
|                   |                                     | K-40    | 4.64E-01  | 1.61E-01                 | 3.19E-01 |
| Sample ID: 295944 | Sample Dates: 6/2/2014 - 6/9/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.98E-02 | 0.00E+00                 | 1.98E-02 |
|                   |                                     | Cs-134  | <1.23E-02 | 0.00E+00                 | 1.23E-02 |
|                   |                                     | Cs-137  | <2.25E-02 | 0.00E+00                 | 2.25E-02 |
|                   |                                     | Be-7    | <1.57E-01 | 0.00E+00                 | 1.57E-01 |
| Sample ID: 296189 | Sample Dates: 6/9/2014 - 6/16/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.94E-02 | 0.00E+00                 | 1.94E-02 |
|                   |                                     | Cs-134  | <1.55E-02 | 0.00E+00                 | 1.55E-02 |
|                   |                                     | Cs-137  | <1.30E-02 | 0.00E+00                 | 1.30E-02 |
|                   |                                     | Be-7    | <1.02E-01 | 0.00E+00                 | 1.02E-01 |
| Sample ID: 296710 | Sample Dates: 6/16/2014 - 6/23/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.36E-02 | 0.00E+00                 | 2.36E-02 |
|                   |                                     | Cs-134  | <1.83E-02 | 0.00E+00                 | 1.83E-02 |
|                   |                                     | Cs-137  | <1.75E-02 | 0.00E+00                 | 1.75E-02 |
|                   |                                     | Be-7    | <1.68E-01 | 0.00E+00                 | 1.68E-01 |
| Sample ID: 296937 | Sample Dates: 6/23/2014 - 6/30/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.62E-02 | 0.00E+00                 | 1.62E-02 |
|                   |                                     | Cs-134  | <1.20E-02 | 0.00E+00                 | 1.20E-02 |
|                   |                                     | Cs-137  | <1.55E-02 | 0.00E+00                 | 1.55E-02 |
|                   |                                     | Be-7    | <7.59E-02 | 0.00E+00                 | 7.59E-02 |
| Sample ID: 297334 | Sample Dates: 6/30/2014 - 7/7/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.05E-02 | 0.00E+00                 | 2.05E-02 |
|                   |                                     | Cs-134  | <1.98E-02 | 0.00E+00                 | 1.98E-02 |
|                   |                                     | Cs-137  | <1.98E-02 | 0.00E+00                 | 1.98E-02 |
|                   |                                     | Be-7    | <1.66E-01 | 0.00E+00                 | 1.66E-01 |
| Sample ID: 297622 | Sample Dates: 7/7/2014 - 7/14/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.39E-02 | 0.00E+00                 | 2.39E-02 |
|                   |                                     | Cs-134  | <1.58E-02 | 0.00E+00                 | 1.58E-02 |
|                   |                                     | Cs-137  | <1.50E-02 | 0.00E+00                 | 1.50E-02 |
|                   |                                     | Be-7    | <1.16E-01 | 0.00E+00                 | 1.16E-01 |
| Sample ID: 298158 | Sample Dates: 7/14/2014 - 7/21/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <3.25E-02 | 0.00E+00                 | 3.25E-02 |
|                   |                                     | Cs-134  | <1.02E-02 | 0.00E+00                 | 1.02E-02 |
|                   |                                     | Cs-137  | <1.60E-02 | 0.00E+00                 | 1.60E-02 |
|                   |                                     | Be-7    | <1.44E-01 | 0.00E+00                 | 1.44E-01 |
| Sample ID: 350198 | Sample Dates: 7/21/2014 - 7/28/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.34E-02 | 0.00E+00                 | 1.34E-02 |
|                   |                                     | Cs-134  | <1.34E-02 | 0.00E+00                 | 1.34E-02 |
|                   |                                     | Cs-137  | <1.67E-02 | 0.00E+00                 | 1.67E-02 |
|                   |                                     | Be-7    | <1.07E-01 | 0.00E+00                 | 1.07E-01 |
| Sample ID: 350939 | Sample Dates: 7/28/2014 - 8/4/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.71E-02 | 0.00E+00                 | 2.71E-02 |
|                   |                                     | Cs-134  | <1.83E-02 | 0.00E+00                 | 1.83E-02 |
|                   |                                     | Cs-137  | <1.28E-02 | 0.00E+00                 | 1.28E-02 |
|                   |                                     | Be-7    | <1.02E-01 | 0.00E+00                 | 1.02E-01 |
| Sample ID: 351185 | Sample Dates: 8/4/2014 - 8/11/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.57E-02 | 0.00E+00                 | 2.57E-02 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 084 [ INDICATOR - NNE @ 2.58 miles ]

|                   |                                      |         |           |                          |          |
|-------------------|--------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 351185 | Sample Dates: 8/4/2014 - 8/11/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | Cs-134  | <1.54E-02 | 0.00E+00                 | 1.54E-02 |
|                   |                                      | Cs-137  | <1.66E-02 | 0.00E+00                 | 1.66E-02 |
|                   |                                      | Be-7    | <1.05E-01 | 0.00E+00                 | 1.05E-01 |
|                   |                                      | K-40    | 4.31E-01  | 2.91E-01                 | 3.73E-01 |
| Sample ID: 351624 | Sample Dates: 8/11/2014 - 8/18/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | I-131   | <2.39E-02 | 0.00E+00                 | 2.39E-02 |
|                   |                                      | Cs-134  | <2.48E-02 | 0.00E+00                 | 2.48E-02 |
|                   |                                      | Cs-137  | <1.60E-02 | 0.00E+00                 | 1.60E-02 |
|                   |                                      | Be-7    | <1.30E-01 | 0.00E+00                 | 1.30E-01 |
| Sample ID: 353435 | Sample Dates: 8/18/2014 - 8/25/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | I-131   | <2.69E-02 | 0.00E+00                 | 2.69E-02 |
|                   |                                      | Cs-134  | <5.87E-03 | 0.00E+00                 | 5.87E-03 |
|                   |                                      | Cs-137  | <4.90E-03 | 0.00E+00                 | 4.90E-03 |
|                   |                                      | Be-7    | <1.38E-01 | 0.00E+00                 | 1.38E-01 |
| Sample ID: 354075 | Sample Dates: 8/25/2014 - 9/2/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | I-131   | <2.04E-02 | 0.00E+00                 | 2.04E-02 |
|                   |                                      | Cs-134  | <1.35E-02 | 0.00E+00                 | 1.35E-02 |
|                   |                                      | Cs-137  | <1.65E-02 | 0.00E+00                 | 1.65E-02 |
|                   |                                      | Be-7    | <1.17E-01 | 0.00E+00                 | 1.17E-01 |
| Sample ID: 354454 | Sample Dates: 9/2/2014 - 9/8/2014    | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | I-131   | <2.01E-02 | 0.00E+00                 | 2.01E-02 |
|                   |                                      | Cs-134  | <2.30E-02 | 0.00E+00                 | 2.30E-02 |
|                   |                                      | Cs-137  | <1.52E-02 | 0.00E+00                 | 1.52E-02 |
|                   |                                      | Be-7    | <1.71E-01 | 0.00E+00                 | 1.71E-01 |
| Sample ID: 354770 | Sample Dates: 9/8/2014 - 9/15/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | I-131   | <1.24E-02 | 0.00E+00                 | 1.24E-02 |
|                   |                                      | Cs-134  | <1.53E-02 | 0.00E+00                 | 1.53E-02 |
|                   |                                      | Cs-137  | <3.67E-03 | 0.00E+00                 | 3.67E-03 |
|                   |                                      | Be-7    | <7.77E-02 | 0.00E+00                 | 7.77E-02 |
| Sample ID: 355182 | Sample Dates: 9/15/2014 - 9/22/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | I-131   | <2.48E-02 | 0.00E+00                 | 2.48E-02 |
|                   |                                      | Cs-134  | <1.54E-02 | 0.00E+00                 | 1.54E-02 |
|                   |                                      | Cs-137  | <1.93E-02 | 0.00E+00                 | 1.93E-02 |
|                   |                                      | Be-7    | <1.35E-01 | 0.00E+00                 | 1.35E-01 |
| Sample ID: 355648 | Sample Dates: 9/22/2014 - 9/29/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | I-131   | <2.28E-02 | 0.00E+00                 | 2.28E-02 |
|                   |                                      | Cs-134  | <1.03E-02 | 0.00E+00                 | 1.03E-02 |
|                   |                                      | Cs-137  | <1.29E-02 | 0.00E+00                 | 1.29E-02 |
|                   |                                      | Be-7    | <1.32E-01 | 0.00E+00                 | 1.32E-01 |
| Sample ID: 356515 | Sample Dates: 9/29/2014 - 10/6/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | I-131   | <2.26E-02 | 0.00E+00                 | 2.26E-02 |
|                   |                                      | Cs-134  | <2.00E-02 | 0.00E+00                 | 2.00E-02 |
|                   |                                      | Cs-137  | <1.64E-02 | 0.00E+00                 | 1.64E-02 |
|                   |                                      | Be-7    | <1.05E-01 | 0.00E+00                 | 1.05E-01 |
| Sample ID: 357057 | Sample Dates: 10/6/2014 - 10/13/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | I-131   | <2.32E-02 | 0.00E+00                 | 2.32E-02 |
|                   |                                      | Cs-134  | <1.48E-02 | 0.00E+00                 | 1.48E-02 |
|                   |                                      | Cs-137  | <2.06E-02 | 0.00E+00                 | 2.06E-02 |
|                   |                                      | Be-7    | <1.54E-01 | 0.00E+00                 | 1.54E-01 |
|                   |                                      | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | K-40    | <5.26E-01 | 0.00E+00                 | 5.26E-01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 084 [ INDICATOR - NNE @ 2.58 miles ]

|                   |                                       |         |           |                          |          |
|-------------------|---------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 358056 | Sample Dates: 10/13/2014 - 10/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.03E-02 | 0.00E+00                 | 2.03E-02 |
|                   |                                       | Cs-134  | <2.05E-02 | 0.00E+00                 | 2.05E-02 |
|                   |                                       | Cs-137  | <1.33E-02 | 0.00E+00                 | 1.33E-02 |
|                   |                                       | Be-7    | <1.24E-01 | 0.00E+00                 | 1.24E-01 |
|                   |                                       | K-40    | 4.48E-01  | 3.01E-01                 | 3.87E-01 |
| Sample ID: 358664 | Sample Dates: 10/20/2014 - 10/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.41E-02 | 0.00E+00                 | 1.41E-02 |
|                   |                                       | Cs-134  | <1.03E-02 | 0.00E+00                 | 1.03E-02 |
|                   |                                       | Cs-137  | <2.29E-02 | 0.00E+00                 | 2.29E-02 |
|                   |                                       | Be-7    | <1.65E-01 | 0.00E+00                 | 1.65E-01 |
|                   |                                       | K-40    | <5.56E-01 | 0.00E+00                 | 5.56E-01 |
| Sample ID: 359309 | Sample Dates: 10/27/2014 - 11/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.84E-02 | 0.00E+00                 | 1.84E-02 |
|                   |                                       | Cs-134  | <1.71E-02 | 0.00E+00                 | 1.71E-02 |
|                   |                                       | Cs-137  | <1.31E-02 | 0.00E+00                 | 1.31E-02 |
|                   |                                       | Be-7    | <1.46E-01 | 0.00E+00                 | 1.46E-01 |
|                   |                                       | K-40    | 3.29E-01  | 2.34E-01                 | 2.78E-01 |
| Sample ID: 360038 | Sample Dates: 11/3/2014 - 11/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.27E-02 | 0.00E+00                 | 2.27E-02 |
|                   |                                       | Cs-134  | <1.01E-02 | 0.00E+00                 | 1.01E-02 |
|                   |                                       | Cs-137  | <1.00E-02 | 0.00E+00                 | 1.00E-02 |
|                   |                                       | Be-7    | <8.00E-02 | 0.00E+00                 | 8.00E-02 |
|                   |                                       | K-40    | 5.51E-01  | 2.34E-01                 | 6.49E-02 |
| Sample ID: 360720 | Sample Dates: 11/10/2014 - 11/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.56E-02 | 0.00E+00                 | 1.56E-02 |
|                   |                                       | Cs-134  | <1.87E-02 | 0.00E+00                 | 1.87E-02 |
|                   |                                       | Cs-137  | <1.65E-02 | 0.00E+00                 | 1.65E-02 |
|                   |                                       | Be-7    | <1.35E-01 | 0.00E+00                 | 1.35E-01 |
|                   |                                       | K-40    | 5.92E-01  | 3.25E-01                 | 3.76E-01 |
| Sample ID: 361582 | Sample Dates: 11/17/2014 - 11/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.84E-02 | 0.00E+00                 | 1.84E-02 |
|                   |                                       | Cs-134  | <1.70E-02 | 0.00E+00                 | 1.70E-02 |
|                   |                                       | Cs-137  | <2.13E-02 | 0.00E+00                 | 2.13E-02 |
|                   |                                       | Be-7    | <1.67E-01 | 0.00E+00                 | 1.67E-01 |
|                   |                                       | K-40    | 2.68E-01  | 1.80E-01                 | 8.08E-02 |
| Sample ID: 361961 | Sample Dates: 11/24/2014 - 12/1/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.98E-02 | 0.00E+00                 | 2.98E-02 |
|                   |                                       | Cs-134  | <1.33E-02 | 0.00E+00                 | 1.33E-02 |
|                   |                                       | Cs-137  | <1.28E-02 | 0.00E+00                 | 1.28E-02 |
|                   |                                       | Be-7    | <8.65E-02 | 0.00E+00                 | 8.65E-02 |
|                   |                                       | K-40    | 4.37E-01  | 2.09E-01                 | 6.58E-02 |
| Sample ID: 362791 | Sample Dates: 12/1/2014 - 12/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.87E-02 | 0.00E+00                 | 2.87E-02 |
|                   |                                       | Cs-134  | <1.47E-02 | 0.00E+00                 | 1.47E-02 |
|                   |                                       | Cs-137  | <1.84E-02 | 0.00E+00                 | 1.84E-02 |
|                   |                                       | Be-7    | <1.56E-01 | 0.00E+00                 | 1.56E-01 |
|                   |                                       | K-40    | <5.95E-01 | 0.00E+00                 | 5.95E-01 |
| Sample ID: 363531 | Sample Dates: 12/8/2014 - 12/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <8.52E-03 | 0.00E+00                 | 8.52E-03 |
|                   |                                       | Cs-134  | <8.43E-03 | 0.00E+00                 | 8.43E-03 |
|                   |                                       | Cs-137  | <1.39E-02 | 0.00E+00                 | 1.39E-02 |
|                   |                                       | Be-7    | <8.38E-02 | 0.00E+00                 | 8.38E-02 |
|                   |                                       | K-40    | 5.07E-01  | 2.17E-01                 | 2.45E-01 |
| Sample ID: 363978 | Sample Dates: 12/15/2014 - 12/22/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.63E-02 | 0.00E+00                 | 1.63E-02 |
|                   |                                       | Cs-134  | <1.53E-02 | 0.00E+00                 | 1.53E-02 |
|                   |                                       | Cs-137  | <1.31E-02 | 0.00E+00                 | 1.31E-02 |
|                   |                                       | Be-7    | <8.54E-02 | 0.00E+00                 | 8.54E-02 |
|                   |                                       | K-40    | 5.80E-01  | 2.08E-01                 | 4.76E-02 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 084 [ INDICATOR - NNE @ 2.58 miles ]

| Sample ID: | Sample Dates:           | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|-------------------------|---------|-----------|--------------------------|----------|
| 364520     | 12/22/2014 - 12/29/2014 | I-131   | <7.10E-03 | 0.00E+00                 | 7.10E-03 |
|            |                         | Cs-134  | <7.39E-03 | 0.00E+00                 | 7.39E-03 |
|            |                         | Cs-137  | <8.68E-03 | 0.00E+00                 | 8.68E-03 |
|            |                         | Be-7    | <5.71E-02 | 0.00E+00                 | 5.71E-02 |
|            |                         | K-40    | 3.82E-01  | 1.34E-01                 | 1.44E-01 |

Sample Point 085 [ INDICATOR - NNW @ 0.88 miles ]

| Sample ID: | Sample Dates:         | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 280658     | 12/30/2013 - 1/6/2014 | I-131   | <2.48E-02 | 0.00E+00                 | 2.48E-02 |
|            |                       | Cs-134  | <1.58E-02 | 0.00E+00                 | 1.58E-02 |
|            |                       | Cs-137  | <1.44E-02 | 0.00E+00                 | 1.44E-02 |
|            |                       | Be-7    | <1.29E-01 | 0.00E+00                 | 1.29E-01 |
|            |                       | K-40    | 3.67E-01  | 1.02E-01                 | 2.68E-01 |

| Sample ID: | Sample Dates:        | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 280831     | 1/6/2014 - 1/13/2014 | I-131   | <2.24E-02 | 0.00E+00                 | 2.24E-02 |
|            |                      | Cs-134  | <8.86E-03 | 0.00E+00                 | 8.86E-03 |
|            |                      | Cs-137  | <2.12E-02 | 0.00E+00                 | 2.12E-02 |
|            |                      | Be-7    | <1.45E-01 | 0.00E+00                 | 1.45E-01 |
|            |                      | K-40    | 4.16E-01  | 1.42E-01                 | 4.34E-01 |

| Sample ID: | Sample Dates:         | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 281190     | 1/13/2014 - 1/20/2014 | I-131   | <1.78E-02 | 0.00E+00                 | 1.78E-02 |
|            |                       | Cs-134  | <1.25E-02 | 0.00E+00                 | 1.25E-02 |
|            |                       | Cs-137  | <8.98E-03 | 0.00E+00                 | 8.98E-03 |
|            |                       | Be-7    | <7.33E-02 | 0.00E+00                 | 7.33E-02 |
|            |                       | K-40    | 4.62E-01  | 1.23E-01                 | 6.40E-02 |

| Sample ID: | Sample Dates:         | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 281511     | 1/20/2014 - 1/27/2014 | I-131   | <1.08E-02 | 0.00E+00                 | 1.08E-02 |
|            |                       | Cs-134  | <7.45E-03 | 0.00E+00                 | 7.45E-03 |
|            |                       | Cs-137  | <1.17E-02 | 0.00E+00                 | 1.17E-02 |
|            |                       | Be-7    | <6.62E-02 | 0.00E+00                 | 6.62E-02 |
|            |                       | K-40    | 4.77E-01  | 7.54E-02                 | 8.67E-02 |

| Sample ID: | Sample Dates:        | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 282134     | 1/27/2014 - 2/3/2014 | I-131   | <2.43E-02 | 0.00E+00                 | 2.43E-02 |
|            |                      | Cs-134  | <1.62E-02 | 0.00E+00                 | 1.62E-02 |
|            |                      | Cs-137  | <1.55E-02 | 0.00E+00                 | 1.55E-02 |
|            |                      | Be-7    | <1.58E-01 | 0.00E+00                 | 1.58E-01 |
|            |                      | K-40    | 3.65E-01  | 1.01E-01                 | 2.97E-01 |

| Sample ID: | Sample Dates:        | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 282946     | 2/3/2014 - 2/10/2014 | I-131   | <1.17E-02 | 0.00E+00                 | 1.17E-02 |
|            |                      | Cs-134  | <7.62E-03 | 0.00E+00                 | 7.62E-03 |
|            |                      | Cs-137  | <9.28E-03 | 0.00E+00                 | 9.28E-03 |
|            |                      | Be-7    | <6.36E-02 | 0.00E+00                 | 6.36E-02 |
|            |                      | K-40    | 5.34E-01  | 8.05E-02                 | 1.47E-01 |

| Sample ID: | Sample Dates:         | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 283393     | 2/10/2014 - 2/17/2014 | I-131   | <1.38E-02 | 0.00E+00                 | 1.38E-02 |
|            |                       | Cs-134  | <1.01E-02 | 0.00E+00                 | 1.01E-02 |
|            |                       | Cs-137  | <1.48E-02 | 0.00E+00                 | 1.48E-02 |
|            |                       | Be-7    | <7.06E-02 | 0.00E+00                 | 7.06E-02 |
|            |                       | K-40    | 4.07E-01  | 9.34E-02                 | 5.79E-02 |

| Sample ID: | Sample Dates:         | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 284560     | 2/17/2014 - 2/24/2014 | I-131   | <1.45E-02 | 0.00E+00                 | 1.45E-02 |
|            |                       | Cs-134  | <6.60E-03 | 0.00E+00                 | 6.60E-03 |
|            |                       | Cs-137  | <1.25E-02 | 0.00E+00                 | 1.25E-02 |
|            |                       | Be-7    | <9.54E-02 | 0.00E+00                 | 9.54E-02 |
|            |                       | K-40    | <4.21E-01 | 0.00E+00                 | 4.21E-01 |

| Sample ID: | Sample Dates:        | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 285121     | 2/24/2014 - 3/3/2014 | I-131   | <1.90E-02 | 0.00E+00                 | 1.90E-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    | <1.34E-01 | 0.00E+00                 | 1.34E-01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 085 [ INDICATOR - NNW @ 0.88 miles ]

|                   |                                     |  |   |  |   |
|-------------------|-------------------------------------|--|---|--|---|
| Sample ID: 285121 | Sample Dates: 2/24/2014 - 3/3/2014  | Nuclide<br>K-40                                      | Activity<br>4.51E-01  | Sigma Error <sup>1</sup><br>1.13E-01   | LLD<br>7.62E-02   |
| Sample ID: 285726 | Sample Dates: 3/3/2014 - 3/10/2014  | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><1.03E-02<br><1.16E-02<br><9.45E-03<br><9.01E-02<br>2.83E-01  | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>1.16E-01 | LLD<br>1.03E-02<br>1.16E-02<br>9.45E-03<br>9.01E-02<br>1.70E-01 |
| Sample ID: 286230 | Sample Dates: 3/10/2014 - 3/17/2014 | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><1.77E-02<br><1.40E-02<br><2.11E-02<br><1.31E-01<br><6.60E-01 | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00 | LLD<br>1.77E-02<br>1.40E-02<br>2.11E-02<br>1.31E-01<br>6.60E-01 |
| Sample ID: 287115 | Sample Dates: 3/17/2014 - 3/24/2014 | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><2.26E-02<br><1.79E-02<br><2.34E-02<br><1.99E-01<br>5.48E-01  | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>1.55E-01 | LLD<br>2.26E-02<br>1.79E-02<br>2.34E-02<br>1.99E-01<br>2.59E-01 |
| Sample ID: 288366 | Sample Dates: 3/24/2014 - 3/31/2014 | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><1.56E-02<br><1.28E-02<br><3.53E-03<br><7.46E-02<br><4.57E-01 | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00 | LLD<br>1.56E-02<br>1.28E-02<br>3.53E-03<br>7.46E-02<br>4.57E-01 |
| Sample ID: 289090 | Sample Dates: 3/31/2014 - 4/7/2014  | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><2.72E-02<br><2.30E-02<br><2.39E-02<br><1.40E-01<br>4.12E-01  | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>1.10E-01 | LLD<br>2.72E-02<br>2.30E-02<br>2.39E-02<br>1.40E-01<br>3.26E-01 |
| Sample ID: 289476 | Sample Dates: 4/7/2014 - 4/14/2014  | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><6.93E-03<br><8.84E-03<br><1.41E-02<br><7.25E-02<br>5.66E-01  | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>8.84E-02 | LLD<br>6.93E-03<br>8.84E-03<br>1.41E-02<br>7.25E-02<br>1.21E-01 |
| Sample ID: 289886 | Sample Dates: 4/14/2014 - 4/21/2014 | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><9.28E-03<br><1.34E-02<br><1.64E-02<br><1.09E-01<br>4.13E-01  | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>9.49E-02 | LLD<br>9.28E-03<br>1.34E-02<br>1.64E-02<br>1.09E-01<br>5.88E-02 |
| Sample ID: 291491 | Sample Dates: 4/21/2014 - 4/28/2014 | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><2.83E-02<br><1.73E-02<br><1.53E-02<br><1.56E-01<br>5.09E-01  | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>1.20E-01 | LLD<br>2.83E-02<br>1.73E-02<br>1.53E-02<br>1.56E-01<br>3.12E-01 |
| Sample ID: 292785 | Sample Dates: 4/28/2014 - 5/5/2014  | Nuclide<br>I-131<br>Cs-134<br>Cs-137<br>Be-7<br>K-40 | Activity<br><1.09E-02<br><1.30E-02<br><1.34E-02<br><7.21E-02<br>5.06E-01  | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00<br>0.00E+00<br>8.44E-02 | LLD<br>1.09E-02<br>1.30E-02<br>1.34E-02<br>7.21E-02<br>1.59E-01 |
| Sample ID: 293047 | Sample Dates: 5/5/2014 - 5/12/2014  | Nuclide<br>I-131<br>Cs-134<br>Cs-137                 | Activity<br><1.48E-02<br><1.05E-02<br><1.15E-02                           | Sigma Error <sup>1</sup><br>0.00E+00<br>0.00E+00<br>0.00E+00                         | LLD<br>1.48E-02<br>1.05E-02<br>1.15E-02                         |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 085 [ INDICATOR - NNW @ 0.88 miles ]

|                   |                                     |         |           |                          |          |
|-------------------|-------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 293047 | Sample Dates: 5/5/2014 - 5/12/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Be-7    | <7.88E-02 | 0.00E+00                 | 7.88E-02 |
|                   |                                     | K-40    | 3.83E-01  | 8.76E-02                 | 1.18E-01 |
| Sample ID: 294678 | Sample Dates: 5/12/2014 - 5/19/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.06E-02 | 0.00E+00                 | 2.06E-02 |
|                   |                                     | Cs-134  | <1.90E-02 | 0.00E+00                 | 1.90E-02 |
|                   |                                     | Cs-137  | <1.90E-02 | 0.00E+00                 | 1.90E-02 |
|                   |                                     | Be-7    | <2.01E-01 | 0.00E+00                 | 2.01E-01 |
|                   |                                     | K-40    | 5.79E-01  | 1.30E-01                 | 2.70E-01 |
| Sample ID: 295187 | Sample Dates: 5/19/2014 - 5/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <4.19E-02 | 0.00E+00                 | 4.19E-02 |
|                   |                                     | Cs-134  | <1.55E-02 | 0.00E+00                 | 1.55E-02 |
|                   |                                     | Cs-137  | <2.02E-02 | 0.00E+00                 | 2.02E-02 |
|                   |                                     | Be-7    | <1.52E-01 | 0.00E+00                 | 1.52E-01 |
|                   |                                     | K-40    | 3.84E-01  | 1.18E-01                 | 2.87E-01 |
| Sample ID: 295448 | Sample Dates: 5/27/2014 - 6/2/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <3.22E-02 | 0.00E+00                 | 3.22E-02 |
|                   |                                     | Cs-134  | <1.74E-02 | 0.00E+00                 | 1.74E-02 |
|                   |                                     | Cs-137  | <2.65E-02 | 0.00E+00                 | 2.65E-02 |
|                   |                                     | Be-7    | <1.96E-01 | 0.00E+00                 | 1.96E-01 |
|                   |                                     | K-40    | <6.67E-01 | 0.00E+00                 | 6.67E-01 |
| Sample ID: 295963 | Sample Dates: 6/2/2014 - 6/9/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.07E-02 | 0.00E+00                 | 2.07E-02 |
|                   |                                     | Cs-134  | <1.22E-02 | 0.00E+00                 | 1.22E-02 |
|                   |                                     | Cs-137  | <2.03E-02 | 0.00E+00                 | 2.03E-02 |
|                   |                                     | Be-7    | <1.59E-01 | 0.00E+00                 | 1.59E-01 |
|                   |                                     | K-40    | 3.40E-01  | 9.80E-02                 | 2.11E-01 |
| Sample ID: 296208 | Sample Dates: 6/9/2014 - 6/16/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.16E-02 | 0.00E+00                 | 1.16E-02 |
|                   |                                     | Cs-134  | <9.46E-03 | 0.00E+00                 | 9.46E-03 |
|                   |                                     | Cs-137  | <1.58E-02 | 0.00E+00                 | 1.58E-02 |
|                   |                                     | Be-7    | <7.62E-02 | 0.00E+00                 | 7.62E-02 |
|                   |                                     | K-40    | 4.04E-01  | 7.51E-02                 | 1.25E-01 |
| Sample ID: 296729 | Sample Dates: 6/16/2014 - 6/23/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.92E-02 | 0.00E+00                 | 2.92E-02 |
|                   |                                     | Cs-134  | <1.55E-02 | 0.00E+00                 | 1.55E-02 |
|                   |                                     | Cs-137  | <1.51E-02 | 0.00E+00                 | 1.51E-02 |
|                   |                                     | Be-7    | <1.44E-01 | 0.00E+00                 | 1.44E-01 |
|                   |                                     | K-40    | 4.75E-01  | 1.15E-01                 | 3.29E-01 |
| Sample ID: 296956 | Sample Dates: 6/23/2014 - 6/30/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.94E-02 | 0.00E+00                 | 1.94E-02 |
|                   |                                     | Cs-134  | <1.58E-02 | 0.00E+00                 | 1.58E-02 |
|                   |                                     | Cs-137  | <1.37E-02 | 0.00E+00                 | 1.37E-02 |
|                   |                                     | Be-7    | <8.32E-02 | 0.00E+00                 | 8.32E-02 |
|                   |                                     | K-40    | 6.61E-01  | 1.45E-01                 | 2.03E-01 |
| Sample ID: 297353 | Sample Dates: 6/30/2014 - 7/7/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.61E-02 | 0.00E+00                 | 1.61E-02 |
|                   |                                     | Cs-134  | <1.15E-02 | 0.00E+00                 | 1.15E-02 |
|                   |                                     | Cs-137  | <1.59E-02 | 0.00E+00                 | 1.59E-02 |
|                   |                                     | Be-7    | <1.01E-01 | 0.00E+00                 | 1.01E-01 |
|                   |                                     | K-40    | 3.30E-01  | 1.05E-01                 | 1.76E-01 |
| Sample ID: 297641 | Sample Dates: 7/7/2014 - 7/14/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.85E-02 | 0.00E+00                 | 1.85E-02 |
|                   |                                     | Cs-134  | <6.49E-03 | 0.00E+00                 | 6.49E-03 |
|                   |                                     | Cs-137  | <1.44E-02 | 0.00E+00                 | 1.44E-02 |
|                   |                                     | Be-7    | <7.45E-02 | 0.00E+00                 | 7.45E-02 |
|                   |                                     | K-40    | <3.80E-01 | 0.00E+00                 | 3.80E-01 |
| Sample ID: 298177 | Sample Dates: 7/14/2014 - 7/21/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <4.54E-02 | 0.00E+00                 | 4.54E-02 |
|                   |                                     | Cs-134  | <1.67E-02 | 0.00E+00                 | 1.67E-02 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 085 [ INDICATOR - NNW @ 0.88 miles ]

|                   |                                     |         |           |                          |          |
|-------------------|-------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 298177 | Sample Dates: 7/14/2014 - 7/21/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Cs-137  | <1.60E-02 | 0.00E+00                 | 1.60E-02 |
|                   |                                     | Be-7    | <1.29E-01 | 0.00E+00                 | 1.29E-01 |
|                   |                                     | K-40    | 5.66E-01  | 2.84E-01                 | 2.64E-01 |
| Sample ID: 350199 | Sample Dates: 7/21/2014 - 7/28/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.95E-02 | 0.00E+00                 | 1.95E-02 |
|                   |                                     | Cs-134  | <1.06E-02 | 0.00E+00                 | 1.06E-02 |
|                   |                                     | Cs-137  | <1.93E-02 | 0.00E+00                 | 1.93E-02 |
|                   |                                     | Be-7    | <1.83E-01 | 0.00E+00                 | 1.83E-01 |
| Sample ID: 350940 | Sample Dates: 7/28/2014 - 8/4/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.20E-02 | 0.00E+00                 | 2.20E-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 |
| Sample ID: 351186 | Sample Dates: 8/4/2014 - 8/11/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.24E-02 | 0.00E+00                 | 2.24E-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    | <1.36E-01 | 0.00E+00                 | 1.36E-01 |
| Sample ID: 351625 | Sample Dates: 8/11/2014 - 8/18/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.26E-02 | 0.00E+00                 | 2.26E-02 |
|                   |                                     | Cs-134  | <2.22E-02 | 0.00E+00                 | 2.22E-02 |
|                   |                                     | Cs-137  | <1.27E-02 | 0.00E+00                 | 1.27E-02 |
|                   |                                     | Be-7    | <1.16E-01 | 0.00E+00                 | 1.16E-01 |
| Sample ID: 353436 | Sample Dates: 8/18/2014 - 8/25/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.68E-02 | 0.00E+00                 | 2.68E-02 |
|                   |                                     | Cs-134  | <1.59E-02 | 0.00E+00                 | 1.59E-02 |
|                   |                                     | Cs-137  | <2.36E-02 | 0.00E+00                 | 2.36E-02 |
|                   |                                     | Be-7    | <1.06E-01 | 0.00E+00                 | 1.06E-01 |
| Sample ID: 354077 | Sample Dates: 8/25/2014 - 9/2/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.04E-02 | 0.00E+00                 | 2.04E-02 |
|                   |                                     | Cs-134  | <2.20E-02 | 0.00E+00                 | 2.20E-02 |
|                   |                                     | Cs-137  | <4.15E-03 | 0.00E+00                 | 4.15E-03 |
|                   |                                     | Be-7    | <1.17E-01 | 0.00E+00                 | 1.17E-01 |
| Sample ID: 354455 | Sample Dates: 9/2/2014 - 9/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.79E-02 | 0.00E+00                 | 2.79E-02 |
|                   |                                     | Cs-134  | <2.67E-02 | 0.00E+00                 | 2.67E-02 |
|                   |                                     | Cs-137  | <5.61E-03 | 0.00E+00                 | 5.61E-03 |
|                   |                                     | Be-7    | <1.21E-01 | 0.00E+00                 | 1.21E-01 |
| Sample ID: 354771 | Sample Dates: 9/8/2014 - 9/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <1.95E-02 | 0.00E+00                 | 1.95E-02 |
|                   |                                     | Cs-134  | <2.22E-02 | 0.00E+00                 | 2.22E-02 |
|                   |                                     | Cs-137  | <2.01E-02 | 0.00E+00                 | 2.01E-02 |
|                   |                                     | Be-7    | <1.02E-01 | 0.00E+00                 | 1.02E-01 |
| Sample ID: 355184 | Sample Dates: 9/15/2014 - 9/22/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.20E-02 | 0.00E+00                 | 2.20E-02 |
|                   |                                     | Cs-134  | <1.88E-02 | 0.00E+00                 | 1.88E-02 |
|                   |                                     | Cs-137  | <4.84E-03 | 0.00E+00                 | 4.84E-03 |
|                   |                                     | Be-7    | <3.04E-02 | 0.00E+00                 | 3.04E-02 |
| Sample ID: 355649 | Sample Dates: 9/22/2014 - 9/29/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | I-131   | <2.28E-02 | 0.00E+00                 | 2.28E-02 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 085 [ INDICATOR - NNW @ 0.88 miles ]

|                   |                                       |         |           |                          |          |
|-------------------|---------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 355649 | Sample Dates: 9/22/2014 - 9/29/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Cs-134  | <1.98E-02 | 0.00E+00                 | 1.98E-02 |
|                   |                                       | Cs-137  | <1.89E-02 | 0.00E+00                 | 1.89E-02 |
|                   |                                       | Be-7    | <1.32E-01 | 0.00E+00                 | 1.32E-01 |
|                   |                                       | K-40    | 5.23E-01  | 3.33E-01                 | 4.38E-01 |
| Sample ID: 356518 | Sample Dates: 9/29/2014 - 10/6/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.84E-02 | 0.00E+00                 | 2.84E-02 |
|                   |                                       | Cs-134  | <1.03E-02 | 0.00E+00                 | 1.03E-02 |
|                   |                                       | Cs-137  | <1.63E-02 | 0.00E+00                 | 1.63E-02 |
|                   |                                       | Be-7    | <1.04E-01 | 0.00E+00                 | 1.04E-01 |
| Sample ID: 357058 | Sample Dates: 10/6/2014 - 10/13/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.80E-02 | 0.00E+00                 | 1.80E-02 |
|                   |                                       | Cs-134  | <1.68E-02 | 0.00E+00                 | 1.68E-02 |
|                   |                                       | Cs-137  | <1.29E-02 | 0.00E+00                 | 1.29E-02 |
|                   |                                       | Be-7    | <1.67E-01 | 0.00E+00                 | 1.67E-01 |
| Sample ID: 358057 | Sample Dates: 10/13/2014 - 10/20/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.79E-02 | 0.00E+00                 | 2.79E-02 |
|                   |                                       | Cs-134  | <1.55E-02 | 0.00E+00                 | 1.55E-02 |
|                   |                                       | Cs-137  | <1.93E-02 | 0.00E+00                 | 1.93E-02 |
|                   |                                       | Be-7    | <1.89E-01 | 0.00E+00                 | 1.89E-01 |
| Sample ID: 358665 | Sample Dates: 10/20/2014 - 10/27/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.99E-02 | 0.00E+00                 | 1.99E-02 |
|                   |                                       | Cs-134  | <1.98E-02 | 0.00E+00                 | 1.98E-02 |
|                   |                                       | Cs-137  | <1.62E-02 | 0.00E+00                 | 1.62E-02 |
|                   |                                       | Be-7    | <1.18E-01 | 0.00E+00                 | 1.18E-01 |
| Sample ID: 359311 | Sample Dates: 10/27/2014 - 11/3/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.15E-02 | 0.00E+00                 | 2.15E-02 |
|                   |                                       | Cs-134  | <3.84E-03 | 0.00E+00                 | 3.84E-03 |
|                   |                                       | Cs-137  | <1.91E-02 | 0.00E+00                 | 1.91E-02 |
|                   |                                       | Be-7    | <1.33E-01 | 0.00E+00                 | 1.33E-01 |
| Sample ID: 360039 | Sample Dates: 11/3/2014 - 11/10/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.91E-02 | 0.00E+00                 | 1.91E-02 |
|                   |                                       | Cs-134  | <1.30E-02 | 0.00E+00                 | 1.30E-02 |
|                   |                                       | Cs-137  | <9.99E-03 | 0.00E+00                 | 9.99E-03 |
|                   |                                       | Be-7    | <7.97E-02 | 0.00E+00                 | 7.97E-02 |
| Sample ID: 360721 | Sample Dates: 11/10/2014 - 11/17/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.19E-02 | 0.00E+00                 | 2.19E-02 |
|                   |                                       | Cs-134  | <1.53E-02 | 0.00E+00                 | 1.53E-02 |
|                   |                                       | Cs-137  | <2.33E-02 | 0.00E+00                 | 2.33E-02 |
|                   |                                       | Be-7    | <1.36E-01 | 0.00E+00                 | 1.36E-01 |
| Sample ID: 361583 | Sample Dates: 11/17/2014 - 11/24/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.16E-02 | 0.00E+00                 | 2.16E-02 |
|                   |                                       | Cs-134  | <1.32E-02 | 0.00E+00                 | 1.32E-02 |
|                   |                                       | Cs-137  | <2.14E-02 | 0.00E+00                 | 2.14E-02 |
|                   |                                       | Be-7    | <1.46E-01 | 0.00E+00                 | 1.46E-01 |
| Sample ID: 361962 | Sample Dates: 11/24/2014 - 12/1/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.27E-02 | 0.00E+00                 | 2.27E-02 |
|                   |                                       | Cs-134  | <1.19E-02 | 0.00E+00                 | 1.19E-02 |
|                   |                                       | Cs-137  | <1.66E-02 | 0.00E+00                 | 1.66E-02 |
|                   |                                       | Be-7    | <1.12E-01 | 0.00E+00                 | 1.12E-01 |
|                   |                                       | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <2.27E-02 | 0.00E+00                 | 2.27E-02 |
|                   |                                       | Cs-134  | <1.19E-02 | 0.00E+00                 | 1.19E-02 |
|                   |                                       | Cs-137  | <1.66E-02 | 0.00E+00                 | 1.66E-02 |
|                   |                                       | Be-7    | <1.12E-01 | 0.00E+00                 | 1.12E-01 |

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





# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 085 [ INDICATOR - NNW @ 0.88 miles ]

|                   |                                       |         |           |                          |          |
|-------------------|---------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 362792 | Sample Dates: 12/1/2014 - 12/8/2014   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.16E-02 | 0.00E+00                 | 1.16E-02 |
|                   |                                       | Cs-134  | <9.55E-03 | 0.00E+00                 | 9.55E-03 |
|                   |                                       | Cs-137  | <1.10E-02 | 0.00E+00                 | 1.10E-02 |
|                   |                                       | Be-7    | <1.05E-01 | 0.00E+00                 | 1.05E-01 |
|                   |                                       | K-40    | 4.36E-01  | 1.73E-01                 | 1.43E-01 |
| Sample ID: 363532 | Sample Dates: 12/8/2014 - 12/15/2014  | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.19E-02 | 0.00E+00                 | 1.19E-02 |
|                   |                                       | Cs-134  | <9.20E-03 | 0.00E+00                 | 9.20E-03 |
|                   |                                       | Cs-137  | <1.14E-02 | 0.00E+00                 | 1.14E-02 |
|                   |                                       | Be-7    | 3.46E-02  | 3.86E-02                 | 5.89E-02 |
|                   |                                       | K-40    | 4.35E-01  | 1.92E-01                 | 2.05E-01 |
| Sample ID: 363979 | Sample Dates: 12/15/2014 - 12/22/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.63E-02 | 0.00E+00                 | 1.63E-02 |
|                   |                                       | Cs-134  | <1.54E-02 | 0.00E+00                 | 1.54E-02 |
|                   |                                       | Cs-137  | <1.64E-02 | 0.00E+00                 | 1.64E-02 |
|                   |                                       | Be-7    | 4.20E-02  | 4.15E-02                 | 5.65E-02 |
|                   |                                       | K-40    | 7.39E-01  | 2.36E-01                 | 4.77E-02 |
| Sample ID: 364521 | Sample Dates: 12/22/2014 - 12/29/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | I-131   | <1.17E-02 | 0.00E+00                 | 1.17E-02 |
|                   |                                       | Cs-134  | <7.42E-03 | 0.00E+00                 | 7.42E-03 |
|                   |                                       | Cs-137  | <1.49E-02 | 0.00E+00                 | 1.49E-02 |
|                   |                                       | Be-7    | <8.22E-02 | 0.00E+00                 | 8.22E-02 |
|                   |                                       | K-40    | 4.96E-01  | 1.89E-01                 | 1.63E-01 |

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

Sample Point 060 [ INDICATOR - NE @ 3.23 miles ]

|                   |                                    |          |           |                          |          |
|-------------------|------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 279017 | Sample Dates: 12/9/2013 - 1/6/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                    | Beta     | <2.78E-01 | 0.00E+00                 | 1.20E+00 |
|                   |                                    | Mn-54    | <2.39E+00 | 0.00E+00                 | 2.39E+00 |
|                   |                                    | Co-58    | <2.51E+00 | 0.00E+00                 | 2.51E+00 |
|                   |                                    | Fe-59    | <5.95E+00 | 0.00E+00                 | 5.95E+00 |
|                   |                                    | Co-60    | <3.30E+00 | 0.00E+00                 | 3.30E+00 |
|                   |                                    | Zn-65    | <5.51E+00 | 0.00E+00                 | 5.51E+00 |
|                   |                                    | Zr-95    | <4.66E+00 | 0.00E+00                 | 4.66E+00 |
|                   |                                    | Nb-95    | <4.04E+00 | 0.00E+00                 | 4.04E+00 |
|                   |                                    | I-131    | <1.44E+01 | 0.00E+00                 | 1.44E+01 |
|                   |                                    | Cs-134   | <2.28E+00 | 0.00E+00                 | 2.28E+00 |
|                   |                                    | Cs-137   | <2.68E+00 | 0.00E+00                 | 2.68E+00 |
|                   |                                    | BaLa-140 | <8.59E+00 | 0.00E+00                 | 8.59E+00 |
|                   |                                    | Be-7     | <2.80E+01 | 0.00E+00                 | 2.80E+01 |
|                   |                                    | K-40     | 9.55E+01  | 1.64E+01                 | 2.96E+01 |
| Sample ID: 280863 | Sample Dates: 1/6/2014 - 2/3/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                    | Beta     | 1.05E+00  | 3.70E-01                 | 1.18E+00 |
|                   |                                    | Mn-54    | <3.94E+00 | 0.00E+00                 | 3.94E+00 |
|                   |                                    | Co-58    | <4.28E+00 | 0.00E+00                 | 4.28E+00 |
|                   |                                    | Fe-59    | <6.58E+00 | 0.00E+00                 | 6.58E+00 |
|                   |                                    | Co-60    | <3.50E+00 | 0.00E+00                 | 3.50E+00 |
|                   |                                    | Zn-65    | <7.54E+00 | 0.00E+00                 | 7.54E+00 |
|                   |                                    | Zr-95    | <6.30E+00 | 0.00E+00                 | 6.30E+00 |
|                   |                                    | Nb-95    | <4.49E+00 | 0.00E+00                 | 4.49E+00 |
|                   |                                    | I-131    | <1.43E+01 | 0.00E+00                 | 1.43E+01 |
|                   |                                    | Cs-134   | <3.52E+00 | 0.00E+00                 | 3.52E+00 |
|                   |                                    | Cs-137   | <3.38E+00 | 0.00E+00                 | 3.38E+00 |
|                   |                                    | BaLa-140 | <7.70E+00 | 0.00E+00                 | 7.70E+00 |
|                   |                                    | Be-7     | <3.68E+01 | 0.00E+00                 | 3.68E+01 |
|                   |                                    | K-40     | 1.70E+02  | 2.52E+01                 | 3.33E+01 |
| Sample ID: 282978 | Sample Dates: 2/3/2014 - 3/3/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                    | Beta     | <4.58E-01 | 0.00E+00                 | 1.29E+00 |
|                   |                                    | Mn-54    | <3.37E+00 | 0.00E+00                 | 3.37E+00 |
|                   |                                    | Co-58    | <3.77E+00 | 0.00E+00                 | 3.77E+00 |
|                   |                                    | Fe-59    | <7.38E+00 | 0.00E+00                 | 7.38E+00 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 060 [ INDICATOR - NE @ 3.23 miles ]

|                   |                                     |          |           |                          |          |
|-------------------|-------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 282978 | Sample Dates: 2/3/2014 - 3/3/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Co-60    | <3.72E+00 | 0.00E+00                 | 3.72E+00 |
|                   |                                     | Zn-65    | <7.34E+00 | 0.00E+00                 | 7.34E+00 |
|                   |                                     | Zr-95    | <7.39E+00 | 0.00E+00                 | 7.39E+00 |
|                   |                                     | Nb-95    | <4.67E+00 | 0.00E+00                 | 4.67E+00 |
|                   |                                     | I-131    | <1.43E+01 | 0.00E+00                 | 1.43E+01 |
|                   |                                     | Cs-134   | <3.05E+00 | 0.00E+00                 | 3.05E+00 |
|                   |                                     | Cs-137   | <3.76E+00 | 0.00E+00                 | 3.76E+00 |
|                   |                                     | BaLa-140 | <9.06E+00 | 0.00E+00                 | 9.06E+00 |
|                   |                                     | Be-7     | <3.35E+01 | 0.00E+00                 | 3.35E+01 |
| Sample ID: 284706 | Sample Dates: 12/9/2013 - 3/3/2014  | K-40     | 1.36E+02  | 2.24E+01                 | 3.15E+01 |
|                   |                                     | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | H3DW     | <-2.4E+00 | 0.00E+00                 | 1.88E+02 |
| Sample ID: 285758 | Sample Dates: 3/3/2014 - 3/31/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Beta     | 1.62E+00  | 3.57E-01                 | 1.08E+00 |
|                   |                                     | Mn-54    | <2.62E+00 | 0.00E+00                 | 2.62E+00 |
|                   |                                     | Co-58    | <2.39E+00 | 0.00E+00                 | 2.39E+00 |
|                   |                                     | Fe-59    | <6.01E+00 | 0.00E+00                 | 6.01E+00 |
|                   |                                     | Co-60    | <3.23E+00 | 0.00E+00                 | 3.23E+00 |
|                   |                                     | Zn-65    | <5.09E+00 | 0.00E+00                 | 5.09E+00 |
|                   |                                     | Zr-95    | <3.95E+00 | 0.00E+00                 | 3.95E+00 |
|                   |                                     | Nb-95    | <3.16E+00 | 0.00E+00                 | 3.16E+00 |
|                   |                                     | I-131    | <8.80E+00 | 0.00E+00                 | 8.80E+00 |
|                   |                                     | Cs-134   | <2.29E+00 | 0.00E+00                 | 2.29E+00 |
|                   |                                     | Cs-137   | <2.80E+00 | 0.00E+00                 | 2.80E+00 |
|                   |                                     | BaLa-140 | <5.95E+00 | 0.00E+00                 | 5.95E+00 |
|                   |                                     | Be-7     | <2.52E+01 | 0.00E+00                 | 2.52E+01 |
|                   |                                     | K-40     | 1.01E+02  | 1.54E+01                 | 2.28E+01 |
| Sample ID: 289122 | Sample Dates: 3/31/2014 - 4/28/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Beta     | 1.36E+00  | 3.97E-01                 | 1.27E+00 |
|                   |                                     | Mn-54    | <2.91E+00 | 0.00E+00                 | 2.91E+00 |
|                   |                                     | Co-58    | <3.70E+00 | 0.00E+00                 | 3.70E+00 |
|                   |                                     | Fe-59    | <5.91E+00 | 0.00E+00                 | 5.91E+00 |
|                   |                                     | Co-60    | <3.13E+00 | 0.00E+00                 | 3.13E+00 |
|                   |                                     | Zn-65    | <6.37E+00 | 0.00E+00                 | 6.37E+00 |
|                   |                                     | Zr-95    | <6.07E+00 | 0.00E+00                 | 6.07E+00 |
|                   |                                     | Nb-95    | <3.80E+00 | 0.00E+00                 | 3.80E+00 |
|                   |                                     | I-131    | <1.21E+01 | 0.00E+00                 | 1.21E+01 |
|                   |                                     | Cs-134   | <3.06E+00 | 0.00E+00                 | 3.06E+00 |
|                   |                                     | Cs-137   | <3.44E+00 | 0.00E+00                 | 3.44E+00 |
|                   |                                     | BaLa-140 | <8.30E+00 | 0.00E+00                 | 8.30E+00 |
|                   |                                     | Be-7     | <2.71E+01 | 0.00E+00                 | 2.71E+01 |
|                   |                                     | K-40     | 1.74E+02  | 1.97E+01                 | 2.83E+01 |
| Sample ID: 292817 | Sample Dates: 4/28/2014 - 5/27/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Beta     | <5.96E-01 | 0.00E+00                 | 1.34E+00 |
|                   |                                     | Mn-54    | <3.15E+00 | 0.00E+00                 | 3.15E+00 |
|                   |                                     | Co-58    | <3.78E+00 | 0.00E+00                 | 3.78E+00 |
|                   |                                     | Fe-59    | <6.64E+00 | 0.00E+00                 | 6.64E+00 |
|                   |                                     | Co-60    | <3.44E+00 | 0.00E+00                 | 3.44E+00 |
|                   |                                     | Zn-65    | <6.13E+00 | 0.00E+00                 | 6.13E+00 |
|                   |                                     | Zr-95    | <5.36E+00 | 0.00E+00                 | 5.36E+00 |
|                   |                                     | Nb-95    | <3.85E+00 | 0.00E+00                 | 3.85E+00 |
|                   |                                     | I-131    | <1.24E+01 | 0.00E+00                 | 1.24E+01 |
|                   |                                     | Cs-134   | <2.86E+00 | 0.00E+00                 | 2.86E+00 |
|                   |                                     | Cs-137   | <2.96E+00 | 0.00E+00                 | 2.96E+00 |
|                   |                                     | BaLa-140 | <1.02E+01 | 0.00E+00                 | 1.02E+01 |
|                   |                                     | Be-7     | <2.82E+01 | 0.00E+00                 | 2.82E+01 |
|                   |                                     | K-40     | 3.09E+01  | 1.11E+01                 | 3.18E+01 |
| Sample ID: 295224 | Sample Dates: 3/3/2014 - 5/27/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | H3DW     | <-4.1E+01 | 0.00E+00                 | 1.88E+02 |
| Sample ID: 295480 | Sample Dates: 5/27/2014 - 6/23/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Beta     | 7.19E-01  | 3.67E-01                 | 1.19E+00 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 060 [ INDICATOR - NE @ 3.23 miles ]

|                   |                                      |          |           |                          |          |
|-------------------|--------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 295480 | Sample Dates: 5/27/2014 - 6/23/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | Mn-54    | <3.63E+00 | 0.00E+00                 | 3.63E+00 |
|                   |                                      | Co-58    | <4.05E+00 | 0.00E+00                 | 4.05E+00 |
|                   |                                      | Fe-59    | <8.42E+00 | 0.00E+00                 | 8.42E+00 |
|                   |                                      | Co-60    | <4.52E+00 | 0.00E+00                 | 4.52E+00 |
|                   |                                      | Zn-65    | <6.30E+00 | 0.00E+00                 | 6.30E+00 |
|                   |                                      | Zr-95    | <5.03E+00 | 0.00E+00                 | 5.03E+00 |
|                   |                                      | Nb-95    | <4.61E+00 | 0.00E+00                 | 4.61E+00 |
|                   |                                      | I-131    | <1.44E+01 | 0.00E+00                 | 1.44E+01 |
|                   |                                      | Cs-134   | <3.38E+00 | 0.00E+00                 | 3.38E+00 |
|                   |                                      | Cs-137   | <4.67E+00 | 0.00E+00                 | 4.67E+00 |
|                   |                                      | BaLa-140 | <7.83E+00 | 0.00E+00                 | 7.83E+00 |
|                   |                                      | Be-7     | <3.50E+01 | 0.00E+00                 | 3.50E+01 |
|                   |                                      | K-40     | 9.62E+01  | 1.74E+01                 | 2.56E+01 |
| Sample ID: 296988 | Sample Dates: 6/23/2014 - 7/21/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | Beta     | <5.56E-01 | 0.00E+00                 | 1.36E+00 |
|                   |                                      | Mn-54    | <1.17E+00 | 0.00E+00                 | 1.17E+00 |
|                   |                                      | Co-58    | <1.35E+00 | 0.00E+00                 | 1.35E+00 |
|                   |                                      | Fe-59    | <3.17E+00 | 0.00E+00                 | 3.17E+00 |
|                   |                                      | Co-60    | <1.34E+00 | 0.00E+00                 | 1.34E+00 |
|                   |                                      | Zn-65    | <2.37E+00 | 0.00E+00                 | 2.37E+00 |
|                   |                                      | Zr-95    | <2.45E+00 | 0.00E+00                 | 2.45E+00 |
|                   |                                      | Nb-95    | <1.94E+00 | 0.00E+00                 | 1.94E+00 |
|                   |                                      | I-131    | <1.19E+01 | 0.00E+00                 | 1.19E+01 |
|                   |                                      | Cs-134   | <1.04E+00 | 0.00E+00                 | 1.04E+00 |
|                   |                                      | Cs-137   | <1.44E+00 | 0.00E+00                 | 1.44E+00 |
|                   |                                      | BaLa-140 | <5.75E+00 | 0.00E+00                 | 5.75E+00 |
|                   |                                      | Be-7     | <1.36E+01 | 0.00E+00                 | 1.36E+01 |
|                   |                                      | K-40     | 8.41E+01  | 1.66E+01                 | 2.03E+01 |
| Sample ID: 353551 | Sample Dates: 7/21/2014 - 8/18/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | Beta     | 7.29E-01  | 7.18E-01                 | 1.19E+00 |
|                   |                                      | Mn-54    | <3.06E+00 | 0.00E+00                 | 3.06E+00 |
|                   |                                      | Co-58    | <3.81E+00 | 0.00E+00                 | 3.81E+00 |
|                   |                                      | Fe-59    | <8.33E+00 | 0.00E+00                 | 8.33E+00 |
|                   |                                      | Co-60    | <4.60E+00 | 0.00E+00                 | 4.60E+00 |
|                   |                                      | Zn-65    | <7.74E+00 | 0.00E+00                 | 7.74E+00 |
|                   |                                      | Zr-95    | <7.16E+00 | 0.00E+00                 | 7.16E+00 |
|                   |                                      | Nb-95    | <4.47E+00 | 0.00E+00                 | 4.47E+00 |
|                   |                                      | I-131    | <1.14E+01 | 0.00E+00                 | 1.14E+01 |
|                   |                                      | Cs-134   | <4.16E+00 | 0.00E+00                 | 4.16E+00 |
|                   |                                      | Cs-137   | <2.61E+00 | 0.00E+00                 | 2.61E+00 |
|                   |                                      | BaLa-140 | <1.00E+01 | 0.00E+00                 | 1.00E+01 |
|                   |                                      | Be-7     | <3.25E+01 | 0.00E+00                 | 3.25E+01 |
|                   |                                      | K-40     | 6.01E+01  | 3.49E+01                 | 5.00E+01 |
| Sample ID: 354209 | Sample Dates: 5/27/2014 - 8/18/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | H3DW     | <1.11E+02 | 0.00E+00                 | 1.88E+02 |
| Sample ID: 354590 | Sample Dates: 8/18/2014 - 9/15/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | Beta     | 1.10E+00  | 7.49E-01                 | 1.22E+00 |
|                   |                                      | Mn-54    | <1.87E+00 | 0.00E+00                 | 1.87E+00 |
|                   |                                      | Co-58    | <1.90E+00 | 0.00E+00                 | 1.90E+00 |
|                   |                                      | Fe-59    | <4.14E+00 | 0.00E+00                 | 4.14E+00 |
|                   |                                      | Co-60    | <1.86E+00 | 0.00E+00                 | 1.86E+00 |
|                   |                                      | Zn-65    | <4.07E+00 | 0.00E+00                 | 4.07E+00 |
|                   |                                      | Zr-95    | <3.74E+00 | 0.00E+00                 | 3.74E+00 |
|                   |                                      | Nb-95    | <2.84E+00 | 0.00E+00                 | 2.84E+00 |
|                   |                                      | I-131    | <7.48E+00 | 0.00E+00                 | 7.48E+00 |
|                   |                                      | Cs-134   | <2.26E+00 | 0.00E+00                 | 2.26E+00 |
|                   |                                      | Cs-137   | <1.92E+00 | 0.00E+00                 | 1.92E+00 |
|                   |                                      | BaLa-140 | <3.64E+00 | 0.00E+00                 | 3.64E+00 |
|                   |                                      | Be-7     | <1.88E+01 | 0.00E+00                 | 1.88E+01 |
|                   |                                      | K-40     | 5.49E+01  | 2.25E+01                 | 3.08E+01 |
| Sample ID: 356861 | Sample Dates: 9/15/2014 - 10/13/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | Beta     | <0.00E+00 | 0.00E+00                 | 1.26E+00 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 060 [ INDICATOR - NE @ 3.23 miles ]

|                   |                                      |          |           |                          |          |
|-------------------|--------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 356861 | Sample Dates: 9/15/2014 - 10/13/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | Mn-54    | <2.78E+00 | 0.00E+00                 | 2.78E+00 |
|                   |                                      | Co-58    | <3.15E+00 | 0.00E+00                 | 3.15E+00 |
|                   |                                      | Fe-59    | <6.26E+00 | 0.00E+00                 | 6.26E+00 |
|                   |                                      | Co-60    | <3.17E+00 | 0.00E+00                 | 3.17E+00 |
|                   |                                      | Zn-65    | <5.65E+00 | 0.00E+00                 | 5.65E+00 |
|                   |                                      | Zr-95    | <6.49E+00 | 0.00E+00                 | 6.49E+00 |
|                   |                                      | Nb-95    | <4.21E+00 | 0.00E+00                 | 4.21E+00 |
|                   |                                      | I-131    | <9.24E+00 | 0.00E+00                 | 9.24E+00 |
|                   |                                      | Cs-134   | <3.00E+00 | 0.00E+00                 | 3.00E+00 |
|                   |                                      | Cs-137   | <2.63E+00 | 0.00E+00                 | 2.63E+00 |
|                   |                                      | BaLa-140 | <8.09E+00 | 0.00E+00                 | 8.09E+00 |
|                   |                                      | Be-7     | <2.52E+01 | 0.00E+00                 | 2.52E+01 |
|                   |                                      | K-40     | 1.11E+02  | 3.19E+01                 | 3.71E+01 |

|                   |                                       |          |           |                          |          |
|-------------------|---------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 359752 | Sample Dates: 10/13/2014 - 11/10/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Beta     | 1.31E+00  | 7.37E-01                 | 1.18E+00 |
|                   |                                       | Mn-54    | <1.39E+00 | 0.00E+00                 | 1.39E+00 |
|                   |                                       | Co-58    | <1.98E+00 | 0.00E+00                 | 1.98E+00 |
|                   |                                       | Fe-59    | <3.65E+00 | 0.00E+00                 | 3.65E+00 |
|                   |                                       | Co-60    | <1.47E+00 | 0.00E+00                 | 1.47E+00 |
|                   |                                       | Zn-65    | <2.97E+00 | 0.00E+00                 | 2.97E+00 |
|                   |                                       | Zr-95    | <2.53E+00 | 0.00E+00                 | 2.53E+00 |
|                   |                                       | Nb-95    | <2.16E+00 | 0.00E+00                 | 2.16E+00 |
|                   |                                       | I-131    | <1.01E+01 | 0.00E+00                 | 1.01E+01 |
|                   |                                       | Cs-134   | <1.67E+00 | 0.00E+00                 | 1.67E+00 |
|                   |                                       | Cs-137   | <1.28E+00 | 0.00E+00                 | 1.28E+00 |
|                   |                                       | BaLa-140 | <4.68E+00 | 0.00E+00                 | 4.68E+00 |
|                   |                                       | Be-7     | <1.59E+01 | 0.00E+00                 | 1.59E+01 |
|                   |                                       | K-40     | 1.71E+01  | 1.35E+01                 | 2.10E+01 |

|                   |                                      |          |           |                          |          |
|-------------------|--------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 362149 | Sample Dates: 11/10/2014 - 12/8/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | Beta     | <-2.9E-01 | 0.00E+00                 | 1.33E+00 |
|                   |                                      | Mn-54    | <9.61E-01 | 0.00E+00                 | 9.61E-01 |
|                   |                                      | Co-58    | <1.29E+00 | 0.00E+00                 | 1.29E+00 |
|                   |                                      | Fe-59    | <2.93E+00 | 0.00E+00                 | 2.93E+00 |
|                   |                                      | Co-60    | <1.01E+00 | 0.00E+00                 | 1.01E+00 |
|                   |                                      | Zn-65    | <1.96E+00 | 0.00E+00                 | 1.96E+00 |
|                   |                                      | Zr-95    | <2.29E+00 | 0.00E+00                 | 2.29E+00 |
|                   |                                      | Nb-95    | <1.69E+00 | 0.00E+00                 | 1.69E+00 |
|                   |                                      | I-131    | <1.20E+01 | 0.00E+00                 | 1.20E+01 |
|                   |                                      | Cs-134   | <1.14E+00 | 0.00E+00                 | 1.14E+00 |
|                   |                                      | Cs-137   | <9.61E-01 | 0.00E+00                 | 9.61E-01 |
|                   |                                      | BaLa-140 | <4.82E+00 | 0.00E+00                 | 4.82E+00 |
|                   |                                      | Be-7     | <1.04E+01 | 0.00E+00                 | 1.04E+01 |
|                   |                                      | K-40     | 1.03E+02  | 1.49E+01                 | 1.57E+01 |

|                   |                                     |         |           |                          |          |
|-------------------|-------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 364866 | Sample Dates: 8/18/2014 - 12/8/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | H3DW    | <5.03E+00 | 0.00E+00                 | 1.91E+02 |

Sample Point 064 [ CONTROL - SSW @ 6.67 miles ]

|                   |                                    |          |           |                          |          |
|-------------------|------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 279018 | Sample Dates: 12/9/2013 - 1/6/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                    | Beta     | <5.11E-01 | 0.00E+00                 | 1.21E+00 |
|                   |                                    | Mn-54    | <2.87E+00 | 0.00E+00                 | 2.87E+00 |
|                   |                                    | Co-58    | <3.26E+00 | 0.00E+00                 | 3.26E+00 |
|                   |                                    | Fe-59    | <5.97E+00 | 0.00E+00                 | 5.97E+00 |
|                   |                                    | Co-60    | <3.10E+00 | 0.00E+00                 | 3.10E+00 |
|                   |                                    | Zn-65    | <6.64E+00 | 0.00E+00                 | 6.64E+00 |
|                   |                                    | Zr-95    | <5.62E+00 | 0.00E+00                 | 5.62E+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   | <2.65E+00 | 0.00E+00                 | 2.65E+00 |
|                   |                                    | Cs-137   | <3.26E+00 | 0.00E+00                 | 3.26E+00 |
|                   |                                    | BaLa-140 | <7.70E+00 | 0.00E+00                 | 7.70E+00 |
|                   |                                    | Be-7     | <2.95E+01 | 0.00E+00                 | 2.95E+01 |
|                   |                                    | K-40     | 1.91E+02  | 2.17E+01                 | 2.87E+01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 064 [ CONTROL - SSW @ 6.67 miles ]

|                   |                                     |          |           |                          |          |
|-------------------|-------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 280864 | Sample Dates: 1/6/2014 - 2/3/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Beta     | 7.59E-01  | 3.62E-01                 | 1.18E+00 |
|                   |                                     | Mn-54    | <3.67E+00 | 0.00E+00                 | 3.67E+00 |
|                   |                                     | Co-58    | <4.44E+00 | 0.00E+00                 | 4.44E+00 |
|                   |                                     | Fe-59    | <8.28E+00 | 0.00E+00                 | 8.28E+00 |
|                   |                                     | Co-60    | <4.75E+00 | 0.00E+00                 | 4.75E+00 |
|                   |                                     | Zn-65    | <8.03E+00 | 0.00E+00                 | 8.03E+00 |
|                   |                                     | Zr-95    | <6.02E+00 | 0.00E+00                 | 6.02E+00 |
|                   |                                     | Nb-95    | <5.27E+00 | 0.00E+00                 | 5.27E+00 |
|                   |                                     | I-131    | <1.33E+01 | 0.00E+00                 | 1.33E+01 |
|                   |                                     | Cs-134   | <3.77E+00 | 0.00E+00                 | 3.77E+00 |
|                   |                                     | Cs-137   | <2.82E+00 | 0.00E+00                 | 2.82E+00 |
|                   |                                     | BaLa-140 | <8.96E+00 | 0.00E+00                 | 8.96E+00 |
|                   |                                     | Be-7     | <2.99E+01 | 0.00E+00                 | 2.99E+01 |
|                   |                                     | K-40     | <6.31E+01 | 0.00E+00                 | 6.31E+01 |
|                   |                                     |          |           |                          |          |
|                   |                                     |          |           |                          |          |
| Sample ID: 282979 | Sample Dates: 2/3/2014 - 3/3/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Beta     | <1.02E-01 | 0.00E+00                 | 1.29E+00 |
|                   |                                     | Mn-54    | <3.82E+00 | 0.00E+00                 | 3.82E+00 |
|                   |                                     | Co-58    | <3.66E+00 | 0.00E+00                 | 3.66E+00 |
|                   |                                     | Fe-59    | <7.44E+00 | 0.00E+00                 | 7.44E+00 |
|                   |                                     | Co-60    | <3.75E+00 | 0.00E+00                 | 3.75E+00 |
|                   |                                     | Zn-65    | <6.95E+00 | 0.00E+00                 | 6.95E+00 |
|                   |                                     | Zr-95    | <6.69E+00 | 0.00E+00                 | 6.69E+00 |
|                   |                                     | Nb-95    | <4.30E+00 | 0.00E+00                 | 4.30E+00 |
|                   |                                     | I-131    | <1.24E+01 | 0.00E+00                 | 1.24E+01 |
|                   |                                     | Cs-134   | <3.07E+00 | 0.00E+00                 | 3.07E+00 |
|                   |                                     | Cs-137   | <3.02E+00 | 0.00E+00                 | 3.02E+00 |
|                   |                                     | BaLa-140 | <7.68E+00 | 0.00E+00                 | 7.68E+00 |
|                   |                                     | Be-7     | <3.34E+01 | 0.00E+00                 | 3.34E+01 |
|                   |                                     | K-40     | 1.00E+02  | 1.95E+01                 | 2.94E+01 |
|                   |                                     |          |           |                          |          |
|                   |                                     |          |           |                          |          |
| Sample ID: 284707 | Sample Dates: 12/9/2013 - 3/3/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | H3DW     | <-3.3E+01 | 0.00E+00                 | 1.89E+02 |
| Sample ID: 285759 | Sample Dates: 3/3/2014 - 3/31/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Beta     | 1.39E+00  | 3.52E-01                 | 1.08E+00 |
|                   |                                     | Mn-54    | <3.43E+00 | 0.00E+00                 | 3.43E+00 |
|                   |                                     | Co-58    | <3.50E+00 | 0.00E+00                 | 3.50E+00 |
|                   |                                     | Fe-59    | <7.11E+00 | 0.00E+00                 | 7.11E+00 |
|                   |                                     | Co-60    | <2.92E+00 | 0.00E+00                 | 2.92E+00 |
|                   |                                     | Zn-65    | <5.89E+00 | 0.00E+00                 | 5.89E+00 |
|                   |                                     | Zr-95    | <5.48E+00 | 0.00E+00                 | 5.48E+00 |
|                   |                                     | Nb-95    | <3.97E+00 | 0.00E+00                 | 3.97E+00 |
|                   |                                     | I-131    | <1.40E+01 | 0.00E+00                 | 1.40E+01 |
|                   |                                     | Cs-134   | <3.08E+00 | 0.00E+00                 | 3.08E+00 |
|                   |                                     | Cs-137   | <3.14E+00 | 0.00E+00                 | 3.14E+00 |
|                   |                                     | BaLa-140 | <7.45E+00 | 0.00E+00                 | 7.45E+00 |
|                   |                                     | Be-7     | <3.16E+01 | 0.00E+00                 | 3.16E+01 |
|                   |                                     | K-40     | 1.92E+02  | 2.24E+01                 | 3.08E+01 |
|                   |                                     |          |           |                          |          |
|                   |                                     |          |           |                          |          |
| Sample ID: 289123 | Sample Dates: 3/31/2014 - 4/28/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Beta     | 1.27E+00  | 3.94E-01                 | 1.27E+00 |
|                   |                                     | Mn-54    | <2.66E+00 | 0.00E+00                 | 2.66E+00 |
|                   |                                     | Co-58    | <3.03E+00 | 0.00E+00                 | 3.03E+00 |
|                   |                                     | Fe-59    | <5.78E+00 | 0.00E+00                 | 5.78E+00 |
|                   |                                     | Co-60    | <2.96E+00 | 0.00E+00                 | 2.96E+00 |
|                   |                                     | Zn-65    | <7.57E+00 | 0.00E+00                 | 7.57E+00 |
|                   |                                     | Zr-95    | <5.74E+00 | 0.00E+00                 | 5.74E+00 |
|                   |                                     | Nb-95    | <3.48E+00 | 0.00E+00                 | 3.48E+00 |
|                   |                                     | I-131    | <1.21E+01 | 0.00E+00                 | 1.21E+01 |
|                   |                                     | Cs-134   | <2.83E+00 | 0.00E+00                 | 2.83E+00 |
|                   |                                     | Cs-137   | <3.27E+00 | 0.00E+00                 | 3.27E+00 |
|                   |                                     | BaLa-140 | <7.60E+00 | 0.00E+00                 | 7.60E+00 |
|                   |                                     | Be-7     | <2.83E+01 | 0.00E+00                 | 2.83E+01 |
|                   |                                     | K-40     | 9.57E+01  | 2.12E+01                 | 3.14E+01 |
|                   |                                     |          |           |                          |          |
|                   |                                     |          |           |                          |          |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 064 [ CONTROL - SSW @ 6.67 miles ]

|                   |                                     |          |           |                          |          |
|-------------------|-------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 292818 | Sample Dates: 4/28/2014 - 5/27/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Beta     | 1.33E+00  | 4.16E-01                 | 1.34E+00 |
|                   |                                     | Mn-54    | <1.78E+00 | 0.00E+00                 | 1.78E+00 |
|                   |                                     | Co-58    | <2.72E+00 | 0.00E+00                 | 2.72E+00 |
|                   |                                     | Fe-59    | <5.48E+00 | 0.00E+00                 | 5.48E+00 |
|                   |                                     | Co-60    | <2.31E+00 | 0.00E+00                 | 2.31E+00 |
|                   |                                     | Zn-65    | <4.77E+00 | 0.00E+00                 | 4.77E+00 |
|                   |                                     | Zr-95    | <4.81E+00 | 0.00E+00                 | 4.81E+00 |
|                   |                                     | Nb-95    | <3.67E+00 | 0.00E+00                 | 3.67E+00 |
|                   |                                     | I-131    | <1.39E+01 | 0.00E+00                 | 1.39E+01 |
|                   |                                     | Cs-134   | <1.99E+00 | 0.00E+00                 | 1.99E+00 |
|                   |                                     | Cs-137   | <2.12E+00 | 0.00E+00                 | 2.12E+00 |
|                   |                                     | BaLa-140 | <6.55E+00 | 0.00E+00                 | 6.55E+00 |
|                   |                                     | Be-7     | <2.49E+01 | 0.00E+00                 | 2.49E+01 |
|                   |                                     | K-40     | 1.74E+02  | 1.82E+01                 | 1.67E+01 |
| Sample ID: 295225 | Sample Dates: 3/3/2014 - 5/27/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | H3DW     | <-2.2E+01 | 0.00E+00                 | 1.88E+02 |
| Sample ID: 295481 | Sample Dates: 5/27/2014 - 6/23/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Beta     | 9.41E-01  | 3.71E-01                 | 1.19E+00 |
|                   |                                     | Mn-54    | <3.51E+00 | 0.00E+00                 | 3.51E+00 |
|                   |                                     | Co-58    | <3.22E+00 | 0.00E+00                 | 3.22E+00 |
|                   |                                     | Fe-59    | <8.15E+00 | 0.00E+00                 | 8.15E+00 |
|                   |                                     | Co-60    | <4.97E+00 | 0.00E+00                 | 4.97E+00 |
|                   |                                     | Zn-65    | <7.66E+00 | 0.00E+00                 | 7.66E+00 |
|                   |                                     | Zr-95    | <6.83E+00 | 0.00E+00                 | 6.83E+00 |
|                   |                                     | Nb-95    | <4.93E+00 | 0.00E+00                 | 4.93E+00 |
|                   |                                     | I-131    | <1.44E+01 | 0.00E+00                 | 1.44E+01 |
|                   |                                     | Cs-134   | <3.15E+00 | 0.00E+00                 | 3.15E+00 |
|                   |                                     | Cs-137   | <3.85E+00 | 0.00E+00                 | 3.85E+00 |
|                   |                                     | BaLa-140 | <1.05E+01 | 0.00E+00                 | 1.05E+01 |
|                   |                                     | Be-7     | <3.22E+01 | 0.00E+00                 | 3.22E+01 |
|                   |                                     | K-40     | 4.04E+01  | 1.87E+01                 | 4.12E+01 |
| Sample ID: 296989 | Sample Dates: 6/23/2014 - 7/21/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Beta     | 8.98E-01  | 8.21E-01                 | 1.36E+00 |
|                   |                                     | Mn-54    | <1.31E+00 | 0.00E+00                 | 1.31E+00 |
|                   |                                     | Co-58    | <1.55E+00 | 0.00E+00                 | 1.55E+00 |
|                   |                                     | Fe-59    | <3.36E+00 | 0.00E+00                 | 3.36E+00 |
|                   |                                     | Co-60    | <1.49E+00 | 0.00E+00                 | 1.49E+00 |
|                   |                                     | Zn-65    | <2.92E+00 | 0.00E+00                 | 2.92E+00 |
|                   |                                     | Zr-95    | <2.93E+00 | 0.00E+00                 | 2.93E+00 |
|                   |                                     | Nb-95    | <2.35E+00 | 0.00E+00                 | 2.35E+00 |
|                   |                                     | I-131    | <1.10E+01 | 0.00E+00                 | 1.10E+01 |
|                   |                                     | Cs-134   | <1.19E+00 | 0.00E+00                 | 1.19E+00 |
|                   |                                     | Cs-137   | <1.30E+00 | 0.00E+00                 | 1.30E+00 |
|                   |                                     | BaLa-140 | <5.54E+00 | 0.00E+00                 | 5.54E+00 |
|                   |                                     | Be-7     | <1.38E+01 | 0.00E+00                 | 1.38E+01 |
|                   |                                     | K-40     | 9.80E+01  | 2.09E+01                 | 2.70E+01 |
| Sample ID: 353552 | Sample Dates: 7/21/2014 - 8/18/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Beta     | 9.66E-01  | 7.25E-01                 | 1.19E+00 |
|                   |                                     | Mn-54    | <3.03E+00 | 0.00E+00                 | 3.03E+00 |
|                   |                                     | Co-58    | <3.37E+00 | 0.00E+00                 | 3.37E+00 |
|                   |                                     | Fe-59    | <7.46E+00 | 0.00E+00                 | 7.46E+00 |
|                   |                                     | Co-60    | <4.14E+00 | 0.00E+00                 | 4.14E+00 |
|                   |                                     | Zn-65    | <7.31E+00 | 0.00E+00                 | 7.31E+00 |
|                   |                                     | Zr-95    | <6.59E+00 | 0.00E+00                 | 6.59E+00 |
|                   |                                     | Nb-95    | <4.28E+00 | 0.00E+00                 | 4.28E+00 |
|                   |                                     | I-131    | <1.07E+01 | 0.00E+00                 | 1.07E+01 |
|                   |                                     | Cs-134   | <4.04E+00 | 0.00E+00                 | 4.04E+00 |
|                   |                                     | Cs-137   | <3.24E+00 | 0.00E+00                 | 3.24E+00 |
|                   |                                     | BaLa-140 | <8.10E+00 | 0.00E+00                 | 8.10E+00 |
|                   |                                     | Be-7     | <2.57E+01 | 0.00E+00                 | 2.57E+01 |
|                   |                                     | K-40     | 7.82E+01  | 3.45E+01                 | 4.44E+01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 064 [ CONTROL - SSW @ 6.67 miles ]

|                   |                                       |                 |                       |                                      |                 |
|-------------------|---------------------------------------|-----------------|-----------------------|--------------------------------------|-----------------|
| Sample ID: 354210 | Sample Dates: 5/27/2014 - 8/18/2014   | Nuclide<br>H3DW | Activity<br><1.36E+02 | Sigma Error <sup>1</sup><br>0.00E+00 | LLD<br>1.90E+02 |
| Sample ID: 354591 | Sample Dates: 8/18/2014 - 9/15/2014   | Nuclide         | Activity              | Sigma Error <sup>1</sup>             | LLD             |
|                   |                                       | Beta            | 1.05E+00              | 7.49E-01                             | 1.22E+00        |
|                   |                                       | Mn-54           | <1.75E+00             | 0.00E+00                             | 1.75E+00        |
|                   |                                       | Co-58           | <2.06E+00             | 0.00E+00                             | 2.06E+00        |
|                   |                                       | Fe-59           | <4.45E+00             | 0.00E+00                             | 4.45E+00        |
|                   |                                       | Co-60           | <1.60E+00             | 0.00E+00                             | 1.60E+00        |
|                   |                                       | Zn-65           | <3.59E+00             | 0.00E+00                             | 3.59E+00        |
|                   |                                       | Zr-95           | <3.92E+00             | 0.00E+00                             | 3.92E+00        |
|                   |                                       | Nb-95           | <2.70E+00             | 0.00E+00                             | 2.70E+00        |
|                   |                                       | I-131           | <1.19E+01             | 0.00E+00                             | 1.19E+01        |
|                   |                                       | Cs-134          | <2.10E+00             | 0.00E+00                             | 2.10E+00        |
|                   |                                       | Cs-137          | <1.66E+00             | 0.00E+00                             | 1.66E+00        |
|                   |                                       | BaLa-140        | <5.52E+00             | 0.00E+00                             | 5.52E+00        |
|                   |                                       | Be-7            | <1.79E+01             | 0.00E+00                             | 1.79E+01        |
|                   |                                       | K-40            | 2.11E+02              | 3.17E+01                             | 3.13E+01        |
| Sample ID: 356862 | Sample Dates: 9/15/2014 - 10/13/2014  | Nuclide         | Activity              | Sigma Error <sup>1</sup>             | LLD             |
|                   |                                       | Beta            | 8.98E-01              | 7.53E-01                             | 1.26E+00        |
|                   |                                       | Mn-54           | <2.61E+00             | 0.00E+00                             | 2.61E+00        |
|                   |                                       | Co-58           | <2.72E+00             | 0.00E+00                             | 2.72E+00        |
|                   |                                       | Fe-59           | <5.69E+00             | 0.00E+00                             | 5.69E+00        |
|                   |                                       | Co-60           | <2.70E+00             | 0.00E+00                             | 2.70E+00        |
|                   |                                       | Zn-65           | <4.81E+00             | 0.00E+00                             | 4.81E+00        |
|                   |                                       | Zr-95           | <5.43E+00             | 0.00E+00                             | 5.43E+00        |
|                   |                                       | Nb-95           | <3.48E+00             | 0.00E+00                             | 3.48E+00        |
|                   |                                       | I-131           | <1.03E+01             | 0.00E+00                             | 1.03E+01        |
|                   |                                       | Cs-134          | <2.94E+00             | 0.00E+00                             | 2.94E+00        |
|                   |                                       | Cs-137          | <2.25E+00             | 0.00E+00                             | 2.25E+00        |
|                   |                                       | BaLa-140        | <6.05E+00             | 0.00E+00                             | 6.05E+00        |
|                   |                                       | Be-7            | <2.31E+01             | 0.00E+00                             | 2.31E+01        |
|                   |                                       | K-40            | 1.75E+02              | 3.75E+01                             | 3.99E+01        |
| Sample ID: 359753 | Sample Dates: 10/13/2014 - 11/10/2014 | Nuclide         | Activity              | Sigma Error <sup>1</sup>             | LLD             |
|                   |                                       | Beta            | 1.74E+00              | 7.57E-01                             | 1.18E+00        |
|                   |                                       | Mn-54           | <1.48E+00             | 0.00E+00                             | 1.48E+00        |
|                   |                                       | Co-58           | <1.88E+00             | 0.00E+00                             | 1.88E+00        |
|                   |                                       | Fe-59           | <4.23E+00             | 0.00E+00                             | 4.23E+00        |
|                   |                                       | Co-60           | <1.41E+00             | 0.00E+00                             | 1.41E+00        |
|                   |                                       | Zn-65           | <3.49E+00             | 0.00E+00                             | 3.49E+00        |
|                   |                                       | Zr-95           | <3.59E+00             | 0.00E+00                             | 3.59E+00        |
|                   |                                       | Nb-95           | <2.47E+00             | 0.00E+00                             | 2.47E+00        |
|                   |                                       | I-131           | <1.08E+01             | 0.00E+00                             | 1.08E+01        |
|                   |                                       | Cs-134          | <1.86E+00             | 0.00E+00                             | 1.86E+00        |
|                   |                                       | Cs-137          | <1.50E+00             | 0.00E+00                             | 1.50E+00        |
|                   |                                       | BaLa-140        | <5.64E+00             | 0.00E+00                             | 5.64E+00        |
|                   |                                       | Be-7            | <1.57E+01             | 0.00E+00                             | 1.57E+01        |
|                   |                                       | K-40            | 1.75E+02              | 2.56E+01                             | 2.29E+01        |
| Sample ID: 362150 | Sample Dates: 11/10/2014 - 12/8/2014  | Nuclide         | Activity              | Sigma Error <sup>1</sup>             | LLD             |
|                   |                                       | Beta            | <-9.1E-02             | 0.00E+00                             | 1.33E+00        |
|                   |                                       | Mn-54           | <6.26E-01             | 0.00E+00                             | 6.26E-01        |
|                   |                                       | Co-58           | <7.76E-01             | 0.00E+00                             | 7.76E-01        |
|                   |                                       | Fe-59           | <1.65E+00             | 0.00E+00                             | 1.65E+00        |
|                   |                                       | Co-60           | <6.18E-01             | 0.00E+00                             | 6.18E-01        |
|                   |                                       | Zn-65           | <1.27E+00             | 0.00E+00                             | 1.27E+00        |
|                   |                                       | Zr-95           | <1.57E+00             | 0.00E+00                             | 1.57E+00        |
|                   |                                       | Nb-95           | <1.31E+00             | 0.00E+00                             | 1.31E+00        |
|                   |                                       | I-131           | <1.17E+01             | 0.00E+00                             | 1.17E+01        |
|                   |                                       | Cs-134          | <6.84E-01             | 0.00E+00                             | 6.84E-01        |
|                   |                                       | Cs-137          | <6.54E-01             | 0.00E+00                             | 6.54E-01        |
|                   |                                       | BaLa-140        | <3.65E+00             | 0.00E+00                             | 3.65E+00        |
|                   |                                       | Be-7            | <7.41E+00             | 0.00E+00                             | 7.41E+00        |
|                   |                                       | K-40            | 4.50E+01              | 1.20E+01                             | 1.77E+01        |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 064 [ CONTROL - SSW @ 6.67 miles ]

| Sample ID: | Sample Dates:         | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 364867     | 8/18/2014 - 12/8/2014 | H3DW    | <1.58E+02 | 0.00E+00                 | 1.91E+02 |

Sample Point 066 [ INDICATOR - SSE @ 18.9 miles ]

| Sample ID: | Sample Dates:        | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|----------------------|----------|-----------|--------------------------|----------|
| 279019     | 12/9/2013 - 1/6/2014 | Beta     | 1.23E+00  | 3.83E-01                 | 1.21E+00 |
|            |                      | Mn-54    | <3.58E+00 | 0.00E+00                 | 3.58E+00 |
|            |                      | Co-58    | <3.56E+00 | 0.00E+00                 | 3.56E+00 |
|            |                      | Fe-59    | <7.06E+00 | 0.00E+00                 | 7.06E+00 |
|            |                      | Co-60    | <2.22E+00 | 0.00E+00                 | 2.22E+00 |
|            |                      | Zn-65    | <7.77E+00 | 0.00E+00                 | 7.77E+00 |
|            |                      | Zr-95    | <7.51E+00 | 0.00E+00                 | 7.51E+00 |
|            |                      | Nb-95    | <5.05E+00 | 0.00E+00                 | 5.05E+00 |
|            |                      | I-131    | <1.43E+01 | 0.00E+00                 | 1.43E+01 |
|            |                      | Cs-134   | <3.27E+00 | 0.00E+00                 | 3.27E+00 |
|            |                      | Cs-137   | <3.71E+00 | 0.00E+00                 | 3.71E+00 |
|            |                      | BaLa-140 | <1.04E+01 | 0.00E+00                 | 1.04E+01 |
|            |                      | Be-7     | <3.44E+01 | 0.00E+00                 | 3.44E+01 |
|            |                      | K-40     | 1.18E+02  | 1.98E+01                 | 3.26E+01 |

| Sample ID: | Sample Dates:       | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|---------------------|----------|-----------|--------------------------|----------|
| 280865     | 1/6/2014 - 2/3/2014 | Beta     | 1.01E+00  | 3.70E-01                 | 1.18E+00 |
|            |                     | Mn-54    | <3.00E+00 | 0.00E+00                 | 3.00E+00 |
|            |                     | Co-58    | <3.78E+00 | 0.00E+00                 | 3.78E+00 |
|            |                     | Fe-59    | <7.90E+00 | 0.00E+00                 | 7.90E+00 |
|            |                     | Co-60    | <3.76E+00 | 0.00E+00                 | 3.76E+00 |
|            |                     | Zn-65    | <7.14E+00 | 0.00E+00                 | 7.14E+00 |
|            |                     | Zr-95    | <6.42E+00 | 0.00E+00                 | 6.42E+00 |
|            |                     | Nb-95    | <3.75E+00 | 0.00E+00                 | 3.75E+00 |
|            |                     | I-131    | <1.16E+01 | 0.00E+00                 | 1.16E+01 |
|            |                     | Cs-134   | <3.10E+00 | 0.00E+00                 | 3.10E+00 |
|            |                     | Cs-137   | <3.81E+00 | 0.00E+00                 | 3.81E+00 |
|            |                     | BaLa-140 | <6.78E+00 | 0.00E+00                 | 6.78E+00 |
|            |                     | Be-7     | <3.16E+01 | 0.00E+00                 | 3.16E+01 |
|            |                     | K-40     | 1.17E+02  | 1.92E+01                 | 2.79E+01 |

| Sample ID: | Sample Dates:       | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|---------------------|----------|-----------|--------------------------|----------|
| 282980     | 2/3/2014 - 3/3/2014 | Beta     | 9.37E-01  | 4.01E-01                 | 1.29E+00 |
|            |                     | Mn-54    | <3.51E+00 | 0.00E+00                 | 3.51E+00 |
|            |                     | Co-58    | <3.36E+00 | 0.00E+00                 | 3.36E+00 |
|            |                     | Fe-59    | <6.86E+00 | 0.00E+00                 | 6.86E+00 |
|            |                     | Co-60    | <2.63E+00 | 0.00E+00                 | 2.63E+00 |
|            |                     | Zn-65    | <6.10E+00 | 0.00E+00                 | 6.10E+00 |
|            |                     | Zr-95    | <5.32E+00 | 0.00E+00                 | 5.32E+00 |
|            |                     | Nb-95    | <4.38E+00 | 0.00E+00                 | 4.38E+00 |
|            |                     | I-131    | <1.39E+01 | 0.00E+00                 | 1.39E+01 |
|            |                     | Cs-134   | <2.84E+00 | 0.00E+00                 | 2.84E+00 |
|            |                     | Cs-137   | <3.25E+00 | 0.00E+00                 | 3.25E+00 |
|            |                     | BaLa-140 | <8.06E+00 | 0.00E+00                 | 8.06E+00 |
|            |                     | Be-7     | <3.04E+01 | 0.00E+00                 | 3.04E+01 |
|            |                     | K-40     | 1.78E+02  | 2.04E+01                 | 2.69E+01 |

| Sample ID: | Sample Dates:        | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 284708     | 12/9/2013 - 3/3/2014 | H3DW    | <1.73E+02 | 0.00E+00                 | 1.89E+02 |

| Sample ID: | Sample Dates:        | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|----------------------|---------|-----------|--------------------------|----------|
| 285760     | 3/3/2014 - 3/31/2014 | Beta    | 2.00E+00  | 3.69E-01                 | 1.09E+00 |
|            |                      | Mn-54   | <3.43E+00 | 0.00E+00                 | 3.43E+00 |
|            |                      | Co-58   | <3.90E+00 | 0.00E+00                 | 3.90E+00 |
|            |                      | Fe-59   | <9.29E+00 | 0.00E+00                 | 9.29E+00 |
|            |                      | Co-60   | <4.84E+00 | 0.00E+00                 | 4.84E+00 |
|            |                      | Zn-65   | <8.99E+00 | 0.00E+00                 | 8.99E+00 |
|            |                      | Zr-95   | <6.71E+00 | 0.00E+00                 | 6.71E+00 |
|            |                      | Nb-95   | <5.73E+00 | 0.00E+00                 | 5.73E+00 |
|            |                      | I-131   | <1.43E+01 | 0.00E+00                 | 1.43E+01 |
|            |                      | Cs-134  | <3.42E+00 | 0.00E+00                 | 3.42E+00 |
|            |                      | Cs-137  | <4.51E+00 | 0.00E+00                 | 4.51E+00 |

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





# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 066 [ INDICATOR - SSE @ 18.9 miles ]

|                   |                                     |          |           |                          |          |
|-------------------|-------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 285760 | Sample Dates: 3/3/2014 - 3/31/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | BaLa-140 | <1.23E+01 | 0.00E+00                 | 1.23E+01 |
|                   |                                     | Be-7     | <3.31E+01 | 0.00E+00                 | 3.31E+01 |
|                   |                                     | K-40     | 7.84E+01  | 1.48E+01                 | 3.84E+01 |
| Sample ID: 289124 | Sample Dates: 3/31/2014 - 4/28/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Beta     | 2.34E+00  | 4.21E-01                 | 1.28E+00 |
|                   |                                     | Mn-54    | <2.36E+00 | 0.00E+00                 | 2.36E+00 |
|                   |                                     | Co-58    | <2.85E+00 | 0.00E+00                 | 2.85E+00 |
|                   |                                     | Fe-59    | <5.24E+00 | 0.00E+00                 | 5.24E+00 |
|                   |                                     | Co-60    | <3.25E+00 | 0.00E+00                 | 3.25E+00 |
|                   |                                     | Zn-65    | <4.62E+00 | 0.00E+00                 | 4.62E+00 |
|                   |                                     | Zr-95    | <5.14E+00 | 0.00E+00                 | 5.14E+00 |
|                   |                                     | Nb-95    | <3.34E+00 | 0.00E+00                 | 3.34E+00 |
|                   |                                     | I-131    | <1.01E+01 | 0.00E+00                 | 1.01E+01 |
|                   |                                     | Cs-134   | <2.27E+00 | 0.00E+00                 | 2.27E+00 |
|                   |                                     | Cs-137   | <2.70E+00 | 0.00E+00                 | 2.70E+00 |
|                   |                                     | BaLa-140 | <7.46E+00 | 0.00E+00                 | 7.46E+00 |
|                   |                                     | Be-7     | <2.65E+01 | 0.00E+00                 | 2.65E+01 |
|                   |                                     | K-40     | 4.84E+01  | 1.71E+01                 | 2.75E+01 |
| Sample ID: 292819 | Sample Dates: 4/28/2014 - 5/27/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Beta     | 1.90E+00  | 4.32E-01                 | 1.36E+00 |
|                   |                                     | Mn-54    | <2.43E+00 | 0.00E+00                 | 2.43E+00 |
|                   |                                     | Co-58    | <2.74E+00 | 0.00E+00                 | 2.74E+00 |
|                   |                                     | Fe-59    | <6.26E+00 | 0.00E+00                 | 6.26E+00 |
|                   |                                     | Co-60    | <2.98E+00 | 0.00E+00                 | 2.98E+00 |
|                   |                                     | Zn-65    | <4.89E+00 | 0.00E+00                 | 4.89E+00 |
|                   |                                     | Zr-95    | <4.80E+00 | 0.00E+00                 | 4.80E+00 |
|                   |                                     | Nb-95    | <3.48E+00 | 0.00E+00                 | 3.48E+00 |
|                   |                                     | I-131    | <1.44E+01 | 0.00E+00                 | 1.44E+01 |
|                   |                                     | Cs-134   | <2.43E+00 | 0.00E+00                 | 2.43E+00 |
|                   |                                     | Cs-137   | <2.84E+00 | 0.00E+00                 | 2.84E+00 |
|                   |                                     | BaLa-140 | <1.09E+01 | 0.00E+00                 | 1.09E+01 |
|                   |                                     | Be-7     | <2.88E+01 | 0.00E+00                 | 2.88E+01 |
|                   |                                     | K-40     | 6.75E+01  | 1.50E+01                 | 2.77E+01 |
| Sample ID: 295226 | Sample Dates: 3/3/2014 - 5/27/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | H3DW     | 2.23E+02  | 6.09E+01                 | 1.88E+02 |
| Sample ID: 295482 | Sample Dates: 5/27/2014 - 6/23/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Beta     | 1.64E+00  | 3.91E-01                 | 1.21E+00 |
|                   |                                     | Mn-54    | <2.88E+00 | 0.00E+00                 | 2.88E+00 |
|                   |                                     | Co-58    | <3.69E+00 | 0.00E+00                 | 3.69E+00 |
|                   |                                     | Fe-59    | <6.82E+00 | 0.00E+00                 | 6.82E+00 |
|                   |                                     | Co-60    | <2.99E+00 | 0.00E+00                 | 2.99E+00 |
|                   |                                     | Zn-65    | <5.04E+00 | 0.00E+00                 | 5.04E+00 |
|                   |                                     | Zr-95    | <5.06E+00 | 0.00E+00                 | 5.06E+00 |
|                   |                                     | Nb-95    | <4.17E+00 | 0.00E+00                 | 4.17E+00 |
|                   |                                     | I-131    | <1.29E+01 | 0.00E+00                 | 1.29E+01 |
|                   |                                     | Cs-134   | <2.64E+00 | 0.00E+00                 | 2.64E+00 |
|                   |                                     | Cs-137   | <3.34E+00 | 0.00E+00                 | 3.34E+00 |
|                   |                                     | BaLa-140 | <6.79E+00 | 0.00E+00                 | 6.79E+00 |
|                   |                                     | Be-7     | <3.36E+01 | 0.00E+00                 | 3.36E+01 |
|                   |                                     | K-40     | 1.55E+02  | 2.22E+01                 | 2.72E+01 |
| Sample ID: 296990 | Sample Dates: 6/23/2014 - 7/21/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Beta     | 1.13E+00  | 8.38E-01                 | 1.37E+00 |
|                   |                                     | Mn-54    | <1.22E+00 | 0.00E+00                 | 1.22E+00 |
|                   |                                     | Co-58    | <1.63E+00 | 0.00E+00                 | 1.63E+00 |
|                   |                                     | Fe-59    | <3.37E+00 | 0.00E+00                 | 3.37E+00 |
|                   |                                     | Co-60    | <1.17E+00 | 0.00E+00                 | 1.17E+00 |
|                   |                                     | Zn-65    | <2.60E+00 | 0.00E+00                 | 2.60E+00 |
|                   |                                     | Zr-95    | <2.82E+00 | 0.00E+00                 | 2.82E+00 |
|                   |                                     | Nb-95    | <2.02E+00 | 0.00E+00                 | 2.02E+00 |
|                   |                                     | I-131    | <1.06E+01 | 0.00E+00                 | 1.06E+01 |
|                   |                                     | Cs-134   | <1.15E+00 | 0.00E+00                 | 1.15E+00 |
|                   |                                     | Cs-137   | <1.33E+00 | 0.00E+00                 | 1.33E+00 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 066 [ INDICATOR - SSE @ 18.9 miles ]

|                   |                                       |          |           |                          |          |
|-------------------|---------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 296990 | Sample Dates: 6/23/2014 - 7/21/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | BaLa-140 | <5.21E+00 | 0.00E+00                 | 5.21E+00 |
|                   |                                       | Be-7     | <1.40E+01 | 0.00E+00                 | 1.40E+01 |
|                   |                                       | K-40     | 1.58E+02  | 2.09E+01                 | 1.65E+01 |
| Sample ID: 353553 | Sample Dates: 7/21/2014 - 8/18/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Beta     | 1.16E+00  | 7.38E-01                 | 1.19E+00 |
|                   |                                       | Mn-54    | <2.90E+00 | 0.00E+00                 | 2.90E+00 |
|                   |                                       | Co-58    | <2.74E+00 | 0.00E+00                 | 2.74E+00 |
|                   |                                       | Fe-59    | <6.23E+00 | 0.00E+00                 | 6.23E+00 |
|                   |                                       | Co-60    | <3.63E+00 | 0.00E+00                 | 3.63E+00 |
|                   |                                       | Zn-65    | <6.56E+00 | 0.00E+00                 | 6.56E+00 |
|                   |                                       | Zr-95    | <5.07E+00 | 0.00E+00                 | 5.07E+00 |
|                   |                                       | Nb-95    | <3.41E+00 | 0.00E+00                 | 3.41E+00 |
|                   |                                       | I-131    | <1.05E+01 | 0.00E+00                 | 1.05E+01 |
|                   |                                       | Cs-134   | <3.55E+00 | 0.00E+00                 | 3.55E+00 |
|                   |                                       | Cs-137   | <3.06E+00 | 0.00E+00                 | 3.06E+00 |
|                   |                                       | BaLa-140 | <8.27E+00 | 0.00E+00                 | 8.27E+00 |
|                   |                                       | Be-7     | <2.79E+01 | 0.00E+00                 | 2.79E+01 |
|                   |                                       | K-40     | 8.41E+01  | 3.14E+01                 | 3.96E+01 |
| Sample ID: 354211 | Sample Dates: 5/27/2014 - 8/18/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | H3DW     | <1.67E+02 | 0.00E+00                 | 1.90E+02 |
| Sample ID: 354592 | Sample Dates: 8/18/2014 - 9/15/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Beta     | 1.81E+00  | 7.88E-01                 | 1.23E+00 |
|                   |                                       | Mn-54    | <2.70E+00 | 0.00E+00                 | 2.70E+00 |
|                   |                                       | Co-58    | <3.01E+00 | 0.00E+00                 | 3.01E+00 |
|                   |                                       | Fe-59    | <6.79E+00 | 0.00E+00                 | 6.79E+00 |
|                   |                                       | Co-60    | <2.78E+00 | 0.00E+00                 | 2.78E+00 |
|                   |                                       | Zn-65    | <6.43E+00 | 0.00E+00                 | 6.43E+00 |
|                   |                                       | Zr-95    | <4.38E+00 | 0.00E+00                 | 4.38E+00 |
|                   |                                       | Nb-95    | <3.68E+00 | 0.00E+00                 | 3.68E+00 |
|                   |                                       | I-131    | <1.02E+01 | 0.00E+00                 | 1.02E+01 |
|                   |                                       | Cs-134   | <3.30E+00 | 0.00E+00                 | 3.30E+00 |
|                   |                                       | Cs-137   | <3.38E+00 | 0.00E+00                 | 3.38E+00 |
|                   |                                       | BaLa-140 | <7.71E+00 | 0.00E+00                 | 7.71E+00 |
|                   |                                       | Be-7     | <2.92E+01 | 0.00E+00                 | 2.92E+01 |
|                   |                                       | K-40     | 5.96E+01  | 2.85E+01                 | 3.91E+01 |
| Sample ID: 356863 | Sample Dates: 9/15/2014 - 10/13/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Beta     | 1.30E+00  | 7.73E-01                 | 1.27E+00 |
|                   |                                       | Mn-54    | <3.06E+00 | 0.00E+00                 | 3.06E+00 |
|                   |                                       | Co-58    | <3.59E+00 | 0.00E+00                 | 3.59E+00 |
|                   |                                       | Fe-59    | <6.91E+00 | 0.00E+00                 | 6.91E+00 |
|                   |                                       | Co-60    | <2.41E+00 | 0.00E+00                 | 2.41E+00 |
|                   |                                       | Zn-65    | <5.35E+00 | 0.00E+00                 | 5.35E+00 |
|                   |                                       | Zr-95    | <5.84E+00 | 0.00E+00                 | 5.84E+00 |
|                   |                                       | Nb-95    | <4.21E+00 | 0.00E+00                 | 4.21E+00 |
|                   |                                       | I-131    | <1.19E+01 | 0.00E+00                 | 1.19E+01 |
|                   |                                       | Cs-134   | <3.63E+00 | 0.00E+00                 | 3.63E+00 |
|                   |                                       | Cs-137   | <2.71E+00 | 0.00E+00                 | 2.71E+00 |
|                   |                                       | BaLa-140 | <7.93E+00 | 0.00E+00                 | 7.93E+00 |
|                   |                                       | Be-7     | <2.77E+01 | 0.00E+00                 | 2.77E+01 |
|                   |                                       | K-40     | 2.02E+02  | 3.95E+01                 | 2.83E+01 |
| Sample ID: 359754 | Sample Dates: 10/13/2014 - 11/10/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Beta     | 1.34E+00  | 7.44E-01                 | 1.18E+00 |
|                   |                                       | Mn-54    | <1.90E+00 | 0.00E+00                 | 1.90E+00 |
|                   |                                       | Co-58    | <2.14E+00 | 0.00E+00                 | 2.14E+00 |
|                   |                                       | Fe-59    | <4.84E+00 | 0.00E+00                 | 4.84E+00 |
|                   |                                       | Co-60    | <2.03E+00 | 0.00E+00                 | 2.03E+00 |
|                   |                                       | Zn-65    | <3.46E+00 | 0.00E+00                 | 3.46E+00 |
|                   |                                       | Zr-95    | <3.94E+00 | 0.00E+00                 | 3.94E+00 |
|                   |                                       | Nb-95    | <2.67E+00 | 0.00E+00                 | 2.67E+00 |
|                   |                                       | I-131    | <1.19E+01 | 0.00E+00                 | 1.19E+01 |
|                   |                                       | Cs-134   | <1.72E+00 | 0.00E+00                 | 1.72E+00 |
|                   |                                       | Cs-137   | <1.84E+00 | 0.00E+00                 | 1.84E+00 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 066 [ INDICATOR - SSE @ 18.9 miles ]

| Sample ID: | 359754 | Sample Dates: | 10/13/2014 - 11/10/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-------------------------|----------|-----------|--------------------------|----------|
|            |        |               |                         | BaLa-140 | <5.56E+00 | 0.00E+00                 | 5.56E+00 |
|            |        |               |                         | Be-7     | <1.80E+01 | 0.00E+00                 | 1.80E+01 |
|            |        |               |                         | K-40     | 4.28E+01  | 1.84E+01                 | 2.45E+01 |

| Sample ID: | 362151 | Sample Dates: | 11/10/2014 - 12/8/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|------------------------|----------|-----------|--------------------------|----------|
|            |        |               |                        | Beta     | 8.16E-01  | 7.94E-01                 | 1.34E+00 |
|            |        |               |                        | Mn-54    | <5.34E-01 | 0.00E+00                 | 5.34E-01 |
|            |        |               |                        | Co-58    | <6.99E-01 | 0.00E+00                 | 6.99E-01 |
|            |        |               |                        | Fe-59    | <1.47E+00 | 0.00E+00                 | 1.47E+00 |
|            |        |               |                        | Co-60    | <4.83E-01 | 0.00E+00                 | 4.83E-01 |
|            |        |               |                        | Zn-65    | <1.14E+00 | 0.00E+00                 | 1.14E+00 |
|            |        |               |                        | Zr-95    | <1.33E+00 | 0.00E+00                 | 1.33E+00 |
|            |        |               |                        | Nb-95    | <1.05E+00 | 0.00E+00                 | 1.05E+00 |
|            |        |               |                        | I-131    | <1.20E+01 | 0.00E+00                 | 1.20E+01 |
|            |        |               |                        | Cs-134   | <6.21E-01 | 0.00E+00                 | 6.21E-01 |
|            |        |               |                        | Cs-137   | <5.85E-01 | 0.00E+00                 | 5.85E-01 |
|            |        |               |                        | BaLa-140 | <3.54E+00 | 0.00E+00                 | 3.54E+00 |
|            |        |               |                        | Be-7     | <6.20E+00 | 0.00E+00                 | 6.20E+00 |
|            |        |               |                        | K-40     | 4.33E+01  | 7.19E+00                 | 8.42E+00 |

| Sample ID: | 364868 | Sample Dates: | 8/18/2014 - 12/8/2014 | Nuclide | Activity | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-----------------------|---------|----------|--------------------------|----------|
|            |        |               |                       | H3DW    | 3.61E+02 | 1.22E+02                 | 1.90E+02 |

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

Sample Point 060 [ INDICATOR - NE @ 3.23 miles ]

| Sample ID: | 287056 | Sample Dates: | 4/14/2014 - 4/14/2014 | FREESWIM | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-----------------------|----------|---------|-----------|--------------------------|----------|
|            |        |               |                       |          | Mn-54   | <7.94E+00 | 0.00E+00                 | 7.94E+00 |
|            |        |               |                       |          | Co-58   | <9.56E+00 | 0.00E+00                 | 9.56E+00 |
|            |        |               |                       |          | Fe-59   | <2.56E+01 | 0.00E+00                 | 2.56E+01 |
|            |        |               |                       |          | Co-60   | <1.06E+01 | 0.00E+00                 | 1.06E+01 |
|            |        |               |                       |          | Zn-65   | <2.18E+01 | 0.00E+00                 | 2.18E+01 |
|            |        |               |                       |          | Nb-95   | <1.04E+01 | 0.00E+00                 | 1.04E+01 |
|            |        |               |                       |          | I-131   | <2.72E+01 | 0.00E+00                 | 2.72E+01 |
|            |        |               |                       |          | Cs-134  | <7.00E+00 | 0.00E+00                 | 7.00E+00 |
|            |        |               |                       |          | Cs-137  | 1.02E+01  | 5.68E+00                 | 8.21E+00 |
|            |        |               |                       |          | Be-7    | <7.32E+01 | 0.00E+00                 | 7.32E+01 |
|            |        |               |                       |          | K-40    | 3.73E+03  | 1.39E+02                 | 7.81E+01 |
|            |        |               |                       |          | Ag-110M | <8.44E+00 | 0.00E+00                 | 8.44E+00 |
|            |        |               |                       |          | Sb-122  | <5.38E+02 | 0.00E+00                 | 5.38E+02 |
|            |        |               |                       |          | Sb-125  | <1.80E+01 | 0.00E+00                 | 1.80E+01 |

| Sample ID: | 287053 | Sample Dates: | 4/16/2014 - 4/16/2014 | BOTMFEEDER | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-----------------------|------------|---------|-----------|--------------------------|----------|
|            |        |               |                       |            | Mn-54   | <1.42E+01 | 0.00E+00                 | 1.42E+01 |
|            |        |               |                       |            | Co-58   | <1.56E+01 | 0.00E+00                 | 1.56E+01 |
|            |        |               |                       |            | Fe-59   | <3.87E+01 | 0.00E+00                 | 3.87E+01 |
|            |        |               |                       |            | Co-60   | <2.42E+01 | 0.00E+00                 | 2.42E+01 |
|            |        |               |                       |            | Zn-65   | <3.89E+01 | 0.00E+00                 | 3.89E+01 |
|            |        |               |                       |            | Nb-95   | <2.04E+01 | 0.00E+00                 | 2.04E+01 |
|            |        |               |                       |            | I-131   | <1.95E+01 | 0.00E+00                 | 1.95E+01 |
|            |        |               |                       |            | Cs-134  | <1.72E+01 | 0.00E+00                 | 1.72E+01 |
|            |        |               |                       |            | Cs-137  | <2.16E+01 | 0.00E+00                 | 2.16E+01 |
|            |        |               |                       |            | Be-7    | <9.56E+01 | 0.00E+00                 | 9.56E+01 |
|            |        |               |                       |            | K-40    | 3.40E+03  | 2.44E+02                 | 2.05E+02 |
|            |        |               |                       |            | Ag-110M | <1.88E+01 | 0.00E+00                 | 1.88E+01 |
|            |        |               |                       |            | Sb-122  | <8.02E+01 | 0.00E+00                 | 8.02E+01 |
|            |        |               |                       |            | Sb-125  | <4.46E+01 | 0.00E+00                 | 4.46E+01 |

| Sample ID: | 359064 | Sample Dates: | 10/13/2014 - 10/13/2014 | FREESWIM | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-------------------------|----------|---------|-----------|--------------------------|----------|
|            |        |               |                         |          | Mn-54   | <6.65E+00 | 0.00E+00                 | 6.65E+00 |
|            |        |               |                         |          | Co-58   | <6.70E+00 | 0.00E+00                 | 6.70E+00 |
|            |        |               |                         |          | Fe-59   | <1.81E+01 | 0.00E+00                 | 1.81E+01 |
|            |        |               |                         |          | Co-60   | <1.16E+01 | 0.00E+00                 | 1.16E+01 |
|            |        |               |                         |          | Zn-65   | <1.99E+01 | 0.00E+00                 | 1.99E+01 |
|            |        |               |                         |          | Nb-95   | <9.61E+00 | 0.00E+00                 | 9.61E+00 |
|            |        |               |                         |          | I-131   | <1.46E+01 | 0.00E+00                 | 1.46E+01 |
|            |        |               |                         |          | Cs-134  | <8.66E+00 | 0.00E+00                 | 8.66E+00 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 060 [ INDICATOR - NE @ 3.23 miles ]

| Sample ID: | 359064 | Sample Dates: | 10/13/2014 - 10/13/2014 | FREESWIM | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-------------------------|----------|---------|-----------|--------------------------|----------|
|            |        |               |                         |          | Cs-137  | 7.44E+00  | 6.35E+00                 | 1.00E+01 |
|            |        |               |                         |          | Be-7    | <6.63E+01 | 0.00E+00                 | 6.63E+01 |
|            |        |               |                         |          | K-40    | 3.24E+03  | 3.58E+02                 | 1.08E+02 |
|            |        |               |                         |          | Ag-110M | <6.93E+00 | 0.00E+00                 | 6.93E+00 |
|            |        |               |                         |          | Sb-122  | <7.24E+01 | 0.00E+00                 | 7.24E+01 |
|            |        |               |                         |          | Sb-125  | <1.95E+01 | 0.00E+00                 | 1.95E+01 |

| Sample ID: | 359065 | Sample Dates: | 10/13/2014 - 10/13/2014 | BOTMFEEDER | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-------------------------|------------|---------|-----------|--------------------------|----------|
|            |        |               |                         |            | Mn-54   | <1.72E+01 | 0.00E+00                 | 1.72E+01 |
|            |        |               |                         |            | Co-58   | <1.43E+01 | 0.00E+00                 | 1.43E+01 |
|            |        |               |                         |            | Fe-59   | <3.49E+01 | 0.00E+00                 | 3.49E+01 |
|            |        |               |                         |            | Co-60   | <2.18E+01 | 0.00E+00                 | 2.18E+01 |
|            |        |               |                         |            | Zn-65   | <3.27E+01 | 0.00E+00                 | 3.27E+01 |
|            |        |               |                         |            | Nb-95   | <1.70E+01 | 0.00E+00                 | 1.70E+01 |
|            |        |               |                         |            | I-131   | <2.03E+01 | 0.00E+00                 | 2.03E+01 |
|            |        |               |                         |            | Cs-134  | <2.03E+01 | 0.00E+00                 | 2.03E+01 |
|            |        |               |                         |            | Cs-137  | <1.77E+01 | 0.00E+00                 | 1.77E+01 |
|            |        |               |                         |            | Be-7    | <1.06E+02 | 0.00E+00                 | 1.06E+02 |
|            |        |               |                         |            | K-40    | 2.76E+03  | 4.90E+02                 | 2.58E+02 |
|            |        |               |                         |            | Ag-110M | <1.42E+01 | 0.00E+00                 | 1.42E+01 |
|            |        |               |                         |            | Sb-122  | <4.11E+01 | 0.00E+00                 | 4.11E+01 |
|            |        |               |                         |            | Sb-125  | <4.16E+01 | 0.00E+00                 | 4.16E+01 |

Sample Point 063 [ INDICATOR - ESE @ 0.8 miles ]

| Sample ID: | 287054 | Sample Dates: | 4/14/2014 - 4/14/2014 | BOTMFEEDER | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-----------------------|------------|---------|-----------|--------------------------|----------|
|            |        |               |                       |            | Mn-54   | <1.41E+01 | 0.00E+00                 | 1.41E+01 |
|            |        |               |                       |            | Co-58   | <1.46E+01 | 0.00E+00                 | 1.46E+01 |
|            |        |               |                       |            | Fe-59   | <3.07E+01 | 0.00E+00                 | 3.07E+01 |
|            |        |               |                       |            | Co-60   | <1.68E+01 | 0.00E+00                 | 1.68E+01 |
|            |        |               |                       |            | Zn-65   | <2.87E+01 | 0.00E+00                 | 2.87E+01 |
|            |        |               |                       |            | Nb-95   | <1.41E+01 | 0.00E+00                 | 1.41E+01 |
|            |        |               |                       |            | I-131   | <2.10E+01 | 0.00E+00                 | 2.10E+01 |
|            |        |               |                       |            | Cs-134  | <1.20E+01 | 0.00E+00                 | 1.20E+01 |
|            |        |               |                       |            | Cs-137  | 1.77E+01  | 5.68E+00                 | 1.31E+01 |
|            |        |               |                       |            | Be-7    | <1.09E+02 | 0.00E+00                 | 1.09E+02 |
|            |        |               |                       |            | K-40    | 3.64E+03  | 1.55E+02                 | 1.21E+02 |
|            |        |               |                       |            | Ag-110M | <1.08E+01 | 0.00E+00                 | 1.08E+01 |
|            |        |               |                       |            | Sb-122  | <1.33E+02 | 0.00E+00                 | 1.33E+02 |
|            |        |               |                       |            | Sb-125  | <2.87E+01 | 0.00E+00                 | 2.87E+01 |

| Sample ID: | 287057 | Sample Dates: | 4/14/2014 - 4/14/2014 | FREESWIM | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-----------------------|----------|---------|-----------|--------------------------|----------|
|            |        |               |                       |          | Mn-54   | <1.23E+01 | 0.00E+00                 | 1.23E+01 |
|            |        |               |                       |          | Co-58   | <1.23E+01 | 0.00E+00                 | 1.23E+01 |
|            |        |               |                       |          | Fe-59   | <2.71E+01 | 0.00E+00                 | 2.71E+01 |
|            |        |               |                       |          | Co-60   | <1.59E+01 | 0.00E+00                 | 1.59E+01 |
|            |        |               |                       |          | Zn-65   | <3.51E+01 | 0.00E+00                 | 3.51E+01 |
|            |        |               |                       |          | Nb-95   | <1.39E+01 | 0.00E+00                 | 1.39E+01 |
|            |        |               |                       |          | I-131   | <2.09E+01 | 0.00E+00                 | 2.09E+01 |
|            |        |               |                       |          | Cs-134  | <1.11E+01 | 0.00E+00                 | 1.11E+01 |
|            |        |               |                       |          | Cs-137  | <1.75E+01 | 0.00E+00                 | 1.75E+01 |
|            |        |               |                       |          | Be-7    | <9.73E+01 | 0.00E+00                 | 9.73E+01 |
|            |        |               |                       |          | K-40    | 3.77E+03  | 1.73E+02                 | 9.72E+01 |
|            |        |               |                       |          | Ag-110M | <1.16E+01 | 0.00E+00                 | 1.16E+01 |
|            |        |               |                       |          | Sb-122  | <1.27E+02 | 0.00E+00                 | 1.27E+02 |
|            |        |               |                       |          | Sb-125  | <2.77E+01 | 0.00E+00                 | 2.77E+01 |

| Sample ID: | 359066 | Sample Dates: | 10/15/2014 - 10/15/2014 | FREESWIM | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-------------------------|----------|---------|-----------|--------------------------|----------|
|            |        |               |                         |          | Mn-54   | <4.88E+00 | 0.00E+00                 | 4.88E+00 |
|            |        |               |                         |          | Co-58   | <5.81E+00 | 0.00E+00                 | 5.81E+00 |
|            |        |               |                         |          | Fe-59   | <1.35E+01 | 0.00E+00                 | 1.35E+01 |
|            |        |               |                         |          | Co-60   | <5.57E+00 | 0.00E+00                 | 5.57E+00 |
|            |        |               |                         |          | Zn-65   | <1.43E+01 | 0.00E+00                 | 1.43E+01 |
|            |        |               |                         |          | Nb-95   | <7.13E+00 | 0.00E+00                 | 7.13E+00 |
|            |        |               |                         |          | I-131   | <1.17E+01 | 0.00E+00                 | 1.17E+01 |
|            |        |               |                         |          | Cs-134  | <6.57E+00 | 0.00E+00                 | 6.57E+00 |
|            |        |               |                         |          | Cs-137  | 1.02E+01  | 4.75E+00                 | 6.88E+00 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 063 [ INDICATOR - ESE @ 0.8 miles ]

| Sample ID: | 359066 | Sample Dates: | 10/15/2014 - 10/15/2014 | FREESWIM | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-------------------------|----------|---------|-----------|--------------------------|----------|
|            |        |               |                         |          | Be-7    | <4.14E+01 | 0.00E+00                 | 4.14E+01 |
|            |        |               |                         |          | K-40    | 3.11E+03  | 3.14E+02                 | 6.77E+01 |
|            |        |               |                         |          | Ag-110M | <4.74E+00 | 0.00E+00                 | 4.74E+00 |
|            |        |               |                         |          | Sb-122  | <1.11E+02 | 0.00E+00                 | 1.11E+02 |
|            |        |               |                         |          | Sb-125  | <1.25E+01 | 0.00E+00                 | 1.25E+01 |

| Sample ID: | 359070 | Sample Dates: | 10/15/2014 - 10/22/2014 | BOTMFEEDER | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-------------------------|------------|---------|-----------|--------------------------|----------|
|            |        |               |                         |            | Mn-54   | <7.29E+00 | 0.00E+00                 | 7.29E+00 |
|            |        |               |                         |            | Co-58   | <3.85E+01 | 0.00E+00                 | 3.85E+01 |
|            |        |               |                         |            | Fe-59   | <6.83E+01 | 0.00E+00                 | 6.83E+01 |
|            |        |               |                         |            | Co-60   | <4.70E+01 | 0.00E+00                 | 4.70E+01 |
|            |        |               |                         |            | Zn-65   | <5.04E+01 | 0.00E+00                 | 5.04E+01 |
|            |        |               |                         |            | Nb-95   | <3.26E+01 | 0.00E+00                 | 3.26E+01 |
|            |        |               |                         |            | I-131   | <3.29E+01 | 0.00E+00                 | 3.29E+01 |
|            |        |               |                         |            | Cs-134  | <4.78E+01 | 0.00E+00                 | 4.78E+01 |
|            |        |               |                         |            | Cs-137  | <4.51E+01 | 0.00E+00                 | 4.51E+01 |
|            |        |               |                         |            | Be-7    | <2.44E+02 | 0.00E+00                 | 2.44E+02 |
|            |        |               |                         |            | K-40    | 3.49E+03  | 8.45E+02                 | 5.66E+02 |
|            |        |               |                         |            | Ag-110M | <3.68E+01 | 0.00E+00                 | 3.68E+01 |
|            |        |               |                         |            | Sb-122  | <9.12E+01 | 0.00E+00                 | 9.12E+01 |
|            |        |               |                         |            | Sb-125  | <7.49E+01 | 0.00E+00                 | 7.49E+01 |

Sample Point 067 [ INDICATOR - SSE @ 4.34 miles ]

| Sample ID: | 287055 | Sample Dates: | 4/14/2014 - 4/14/2014 | BOTMFEEDER | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-----------------------|------------|---------|-----------|--------------------------|----------|
|            |        |               |                       |            | Mn-54   | <2.52E+01 | 0.00E+00                 | 2.52E+01 |
|            |        |               |                       |            | Co-58   | <2.13E+01 | 0.00E+00                 | 2.13E+01 |
|            |        |               |                       |            | Fe-59   | <4.94E+01 | 0.00E+00                 | 4.94E+01 |
|            |        |               |                       |            | Co-60   | <2.34E+01 | 0.00E+00                 | 2.34E+01 |
|            |        |               |                       |            | Zn-65   | <4.26E+01 | 0.00E+00                 | 4.26E+01 |
|            |        |               |                       |            | Nb-95   | <2.67E+01 | 0.00E+00                 | 2.67E+01 |
|            |        |               |                       |            | I-131   | <3.29E+01 | 0.00E+00                 | 3.29E+01 |
|            |        |               |                       |            | Cs-134  | <1.67E+01 | 0.00E+00                 | 1.67E+01 |
|            |        |               |                       |            | Cs-137  | <2.32E+01 | 0.00E+00                 | 2.32E+01 |
|            |        |               |                       |            | Be-7    | <1.49E+02 | 0.00E+00                 | 1.49E+02 |
|            |        |               |                       |            | K-40    | 3.50E+03  | 2.52E+02                 | 1.87E+02 |
|            |        |               |                       |            | Ag-110M | <1.86E+01 | 0.00E+00                 | 1.86E+01 |
|            |        |               |                       |            | Sb-122  | <1.92E+02 | 0.00E+00                 | 1.92E+02 |
|            |        |               |                       |            | Sb-125  | <4.80E+01 | 0.00E+00                 | 4.80E+01 |

| Sample ID: | 287058 | Sample Dates: | 4/14/2014 - 4/14/2014 | FREESWIM | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-----------------------|----------|---------|-----------|--------------------------|----------|
|            |        |               |                       |          | Mn-54   | <1.18E+01 | 0.00E+00                 | 1.18E+01 |
|            |        |               |                       |          | Co-58   | <1.28E+01 | 0.00E+00                 | 1.28E+01 |
|            |        |               |                       |          | Fe-59   | <3.37E+01 | 0.00E+00                 | 3.37E+01 |
|            |        |               |                       |          | Co-60   | <1.68E+01 | 0.00E+00                 | 1.68E+01 |
|            |        |               |                       |          | Zn-65   | <3.56E+01 | 0.00E+00                 | 3.56E+01 |
|            |        |               |                       |          | Nb-95   | <1.60E+01 | 0.00E+00                 | 1.60E+01 |
|            |        |               |                       |          | I-131   | <1.72E+01 | 0.00E+00                 | 1.72E+01 |
|            |        |               |                       |          | Cs-134  | <1.29E+01 | 0.00E+00                 | 1.29E+01 |
|            |        |               |                       |          | Cs-137  | <1.83E+01 | 0.00E+00                 | 1.83E+01 |
|            |        |               |                       |          | Be-7    | <1.08E+02 | 0.00E+00                 | 1.08E+02 |
|            |        |               |                       |          | K-40    | 3.91E+03  | 2.04E+02                 | 1.36E+02 |
|            |        |               |                       |          | Ag-110M | <1.33E+01 | 0.00E+00                 | 1.33E+01 |
|            |        |               |                       |          | Sb-122  | <6.60E+01 | 0.00E+00                 | 6.60E+01 |
|            |        |               |                       |          | Sb-125  | <2.87E+01 | 0.00E+00                 | 2.87E+01 |

| Sample ID: | 359068 | Sample Dates: | 10/13/2014 - 10/13/2014 | FREESWIM | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|--------|---------------|-------------------------|----------|---------|-----------|--------------------------|----------|
|            |        |               |                         |          | Mn-54   | <1.32E+01 | 0.00E+00                 | 1.32E+01 |
|            |        |               |                         |          | Co-58   | <1.47E+01 | 0.00E+00                 | 1.47E+01 |
|            |        |               |                         |          | Fe-59   | <3.17E+01 | 0.00E+00                 | 3.17E+01 |
|            |        |               |                         |          | Co-60   | <1.76E+01 | 0.00E+00                 | 1.76E+01 |
|            |        |               |                         |          | Zn-65   | <3.49E+01 | 0.00E+00                 | 3.49E+01 |
|            |        |               |                         |          | Nb-95   | <1.30E+01 | 0.00E+00                 | 1.30E+01 |
|            |        |               |                         |          | I-131   | <1.55E+01 | 0.00E+00                 | 1.55E+01 |
|            |        |               |                         |          | Cs-134  | <1.48E+01 | 0.00E+00                 | 1.48E+01 |
|            |        |               |                         |          | Cs-137  | <1.92E+01 | 0.00E+00                 | 1.92E+01 |
|            |        |               |                         |          | Be-7    | <8.02E+01 | 0.00E+00                 | 8.02E+01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 067 [ INDICATOR - SSE @ 4.34 miles ]

|                   |                                       |            |         |           |                          |          |
|-------------------|---------------------------------------|------------|---------|-----------|--------------------------|----------|
| Sample ID: 359068 | Sample Dates: 10/13/2014 - 10/13/2014 | FREESWIM   | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       |            | K-40    | 2.95E+03  | 4.68E+02                 | 2.18E+02 |
|                   |                                       |            | Ag-110M | <1.08E+01 | 0.00E+00                 | 1.08E+01 |
|                   |                                       |            | Sb-122  | <2.79E+01 | 0.00E+00                 | 2.79E+01 |
|                   |                                       |            | Sb-125  | <3.47E+01 | 0.00E+00                 | 3.47E+01 |
| Sample ID: 359069 | Sample Dates: 10/13/2014 - 10/13/2014 | BOTMFEEDER | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       |            | Mn-54   | <1.52E+01 | 0.00E+00                 | 1.52E+01 |
|                   |                                       |            | Co-58   | <1.52E+01 | 0.00E+00                 | 1.52E+01 |
|                   |                                       |            | Fe-59   | <3.50E+01 | 0.00E+00                 | 3.50E+01 |
|                   |                                       |            | Co-60   | <2.46E+01 | 0.00E+00                 | 2.46E+01 |
|                   |                                       |            | Zn-65   | <5.04E+01 | 0.00E+00                 | 5.04E+01 |
|                   |                                       |            | Nb-95   | <1.66E+01 | 0.00E+00                 | 1.66E+01 |
|                   |                                       |            | I-131   | <2.33E+01 | 0.00E+00                 | 2.33E+01 |
|                   |                                       |            | Cs-134  | <2.23E+01 | 0.00E+00                 | 2.23E+01 |
|                   |                                       |            | Cs-137  | <2.90E+01 | 0.00E+00                 | 2.90E+01 |
|                   |                                       |            | Be-7    | <1.79E+02 | 0.00E+00                 | 1.79E+02 |
|                   |                                       |            | K-40    | 1.94E+03  | 4.31E+02                 | 5.58E+01 |
|                   |                                       |            | Ag-110M | <2.03E+01 | 0.00E+00                 | 2.03E+01 |
|                   |                                       |            | Sb-122  | <4.64E+01 | 0.00E+00                 | 4.64E+01 |
|                   |                                       |            | Sb-125  | <5.05E+01 | 0.00E+00                 | 5.05E+01 |

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

Sample Point 071 [ CONTROL - SSE @ 10.2 miles ]

|                   |                                     |          |           |                          |          |
|-------------------|-------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 280686 | Sample Dates: 1/13/2014 - 1/13/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Be-7     | <3.69E+00 | 0.00E+00                 | 3.69E+00 |
|                   |                                     | K-40     | 1.31E+01  | 2.73E+00                 | 4.91E+00 |
|                   |                                     | LLI-131  | <4.90E-01 | 0.00E+00                 | 4.90E-01 |
|                   |                                     | I-131    | <7.91E+00 | 0.00E+00                 | 7.91E+00 |
|                   |                                     | Cs-134   | <8.36E+00 | 0.00E+00                 | 8.36E+00 |
|                   |                                     | Cs-137   | <9.54E+00 | 0.00E+00                 | 9.54E+00 |
|                   |                                     | BaLa-140 | <1.42E+01 | 0.00E+00                 | 1.42E+01 |
|                   |                                     | Be-7     | <7.04E+01 | 0.00E+00                 | 7.04E+01 |
|                   |                                     | K-40     | 1.55E+03  | 1.19E+02                 | 9.86E+01 |
| Sample ID: 281231 | Sample Dates: 1/27/2014 - 1/27/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Be-7     | <3.09E+00 | 0.00E+00                 | 3.09E+00 |
|                   |                                     | K-40     | 9.14E+00  | 2.75E+00                 | 3.80E+00 |
|                   |                                     | LLI-131  | <5.84E-01 | 0.00E+00                 | 5.84E-01 |
|                   |                                     | I-131    | <9.31E+00 | 0.00E+00                 | 9.31E+00 |
|                   |                                     | Cs-134   | <5.92E+00 | 0.00E+00                 | 5.92E+00 |
|                   |                                     | Cs-137   | <7.73E+00 | 0.00E+00                 | 7.73E+00 |
|                   |                                     | BaLa-140 | <1.07E+01 | 0.00E+00                 | 1.07E+01 |
|                   |                                     | Be-7     | <6.54E+01 | 0.00E+00                 | 6.54E+01 |
|                   |                                     | K-40     | 1.41E+03  | 1.16E+02                 | 9.44E+01 |
| Sample ID: 283421 | Sample Dates: 2/10/2014 - 2/10/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Be-7     | <4.63E+00 | 0.00E+00                 | 4.63E+00 |
|                   |                                     | K-40     | 1.56E+01  | 4.03E+00                 | 8.23E+00 |
|                   |                                     | LLI-131  | <6.04E-01 | 0.00E+00                 | 6.04E-01 |
|                   |                                     | I-131    | <7.35E+00 | 0.00E+00                 | 7.35E+00 |
|                   |                                     | Cs-134   | <8.61E+00 | 0.00E+00                 | 8.61E+00 |
|                   |                                     | Cs-137   | <1.00E+01 | 0.00E+00                 | 1.00E+01 |
|                   |                                     | BaLa-140 | <8.28E+00 | 0.00E+00                 | 8.28E+00 |
|                   |                                     | Be-7     | <6.60E+01 | 0.00E+00                 | 6.60E+01 |
|                   |                                     | K-40     | 1.44E+03  | 1.24E+02                 | 1.10E+02 |
| Sample ID: 282162 | Sample Dates: 2/24/2014 - 2/24/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Be-7     | <5.16E+00 | 0.00E+00                 | 5.16E+00 |
|                   |                                     | K-40     | 1.60E+01  | 3.73E+00                 | 7.09E+00 |
|                   |                                     | LLI-131  | <6.42E-01 | 0.00E+00                 | 6.42E-01 |
|                   |                                     | I-131    | <6.50E+00 | 0.00E+00                 | 6.50E+00 |
|                   |                                     | Cs-134   | <5.56E+00 | 0.00E+00                 | 5.56E+00 |
|                   |                                     | Cs-137   | <5.99E+00 | 0.00E+00                 | 5.99E+00 |
|                   |                                     | BaLa-140 | <6.23E+00 | 0.00E+00                 | 6.23E+00 |
|                   |                                     | Be-7     | <4.67E+01 | 0.00E+00                 | 4.67E+01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 071 [ CONTROL - SSE @ 10.2 miles ]

|            |        |               |                       |          |           |                          |          |
|------------|--------|---------------|-----------------------|----------|-----------|--------------------------|----------|
| Sample ID: | 282162 | Sample Dates: | 2/24/2014 - 2/24/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | K-40     | 1.55E+03  | 8.27E+01                 | 4.85E+01 |
| Sample ID: | 285153 | Sample Dates: | 3/10/2014 - 3/10/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Be-7     | 1.74E+00  | 1.20E+00                 | 3.19E+00 |
|            |        |               |                       | K-40     | 4.63E+01  | 4.31E+00                 | 4.53E+00 |
|            |        |               |                       | LLI-131  | <6.37E-01 | 0.00E+00                 | 6.37E-01 |
|            |        |               |                       | I-131    | <8.75E+00 | 0.00E+00                 | 8.75E+00 |
|            |        |               |                       | Cs-134   | <5.71E+00 | 0.00E+00                 | 5.71E+00 |
|            |        |               |                       | Cs-137   | <8.65E+00 | 0.00E+00                 | 8.65E+00 |
|            |        |               |                       | BaLa-140 | <9.66E+00 | 0.00E+00                 | 9.66E+00 |
|            |        |               |                       | Be-7     | 4.28E+01  | 2.06E+01                 | 5.04E+01 |
|            |        |               |                       | K-40     | 1.54E+03  | 1.12E+02                 | 8.79E+01 |
| Sample ID: | 286262 | Sample Dates: | 3/24/2014 - 3/24/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Be-7     | <3.21E+00 | 0.00E+00                 | 3.21E+00 |
|            |        |               |                       | K-40     | 9.36E+00  | 2.71E+00                 | 4.37E+00 |
|            |        |               |                       | LLI-131  | <6.37E-01 | 0.00E+00                 | 6.37E-01 |
|            |        |               |                       | I-131    | <6.01E+00 | 0.00E+00                 | 6.01E+00 |
|            |        |               |                       | Cs-134   | <6.03E+00 | 0.00E+00                 | 6.03E+00 |
|            |        |               |                       | Cs-137   | <7.35E+00 | 0.00E+00                 | 7.35E+00 |
|            |        |               |                       | BaLa-140 | <5.64E+00 | 0.00E+00                 | 5.64E+00 |
|            |        |               |                       | Be-7     | <5.13E+01 | 0.00E+00                 | 5.13E+01 |
|            |        |               |                       | K-40     | 1.51E+03  | 8.15E+01                 | 3.73E+01 |
| Sample ID: | 288398 | Sample Dates: | 4/7/2014 - 4/7/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Be-7     | <4.00E+00 | 0.00E+00                 | 4.00E+00 |
|            |        |               |                       | K-40     | 1.25E+01  | 3.18E+00                 | 3.32E+00 |
|            |        |               |                       | LLI-131  | <6.04E-01 | 0.00E+00                 | 6.04E-01 |
|            |        |               |                       | I-131    | <8.11E+00 | 0.00E+00                 | 8.11E+00 |
|            |        |               |                       | Cs-134   | <7.16E+00 | 0.00E+00                 | 7.16E+00 |
|            |        |               |                       | Cs-137   | <8.35E+00 | 0.00E+00                 | 8.35E+00 |
|            |        |               |                       | BaLa-140 | <1.27E+01 | 0.00E+00                 | 1.27E+01 |
|            |        |               |                       | Be-7     | <6.58E+01 | 0.00E+00                 | 6.58E+01 |
|            |        |               |                       | K-40     | 1.43E+03  | 1.20E+02                 | 9.65E+01 |
| Sample ID: | 289505 | Sample Dates: | 4/21/2014 - 4/21/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Be-7     | <2.56E+00 | 0.00E+00                 | 2.56E+00 |
|            |        |               |                       | K-40     | 2.21E+01  | 3.09E+00                 | 3.75E+00 |
|            |        |               |                       | LLI-131  | <5.14E-01 | 0.00E+00                 | 5.14E-01 |
|            |        |               |                       | I-131    | <8.59E+00 | 0.00E+00                 | 8.59E+00 |
|            |        |               |                       | Cs-134   | <6.84E+00 | 0.00E+00                 | 6.84E+00 |
|            |        |               |                       | Cs-137   | <1.04E+01 | 0.00E+00                 | 1.04E+01 |
|            |        |               |                       | BaLa-140 | <1.00E+01 | 0.00E+00                 | 1.00E+01 |
|            |        |               |                       | Be-7     | <6.45E+01 | 0.00E+00                 | 6.45E+01 |
|            |        |               |                       | K-40     | 1.41E+03  | 1.06E+02                 | 2.18E+01 |
| Sample ID: | 291520 | Sample Dates: | 5/5/2014 - 5/5/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Be-7     | <3.68E+00 | 0.00E+00                 | 3.68E+00 |
|            |        |               |                       | K-40     | 1.57E+01  | 3.22E+00                 | 5.18E+00 |
|            |        |               |                       | LLI-131  | <6.08E-01 | 0.00E+00                 | 6.08E-01 |
|            |        |               |                       | I-131    | <9.00E+00 | 0.00E+00                 | 9.00E+00 |
|            |        |               |                       | Cs-134   | <6.67E+00 | 0.00E+00                 | 6.67E+00 |
|            |        |               |                       | Cs-137   | <9.70E+00 | 0.00E+00                 | 9.70E+00 |
|            |        |               |                       | BaLa-140 | <1.05E+01 | 0.00E+00                 | 1.05E+01 |
|            |        |               |                       | Be-7     | <6.58E+01 | 0.00E+00                 | 6.58E+01 |
|            |        |               |                       | K-40     | 1.55E+03  | 1.22E+02                 | 9.99E+01 |
| Sample ID: | 293076 | Sample Dates: | 5/19/2014 - 5/19/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Be-7     | <3.41E+00 | 0.00E+00                 | 3.41E+00 |
|            |        |               |                       | K-40     | 2.10E+01  | 4.55E+00                 | 6.75E+00 |
|            |        |               |                       | LLI-131  | <5.86E-01 | 0.00E+00                 | 5.86E-01 |
|            |        |               |                       | I-131    | <8.92E+00 | 0.00E+00                 | 8.92E+00 |
|            |        |               |                       | Cs-134   | <9.04E+00 | 0.00E+00                 | 9.04E+00 |
|            |        |               |                       | Cs-137   | <1.12E+01 | 0.00E+00                 | 1.12E+01 |
|            |        |               |                       | BaLa-140 | <1.05E+01 | 0.00E+00                 | 1.05E+01 |
|            |        |               |                       | Be-7     | <8.59E+01 | 0.00E+00                 | 8.59E+01 |
|            |        |               |                       | K-40     | 1.50E+03  | 1.15E+02                 | 9.10E+01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 071 [ CONTROL - SSE @ 10.2 miles ]

|                   |                                     |          |           |                          |          |
|-------------------|-------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 295230 | Sample Dates: 6/2/2014 - 6/2/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Be-7     | <3.50E+00 | 0.00E+00                 | 3.50E+00 |
|                   |                                     | K-40     | 1.31E+01  | 2.61E+00                 | 4.55E+00 |
|                   |                                     | LLI-131  | <6.06E-01 | 0.00E+00                 | 6.06E-01 |
|                   |                                     | I-131    | <7.83E+00 | 0.00E+00                 | 7.83E+00 |
|                   |                                     | Cs-134   | <6.19E+00 | 0.00E+00                 | 6.19E+00 |
|                   |                                     | Cs-137   | <7.81E+00 | 0.00E+00                 | 7.81E+00 |
|                   |                                     | BaLa-140 | <5.94E+00 | 0.00E+00                 | 5.94E+00 |
|                   |                                     | Be-7     | <5.05E+01 | 0.00E+00                 | 5.05E+01 |
| Sample ID: 295992 | Sample Dates: 6/16/2014 - 6/16/2014 | K-40     | 1.60E+03  | 9.00E+01                 | 8.43E+01 |
|                   |                                     | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Be-7     | <4.06E+00 | 0.00E+00                 | 4.06E+00 |
|                   |                                     | K-40     | 1.12E+01  | 3.16E+00                 | 6.86E+00 |
|                   |                                     | LLI-131  | <5.85E-01 | 0.00E+00                 | 5.85E-01 |
|                   |                                     | I-131    | <6.94E+00 | 0.00E+00                 | 6.94E+00 |
|                   |                                     | Cs-134   | <9.17E+00 | 0.00E+00                 | 9.17E+00 |
|                   |                                     | Cs-137   | <1.05E+01 | 0.00E+00                 | 1.05E+01 |
|                   |                                     | BaLa-140 | <1.22E+01 | 0.00E+00                 | 1.22E+01 |
| Sample ID: 296758 | Sample Dates: 6/30/2014 - 6/30/2014 | Be-7     | <6.27E+01 | 0.00E+00                 | 6.27E+01 |
|                   |                                     | K-40     | 1.45E+03  | 1.18E+02                 | 9.55E+01 |
|                   |                                     | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Be-7     | <3.44E+00 | 0.00E+00                 | 3.44E+00 |
|                   |                                     | K-40     | 1.10E+01  | 3.05E+00                 | 4.52E+00 |
|                   |                                     | LLI-131  | <6.41E-01 | 0.00E+00                 | 6.41E-01 |
|                   |                                     | I-131    | <9.07E+00 | 0.00E+00                 | 9.07E+00 |
|                   |                                     | Cs-134   | <9.76E+00 | 0.00E+00                 | 9.76E+00 |
|                   |                                     | Cs-137   | <1.08E+01 | 0.00E+00                 | 1.08E+01 |
| Sample ID: 297385 | Sample Dates: 7/14/2014 - 7/14/2014 | BaLa-140 | <3.05E+00 | 0.00E+00                 | 3.05E+00 |
|                   |                                     | Be-7     | <6.16E+01 | 0.00E+00                 | 6.16E+01 |
|                   |                                     | K-40     | 1.39E+03  | 1.15E+02                 | 1.03E+02 |
|                   |                                     | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | LLI-131  | <6.13E-01 | 0.00E+00                 | 6.13E-01 |
|                   |                                     | I-131    | <3.18E+01 | 0.00E+00                 | 3.18E+01 |
|                   |                                     | Cs-134   | <1.12E+01 | 0.00E+00                 | 1.12E+01 |
|                   |                                     | Cs-137   | <1.37E+01 | 0.00E+00                 | 1.37E+01 |
|                   |                                     | BaLa-140 | <1.00E+01 | 0.00E+00                 | 1.00E+01 |
| Sample ID: 350680 | Sample Dates: 7/28/2014 - 7/28/2014 | Be-7     | <1.18E+02 | 0.00E+00                 | 1.18E+02 |
|                   |                                     | K-40     | 1.56E+03  | 3.64E+02                 | 5.04E+01 |
|                   |                                     | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | LLI-131  | <6.50E-01 | 0.00E+00                 | 6.50E-01 |
|                   |                                     | I-131    | <5.82E+00 | 0.00E+00                 | 5.82E+00 |
|                   |                                     | Cs-134   | <6.16E+00 | 0.00E+00                 | 6.16E+00 |
|                   |                                     | Cs-137   | <6.54E+00 | 0.00E+00                 | 6.54E+00 |
|                   |                                     | BaLa-140 | <1.10E+01 | 0.00E+00                 | 1.10E+01 |
|                   |                                     | Be-7     | <4.52E+01 | 0.00E+00                 | 4.52E+01 |
| Sample ID: 351626 | Sample Dates: 8/11/2014 - 8/11/2014 | K-40     | 1.40E+03  | 2.22E+02                 | 1.26E+02 |
|                   |                                     | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | LLI-131  | <6.26E-01 | 0.00E+00                 | 6.26E-01 |
|                   |                                     | I-131    | <9.39E+00 | 0.00E+00                 | 9.39E+00 |
|                   |                                     | Cs-134   | <7.92E+00 | 0.00E+00                 | 7.92E+00 |
|                   |                                     | Cs-137   | <1.26E+01 | 0.00E+00                 | 1.26E+01 |
|                   |                                     | BaLa-140 | <1.19E+01 | 0.00E+00                 | 1.19E+01 |
|                   |                                     | Be-7     | <8.99E+01 | 0.00E+00                 | 8.99E+01 |
|                   |                                     | K-40     | 1.52E+03  | 2.57E+02                 | 2.25E+01 |
| Sample ID: 354079 | Sample Dates: 8/25/2014 - 8/25/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | LLI-131  | <6.45E-01 | 0.00E+00                 | 6.45E-01 |
|                   |                                     | I-131    | <9.84E+00 | 0.00E+00                 | 9.84E+00 |
|                   |                                     | Cs-134   | <9.54E+00 | 0.00E+00                 | 9.54E+00 |
|                   |                                     | Cs-137   | <1.04E+01 | 0.00E+00                 | 1.04E+01 |
|                   |                                     | BaLa-140 | <8.09E+00 | 0.00E+00                 | 8.09E+00 |
|                   |                                     | Be-7     | <5.93E+01 | 0.00E+00                 | 5.93E+01 |
|                   |                                     | K-40     | 1.02E+03  | 2.06E+02                 | 1.17E+02 |

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





# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 071 [ CONTROL - SSE @ 10.2 miles ]

|                   |                                       |          |           |                          |          |
|-------------------|---------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 354772 | Sample Dates: 9/8/2014 - 9/8/2014     | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | LLI-131  | <6.43E-01 | 0.00E+00                 | 6.43E-01 |
|                   |                                       | I-131    | <9.81E+00 | 0.00E+00                 | 9.81E+00 |
|                   |                                       | Cs-134   | <1.07E+01 | 0.00E+00                 | 1.07E+01 |
|                   |                                       | Cs-137   | <8.92E+00 | 0.00E+00                 | 8.92E+00 |
|                   |                                       | BaLa-140 | <8.08E+00 | 0.00E+00                 | 8.08E+00 |
|                   |                                       | Be-7     | <6.58E+01 | 0.00E+00                 | 6.58E+01 |
|                   |                                       | K-40     | 1.74E+03  | 2.83E+02                 | 1.05E+02 |
| Sample ID: 355650 | Sample Dates: 9/22/2014 - 9/22/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | LLI-131  | <5.75E-01 | 0.00E+00                 | 5.75E-01 |
|                   |                                       | I-131    | <7.63E+00 | 0.00E+00                 | 7.63E+00 |
|                   |                                       | Cs-134   | <8.97E+00 | 0.00E+00                 | 8.97E+00 |
|                   |                                       | Cs-137   | <9.62E+00 | 0.00E+00                 | 9.62E+00 |
|                   |                                       | BaLa-140 | <7.79E+00 | 0.00E+00                 | 7.79E+00 |
|                   |                                       | Be-7     | <7.36E+01 | 0.00E+00                 | 7.36E+01 |
|                   |                                       | K-40     | 1.45E+03  | 2.49E+02                 | 2.25E+01 |
| Sample ID: 357063 | Sample Dates: 10/6/2014 - 10/6/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | LLI-131  | <6.49E-01 | 0.00E+00                 | 6.49E-01 |
|                   |                                       | I-131    | <1.04E+01 | 0.00E+00                 | 1.04E+01 |
|                   |                                       | Cs-134   | <1.02E+01 | 0.00E+00                 | 1.02E+01 |
|                   |                                       | Cs-137   | <1.08E+01 | 0.00E+00                 | 1.08E+01 |
|                   |                                       | BaLa-140 | <3.02E+00 | 0.00E+00                 | 3.02E+00 |
|                   |                                       | Be-7     | <5.95E+01 | 0.00E+00                 | 5.95E+01 |
|                   |                                       | K-40     | 1.47E+03  | 2.55E+02                 | 9.68E+01 |
| Sample ID: 358666 | Sample Dates: 10/20/2014 - 10/20/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | LLI-131  | <5.43E-01 | 0.00E+00                 | 5.43E-01 |
|                   |                                       | I-131    | <7.17E+00 | 0.00E+00                 | 7.17E+00 |
|                   |                                       | Cs-134   | <9.25E+00 | 0.00E+00                 | 9.25E+00 |
|                   |                                       | Cs-137   | <8.17E+00 | 0.00E+00                 | 8.17E+00 |
|                   |                                       | BaLa-140 | <2.42E+00 | 0.00E+00                 | 2.42E+00 |
|                   |                                       | Be-7     | <5.49E+01 | 0.00E+00                 | 5.49E+01 |
|                   |                                       | K-40     | 1.47E+03  | 2.42E+02                 | 1.31E+02 |
| Sample ID: 360044 | Sample Dates: 11/3/2014 - 11/3/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | LLI-131  | <6.29E-01 | 0.00E+00                 | 6.29E-01 |
|                   |                                       | I-131    | <8.16E+00 | 0.00E+00                 | 8.16E+00 |
|                   |                                       | Cs-134   | <8.33E+00 | 0.00E+00                 | 8.33E+00 |
|                   |                                       | Cs-137   | <8.54E+00 | 0.00E+00                 | 8.54E+00 |
|                   |                                       | BaLa-140 | <7.93E+00 | 0.00E+00                 | 7.93E+00 |
|                   |                                       | Be-7     | <5.68E+01 | 0.00E+00                 | 5.68E+01 |
|                   |                                       | K-40     | 1.56E+03  | 2.42E+02                 | 1.83E+01 |
| Sample ID: 361584 | Sample Dates: 11/17/2014 - 11/17/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | LLI-131  | <5.88E-01 | 0.00E+00                 | 5.88E-01 |
|                   |                                       | I-131    | <7.14E+00 | 0.00E+00                 | 7.14E+00 |
|                   |                                       | Cs-134   | <1.17E+01 | 0.00E+00                 | 1.17E+01 |
|                   |                                       | Cs-137   | <1.04E+01 | 0.00E+00                 | 1.04E+01 |
|                   |                                       | BaLa-140 | <8.22E+00 | 0.00E+00                 | 8.22E+00 |
|                   |                                       | Be-7     | <7.25E+01 | 0.00E+00                 | 7.25E+01 |
|                   |                                       | K-40     | 1.49E+03  | 2.70E+02                 | 1.60E+02 |
| Sample ID: 362797 | Sample Dates: 12/1/2014 - 12/1/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | LLI-131  | <6.16E-01 | 0.00E+00                 | 6.16E-01 |
|                   |                                       | I-131    | <1.18E+01 | 0.00E+00                 | 1.18E+01 |
|                   |                                       | Cs-134   | <9.54E+00 | 0.00E+00                 | 9.54E+00 |
|                   |                                       | Cs-137   | <1.12E+01 | 0.00E+00                 | 1.12E+01 |
|                   |                                       | BaLa-140 | <3.02E+00 | 0.00E+00                 | 3.02E+00 |
|                   |                                       | Be-7     | <8.22E+01 | 0.00E+00                 | 8.22E+01 |
|                   |                                       | K-40     | 1.68E+03  | 2.81E+02                 | 1.33E+02 |
| Sample ID: 363980 | Sample Dates: 12/15/2014 - 12/15/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | LLI-131  | <5.99E-01 | 0.00E+00                 | 5.99E-01 |
|                   |                                       | I-131    | <8.85E+00 | 0.00E+00                 | 8.85E+00 |
|                   |                                       | Cs-134   | <1.16E+01 | 0.00E+00                 | 1.16E+01 |
|                   |                                       | Cs-137   | <7.63E+00 | 0.00E+00                 | 7.63E+00 |
|                   |                                       | BaLa-140 | <1.11E+01 | 0.00E+00                 | 1.11E+01 |

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



## OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 071 [ CONTROL - SSE @ 10.2 miles ]

| Sample ID: | Sample Dates:           | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|-------------------------|----------|-----------|--------------------------|----------|
|            |                         |          |           |                          |          |
| 363980     | 12/15/2014 - 12/15/2014 | Be-7     | <7.62E+01 | 0.00E+00                 | 7.62E+01 |
|            |                         | K-40     | 1.69E+03  | 2.96E+02                 | 1.53E+02 |
| 364944     | 12/29/2014 - 12/29/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |                         |          |           |                          |          |
|            |                         | LLI-131  | <5.94E-01 | 0.00E+00                 | 5.94E-01 |
|            |                         | I-131    | <1.04E+01 | 0.00E+00                 | 1.04E+01 |
|            |                         | Cs-134   | <1.13E+01 | 0.00E+00                 | 1.13E+01 |
|            |                         | Cs-137   | <1.07E+01 | 0.00E+00                 | 1.07E+01 |
|            |                         | BaLa-140 | <1.20E+01 | 0.00E+00                 | 1.20E+01 |
|            |                         | Be-7     | <6.28E+01 | 0.00E+00                 | 6.28E+01 |
|            |                         | K-40     | 1.32E+03  | 2.61E+02                 | 1.92E+02 |

Media Type: SEDIMENT\_SHORE Concentration (Activity): pCi/kg

Sample Point 063 [ INDICATOR - ESE @ 0.8 miles ]

| Sample ID: | Sample Dates:         | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|-----------------------|---------|-----------|--------------------------|----------|
|            |                       |         |           |                          |          |
| 287065     | 4/14/2014 - 4/14/2014 | Mn-54   | <2.34E+01 | 0.00E+00                 | 2.34E+01 |
|            |                       | Co-58   | <1.99E+01 | 0.00E+00                 | 1.99E+01 |
|            |                       | Fe-59   | <5.20E+01 | 0.00E+00                 | 5.20E+01 |
|            |                       | Co-60   | <2.29E+01 | 0.00E+00                 | 2.29E+01 |
|            |                       | Zn-65   | <5.19E+01 | 0.00E+00                 | 5.19E+01 |
|            |                       | Zr-95   | <3.57E+01 | 0.00E+00                 | 3.57E+01 |
|            |                       | Nb-95   | <2.24E+01 | 0.00E+00                 | 2.24E+01 |
|            |                       | I-131   | <3.20E+01 | 0.00E+00                 | 3.20E+01 |
|            |                       | Cs-134  | <1.72E+01 | 0.00E+00                 | 1.72E+01 |
|            |                       | Cs-137  | <2.29E+01 | 0.00E+00                 | 2.29E+01 |
|            |                       | Be-7    | <1.56E+02 | 0.00E+00                 | 1.56E+02 |
|            |                       | K-40    | 2.46E+04  | 4.47E+02                 | 1.72E+02 |
|            |                       | Co-57   | <1.77E+01 | 0.00E+00                 | 1.77E+01 |
|            |                       | Mo-99   | <8.68E+02 | 0.00E+00                 | 8.68E+02 |
|            |                       | Ag-110M | <1.86E+01 | 0.00E+00                 | 1.86E+01 |
|            |                       | Sb-122  | <1.53E+02 | 0.00E+00                 | 1.53E+02 |
|            |                       | Sb-125  | <5.19E+01 | 0.00E+00                 | 5.19E+01 |
| 357260     | 10/6/2014 - 10/6/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |                       |         |           |                          |          |
|            |                       | Mn-54   | <5.11E+01 | 0.00E+00                 | 5.11E+01 |
|            |                       | Co-58   | <4.55E+01 | 0.00E+00                 | 4.55E+01 |
|            |                       | Fe-59   | <1.14E+02 | 0.00E+00                 | 1.14E+02 |
|            |                       | Co-60   | <4.47E+01 | 0.00E+00                 | 4.47E+01 |
|            |                       | Zn-65   | <1.30E+02 | 0.00E+00                 | 1.30E+02 |
|            |                       | Zr-95   | <9.40E+01 | 0.00E+00                 | 9.40E+01 |
|            |                       | Nb-95   | <5.56E+01 | 0.00E+00                 | 5.56E+01 |
|            |                       | I-131   | <6.05E+01 | 0.00E+00                 | 6.05E+01 |
|            |                       | Cs-134  | <6.55E+01 | 0.00E+00                 | 6.55E+01 |
|            |                       | Cs-137  | <4.56E+01 | 0.00E+00                 | 4.56E+01 |
|            |                       | Be-7    | <3.55E+02 | 0.00E+00                 | 3.55E+02 |
|            |                       | K-40    | 2.37E+04  | 2.60E+03                 | 8.34E+02 |
|            |                       | Co-57   | <3.61E+01 | 0.00E+00                 | 3.61E+01 |
|            |                       | Mo-99   | <2.63E+03 | 0.00E+00                 | 2.63E+03 |
|            |                       | Ag-110M | <3.45E+01 | 0.00E+00                 | 3.45E+01 |
|            |                       | Sb-122  | <3.36E+02 | 0.00E+00                 | 3.36E+02 |
|            |                       | Sb-125  | <1.19E+02 | 0.00E+00                 | 1.19E+02 |

Sample Point 067 [ INDICATOR - SSE @ 4.34 miles ]

| Sample ID: | Sample Dates:         | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|-----------------------|---------|-----------|--------------------------|----------|
|            |                       |         |           |                          |          |
| 287066     | 4/14/2014 - 4/14/2014 | Mn-54   | <3.26E+01 | 0.00E+00                 | 3.26E+01 |
|            |                       | Co-58   | <3.10E+01 | 0.00E+00                 | 3.10E+01 |
|            |                       | Fe-59   | <7.30E+01 | 0.00E+00                 | 7.30E+01 |
|            |                       | Co-60   | <3.83E+01 | 0.00E+00                 | 3.83E+01 |
|            |                       | Zn-65   | <7.22E+01 | 0.00E+00                 | 7.22E+01 |
|            |                       | Zr-95   | <6.60E+01 | 0.00E+00                 | 6.60E+01 |
|            |                       | Nb-95   | <3.58E+01 | 0.00E+00                 | 3.58E+01 |
|            |                       | I-131   | <4.77E+01 | 0.00E+00                 | 4.77E+01 |
|            |                       | Cs-134  | <2.85E+01 | 0.00E+00                 | 2.85E+01 |
|            |                       | Cs-137  | <3.94E+01 | 0.00E+00                 | 3.94E+01 |
|            |                       | Be-7    | 3.70E+02  | 1.23E+02                 | 2.62E+02 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

Media Type: SEDIMENT\_SHORE Concentration (Activity): pCi/kg

Sample Point 067 [ INDICATOR - SSE @ 4.34 miles ]

| Sample ID: | Sample Dates:         | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 287066     | 4/14/2014 - 4/14/2014 | K-40    | 9.81E+03  | 4.26E+02                 | 3.00E+02 |
|            |                       | Co-57   | <2.19E+01 | 0.00E+00                 | 2.19E+01 |
|            |                       | Mo-99   | <1.54E+03 | 0.00E+00                 | 1.54E+03 |
|            |                       | Ag-110M | <2.91E+01 | 0.00E+00                 | 2.91E+01 |
|            |                       | Sb-122  | <2.55E+02 | 0.00E+00                 | 2.55E+02 |
|            |                       | Sb-125  | <6.88E+01 | 0.00E+00                 | 6.88E+01 |

| Sample ID: | Sample Dates:         | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 357261     | 10/6/2014 - 10/6/2014 | Mn-54   | <9.94E+00 | 0.00E+00                 | 9.94E+00 |
|            |                       | Co-58   | <9.32E+00 | 0.00E+00                 | 9.32E+00 |
|            |                       | Fe-59   | <2.08E+01 | 0.00E+00                 | 2.08E+01 |
|            |                       | Co-60   | <8.87E+00 | 0.00E+00                 | 8.87E+00 |
|            |                       | Zn-65   | <2.01E+01 | 0.00E+00                 | 2.01E+01 |
|            |                       | Zr-95   | <1.86E+01 | 0.00E+00                 | 1.86E+01 |
|            |                       | Nb-95   | <1.23E+01 | 0.00E+00                 | 1.23E+01 |
|            |                       | I-131   | <2.29E+01 | 0.00E+00                 | 2.29E+01 |
|            |                       | Cs-134  | <1.37E+01 | 0.00E+00                 | 1.37E+01 |
|            |                       | Cs-137  | 2.11E+01  | 1.18E+01                 | 1.88E+01 |
|            |                       | Be-7    | 1.27E+02  | 7.04E+01                 | 1.12E+02 |
|            |                       | K-40    | 1.34E+04  | 1.16E+03                 | 1.19E+02 |
|            |                       | Co-57   | <7.98E+00 | 0.00E+00                 | 7.98E+00 |
|            |                       | Mo-99   | <2.38E+03 | 0.00E+00                 | 2.38E+03 |
|            |                       | Ag-110M | <7.13E+00 | 0.00E+00                 | 7.13E+00 |
|            |                       | Sb-122  | <3.40E+02 | 0.00E+00                 | 3.40E+02 |
|            |                       | Sb-125  | <1.98E+01 | 0.00E+00                 | 1.98E+01 |

Sample Point 068 [ CONTROL - W @ 1.82 miles ]

| Sample ID: | Sample Dates:         | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 287067     | 4/14/2014 - 4/14/2014 | Mn-54   | <2.20E+01 | 0.00E+00                 | 2.20E+01 |
|            |                       | Co-58   | <2.00E+01 | 0.00E+00                 | 2.00E+01 |
|            |                       | Fe-59   | <5.01E+01 | 0.00E+00                 | 5.01E+01 |
|            |                       | Co-60   | <2.36E+01 | 0.00E+00                 | 2.36E+01 |
|            |                       | Zn-65   | <5.39E+01 | 0.00E+00                 | 5.39E+01 |
|            |                       | Zr-95   | <3.81E+01 | 0.00E+00                 | 3.81E+01 |
|            |                       | Nb-95   | <2.18E+01 | 0.00E+00                 | 2.18E+01 |
|            |                       | I-131   | <2.72E+01 | 0.00E+00                 | 2.72E+01 |
|            |                       | Cs-134  | <1.48E+01 | 0.00E+00                 | 1.48E+01 |
|            |                       | Cs-137  | <1.74E+01 | 0.00E+00                 | 1.74E+01 |
|            |                       | Be-7    | 2.54E+02  | 7.88E+01                 | 1.76E+02 |
|            |                       | K-40    | 8.00E+03  | 3.43E+02                 | 1.46E+02 |
|            |                       | Co-57   | <1.49E+01 | 0.00E+00                 | 1.49E+01 |
|            |                       | Mo-99   | <9.75E+02 | 0.00E+00                 | 9.75E+02 |
|            |                       | Ag-110M | <2.07E+01 | 0.00E+00                 | 2.07E+01 |
|            |                       | Sb-122  | <1.40E+02 | 0.00E+00                 | 1.40E+02 |
|            |                       | Sb-125  | <4.52E+01 | 0.00E+00                 | 4.52E+01 |

| Sample ID: | Sample Dates:         | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|-----------------------|---------|-----------|--------------------------|----------|
| 357262     | 10/6/2014 - 10/6/2014 | Mn-54   | <3.28E+01 | 0.00E+00                 | 3.28E+01 |
|            |                       | Co-58   | <2.55E+01 | 0.00E+00                 | 2.55E+01 |
|            |                       | Fe-59   | <5.20E+01 | 0.00E+00                 | 5.20E+01 |
|            |                       | Co-60   | <2.48E+01 | 0.00E+00                 | 2.48E+01 |
|            |                       | Zn-65   | <5.29E+01 | 0.00E+00                 | 5.29E+01 |
|            |                       | Zr-95   | <5.60E+01 | 0.00E+00                 | 5.60E+01 |
|            |                       | Nb-95   | <3.42E+01 | 0.00E+00                 | 3.42E+01 |
|            |                       | I-131   | <4.30E+01 | 0.00E+00                 | 4.30E+01 |
|            |                       | Cs-134  | <3.70E+01 | 0.00E+00                 | 3.70E+01 |
|            |                       | Cs-137  | <2.64E+01 | 0.00E+00                 | 2.64E+01 |
|            |                       | Be-7    | <2.61E+02 | 0.00E+00                 | 2.61E+02 |
|            |                       | K-40    | 5.50E+03  | 8.01E+02                 | 4.82E+02 |
|            |                       | Co-57   | <2.37E+01 | 0.00E+00                 | 2.37E+01 |
|            |                       | Mo-99   | <1.48E+03 | 0.00E+00                 | 1.48E+03 |
|            |                       | Ag-110M | <2.67E+01 | 0.00E+00                 | 2.67E+01 |
|            |                       | Sb-122  | <2.50E+02 | 0.00E+00                 | 2.50E+02 |
|            |                       | Sb-125  | <6.58E+01 | 0.00E+00                 | 6.58E+01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 062 [ CONTROL - ENE @ 0.85 miles ]

|                   |                                     |          |           |                          |          |
|-------------------|-------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 279023 | Sample Dates: 12/9/2013 - 1/6/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Mn-54    | <2.23E+00 | 0.00E+00                 | 2.23E+00 |
|                   |                                     | Co-58    | <1.96E+00 | 0.00E+00                 | 1.96E+00 |
|                   |                                     | Fe-59    | <4.65E+00 | 0.00E+00                 | 4.65E+00 |
|                   |                                     | Co-60    | <2.12E+00 | 0.00E+00                 | 2.12E+00 |
|                   |                                     | Zn-65    | <4.26E+00 | 0.00E+00                 | 4.26E+00 |
|                   |                                     | Zr-95    | <4.01E+00 | 0.00E+00                 | 4.01E+00 |
|                   |                                     | Nb-95    | <2.74E+00 | 0.00E+00                 | 2.74E+00 |
|                   |                                     | I-131    | <1.26E+01 | 0.00E+00                 | 1.26E+01 |
|                   |                                     | Cs-134   | <1.78E+00 | 0.00E+00                 | 1.78E+00 |
|                   |                                     | Cs-137   | <2.12E+00 | 0.00E+00                 | 2.12E+00 |
|                   |                                     | BaLa-140 | <6.46E+00 | 0.00E+00                 | 6.46E+00 |
|                   |                                     | Be-7     | <2.30E+01 | 0.00E+00                 | 2.30E+01 |
|                   |                                     | K-40     | 1.71E+02  | 1.43E+01                 | 1.99E+01 |
| Sample ID: 280869 | Sample Dates: 1/6/2014 - 2/3/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Mn-54    | <4.10E+00 | 0.00E+00                 | 4.10E+00 |
|                   |                                     | Co-58    | <3.76E+00 | 0.00E+00                 | 3.76E+00 |
|                   |                                     | Fe-59    | <8.52E+00 | 0.00E+00                 | 8.52E+00 |
|                   |                                     | Co-60    | <5.73E+00 | 0.00E+00                 | 5.73E+00 |
|                   |                                     | Zn-65    | <9.67E+00 | 0.00E+00                 | 9.67E+00 |
|                   |                                     | Zr-95    | <7.84E+00 | 0.00E+00                 | 7.84E+00 |
|                   |                                     | Nb-95    | <5.24E+00 | 0.00E+00                 | 5.24E+00 |
|                   |                                     | I-131    | <1.44E+01 | 0.00E+00                 | 1.44E+01 |
|                   |                                     | Cs-134   | <3.96E+00 | 0.00E+00                 | 3.96E+00 |
|                   |                                     | Cs-137   | <4.43E+00 | 0.00E+00                 | 4.43E+00 |
|                   |                                     | BaLa-140 | <8.70E+00 | 0.00E+00                 | 8.70E+00 |
|                   |                                     | Be-7     | <4.57E+01 | 0.00E+00                 | 4.57E+01 |
|                   |                                     | K-40     | 7.57E+01  | 1.51E+01                 | 3.52E+01 |
| Sample ID: 282984 | Sample Dates: 2/3/2014 - 3/3/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Mn-54    | <2.47E+00 | 0.00E+00                 | 2.47E+00 |
|                   |                                     | Co-58    | <2.63E+00 | 0.00E+00                 | 2.63E+00 |
|                   |                                     | Fe-59    | <6.36E+00 | 0.00E+00                 | 6.36E+00 |
|                   |                                     | Co-60    | <2.72E+00 | 0.00E+00                 | 2.72E+00 |
|                   |                                     | Zn-65    | <6.04E+00 | 0.00E+00                 | 6.04E+00 |
|                   |                                     | Zr-95    | <4.98E+00 | 0.00E+00                 | 4.98E+00 |
|                   |                                     | Nb-95    | <3.24E+00 | 0.00E+00                 | 3.24E+00 |
|                   |                                     | I-131    | <1.10E+01 | 0.00E+00                 | 1.10E+01 |
|                   |                                     | Cs-134   | <2.40E+00 | 0.00E+00                 | 2.40E+00 |
|                   |                                     | Cs-137   | <2.54E+00 | 0.00E+00                 | 2.54E+00 |
|                   |                                     | BaLa-140 | <6.07E+00 | 0.00E+00                 | 6.07E+00 |
|                   |                                     | Be-7     | <2.57E+01 | 0.00E+00                 | 2.57E+01 |
|                   |                                     | K-40     | 1.95E+02  | 1.78E+01                 | 2.80E+01 |
| Sample ID: 284709 | Sample Dates: 12/9/2013 - 3/3/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | H3SW     | <2.84E+01 | 0.00E+00                 | 1.89E+02 |
| Sample ID: 285764 | Sample Dates: 3/3/2014 - 3/31/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Mn-54    | <3.35E+00 | 0.00E+00                 | 3.35E+00 |
|                   |                                     | Co-58    | <3.46E+00 | 0.00E+00                 | 3.46E+00 |
|                   |                                     | Fe-59    | <7.84E+00 | 0.00E+00                 | 7.84E+00 |
|                   |                                     | Co-60    | <4.46E+00 | 0.00E+00                 | 4.46E+00 |
|                   |                                     | Zn-65    | <5.47E+00 | 0.00E+00                 | 5.47E+00 |
|                   |                                     | Zr-95    | <6.73E+00 | 0.00E+00                 | 6.73E+00 |
|                   |                                     | Nb-95    | <5.11E+00 | 0.00E+00                 | 5.11E+00 |
|                   |                                     | I-131    | <1.38E+01 | 0.00E+00                 | 1.38E+01 |
|                   |                                     | Cs-134   | <3.33E+00 | 0.00E+00                 | 3.33E+00 |
|                   |                                     | Cs-137   | <3.76E+00 | 0.00E+00                 | 3.76E+00 |
|                   |                                     | BaLa-140 | <8.68E+00 | 0.00E+00                 | 8.68E+00 |
|                   |                                     | Be-7     | <3.50E+01 | 0.00E+00                 | 3.50E+01 |
|                   |                                     | K-40     | 5.65E+01  | 2.03E+01                 | 3.55E+01 |
| Sample ID: 289128 | Sample Dates: 3/31/2014 - 4/28/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Mn-54    | <3.58E+00 | 0.00E+00                 | 3.58E+00 |
|                   |                                     | Co-58    | <3.23E+00 | 0.00E+00                 | 3.23E+00 |
|                   |                                     | Fe-59    | <8.82E+00 | 0.00E+00                 | 8.82E+00 |
|                   |                                     | Co-60    | <4.70E+00 | 0.00E+00                 | 4.70E+00 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 062 [ CONTROL - ENE @ 0.85 miles ]

|                   |                                     |          |           |                          |          |
|-------------------|-------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 289128 | Sample Dates: 3/31/2014 - 4/28/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Zn-65    | <6.98E+00 | 0.00E+00                 | 6.98E+00 |
|                   |                                     | Zr-95    | <7.60E+00 | 0.00E+00                 | 7.60E+00 |
|                   |                                     | Nb-95    | <5.19E+00 | 0.00E+00                 | 5.19E+00 |
|                   |                                     | I-131    | <1.45E+01 | 0.00E+00                 | 1.45E+01 |
|                   |                                     | Cs-134   | <2.84E+00 | 0.00E+00                 | 2.84E+00 |
|                   |                                     | Cs-137   | <3.98E+00 | 0.00E+00                 | 3.98E+00 |
|                   |                                     | BaLa-140 | <1.07E+01 | 0.00E+00                 | 1.07E+01 |
|                   |                                     | Be-7     | <3.35E+01 | 0.00E+00                 | 3.35E+01 |
|                   |                                     | K-40     | 8.57E+01  | 1.86E+01                 | 3.77E+01 |
| Sample ID: 292823 | Sample Dates: 4/28/2014 - 5/27/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Mn-54    | <1.42E+00 | 0.00E+00                 | 1.42E+00 |
|                   |                                     | Co-58    | <1.58E+00 | 0.00E+00                 | 1.58E+00 |
|                   |                                     | Fe-59    | <3.91E+00 | 0.00E+00                 | 3.91E+00 |
|                   |                                     | Co-60    | <1.70E+00 | 0.00E+00                 | 1.70E+00 |
|                   |                                     | Zn-65    | <3.29E+00 | 0.00E+00                 | 3.29E+00 |
|                   |                                     | Zr-95    | <3.20E+00 | 0.00E+00                 | 3.20E+00 |
|                   |                                     | Nb-95    | <2.15E+00 | 0.00E+00                 | 2.15E+00 |
|                   |                                     | I-131    | <1.45E+01 | 0.00E+00                 | 1.45E+01 |
|                   |                                     | Cs-134   | <1.40E+00 | 0.00E+00                 | 1.40E+00 |
|                   |                                     | Cs-137   | <1.58E+00 | 0.00E+00                 | 1.58E+00 |
|                   |                                     | BaLa-140 | <7.31E+00 | 0.00E+00                 | 7.31E+00 |
|                   |                                     | Be-7     | <1.61E+01 | 0.00E+00                 | 1.61E+01 |
|                   |                                     | K-40     | <2.66E+01 | 0.00E+00                 | 2.66E+01 |
| Sample ID: 295227 | Sample Dates: 3/3/2014 - 5/27/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | H3SW     | <-1.1E+02 | 0.00E+00                 | 1.90E+02 |
| Sample ID: 295486 | Sample Dates: 5/27/2014 - 6/23/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Mn-54    | <3.72E+00 | 0.00E+00                 | 3.72E+00 |
|                   |                                     | Co-58    | <4.05E+00 | 0.00E+00                 | 4.05E+00 |
|                   |                                     | Fe-59    | <1.00E+01 | 0.00E+00                 | 1.00E+01 |
|                   |                                     | Co-60    | <4.13E+00 | 0.00E+00                 | 4.13E+00 |
|                   |                                     | Zn-65    | <9.14E+00 | 0.00E+00                 | 9.14E+00 |
|                   |                                     | Zr-95    | <7.22E+00 | 0.00E+00                 | 7.22E+00 |
|                   |                                     | Nb-95    | <5.47E+00 | 0.00E+00                 | 5.47E+00 |
|                   |                                     | I-131    | <1.43E+01 | 0.00E+00                 | 1.43E+01 |
|                   |                                     | Cs-134   | <3.09E+00 | 0.00E+00                 | 3.09E+00 |
|                   |                                     | Cs-137   | <4.39E+00 | 0.00E+00                 | 4.39E+00 |
|                   |                                     | BaLa-140 | <1.19E+01 | 0.00E+00                 | 1.19E+01 |
|                   |                                     | Be-7     | <3.97E+01 | 0.00E+00                 | 3.97E+01 |
|                   |                                     | K-40     | 1.13E+02  | 3.10E+01                 | 4.90E+01 |
| Sample ID: 296994 | Sample Dates: 6/23/2014 - 7/21/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Mn-54    | <1.60E+00 | 0.00E+00                 | 1.60E+00 |
|                   |                                     | Co-58    | <1.80E+00 | 0.00E+00                 | 1.80E+00 |
|                   |                                     | Fe-59    | <4.04E+00 | 0.00E+00                 | 4.04E+00 |
|                   |                                     | Co-60    | <1.80E+00 | 0.00E+00                 | 1.80E+00 |
|                   |                                     | Zn-65    | <3.39E+00 | 0.00E+00                 | 3.39E+00 |
|                   |                                     | Zr-95    | <3.20E+00 | 0.00E+00                 | 3.20E+00 |
|                   |                                     | Nb-95    | <2.60E+00 | 0.00E+00                 | 2.60E+00 |
|                   |                                     | I-131    | <1.19E+01 | 0.00E+00                 | 1.19E+01 |
|                   |                                     | Cs-134   | <1.52E+00 | 0.00E+00                 | 1.52E+00 |
|                   |                                     | Cs-137   | <1.84E+00 | 0.00E+00                 | 1.84E+00 |
|                   |                                     | BaLa-140 | <5.77E+00 | 0.00E+00                 | 5.77E+00 |
|                   |                                     | Be-7     | <1.94E+01 | 0.00E+00                 | 1.94E+01 |
|                   |                                     | K-40     | 1.03E+02  | 2.22E+01                 | 2.63E+01 |
| Sample ID: 353437 | Sample Dates: 7/21/2014 - 8/18/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | Mn-54    | <3.00E+00 | 0.00E+00                 | 3.00E+00 |
|                   |                                     | Co-58    | <3.21E+00 | 0.00E+00                 | 3.21E+00 |
|                   |                                     | Fe-59    | <6.02E+00 | 0.00E+00                 | 6.02E+00 |
|                   |                                     | Co-60    | <3.02E+00 | 0.00E+00                 | 3.02E+00 |
|                   |                                     | Zn-65    | <5.60E+00 | 0.00E+00                 | 5.60E+00 |
|                   |                                     | Zr-95    | <6.58E+00 | 0.00E+00                 | 6.58E+00 |
|                   |                                     | Nb-95    | <3.50E+00 | 0.00E+00                 | 3.50E+00 |
|                   |                                     | I-131    | <9.94E+00 | 0.00E+00                 | 9.94E+00 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 062 [ CONTROL - ENE @ 0.85 miles ]

|                   |                                       |          |           |                          |          |
|-------------------|---------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 353437 | Sample Dates: 7/21/2014 - 8/18/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Cs-134   | <3.27E+00 | 0.00E+00                 | 3.27E+00 |
|                   |                                       | Cs-137   | <3.09E+00 | 0.00E+00                 | 3.09E+00 |
|                   |                                       | BaLa-140 | <8.94E+00 | 0.00E+00                 | 8.94E+00 |
|                   |                                       | Be-7     | <2.57E+01 | 0.00E+00                 | 2.57E+01 |
|                   |                                       | K-40     | 6.98E+01  | 6.66E+01                 | 1.08E+02 |
| Sample ID: 354212 | Sample Dates: 5/27/2014 - 8/18/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | H3SW     | <3.83E+01 | 0.00E+00                 | 1.88E+02 |
| Sample ID: 355186 | Sample Dates: 8/18/2014 - 9/15/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Mn-54    | <2.38E+00 | 0.00E+00                 | 2.38E+00 |
|                   |                                       | Co-58    | <3.05E+00 | 0.00E+00                 | 3.05E+00 |
|                   |                                       | Fe-59    | <6.55E+00 | 0.00E+00                 | 6.55E+00 |
|                   |                                       | Co-60    | <3.45E+00 | 0.00E+00                 | 3.45E+00 |
|                   |                                       | Zn-65    | <6.34E+00 | 0.00E+00                 | 6.34E+00 |
|                   |                                       | Zr-95    | <6.97E+00 | 0.00E+00                 | 6.97E+00 |
|                   |                                       | Nb-95    | <3.73E+00 | 0.00E+00                 | 3.73E+00 |
|                   |                                       | I-131    | <1.08E+01 | 0.00E+00                 | 1.08E+01 |
|                   |                                       | Cs-134   | <3.93E+00 | 0.00E+00                 | 3.93E+00 |
|                   |                                       | Cs-137   | <3.24E+00 | 0.00E+00                 | 3.24E+00 |
|                   |                                       | BaLa-140 | <7.20E+00 | 0.00E+00                 | 7.20E+00 |
|                   |                                       | Be-7     | <2.81E+01 | 0.00E+00                 | 2.81E+01 |
|                   |                                       | K-40     | 6.74E+01  | 3.01E+01                 | 3.74E+01 |
| Sample ID: 358058 | Sample Dates: 9/15/2014 - 10/13/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Mn-54    | <2.68E+00 | 0.00E+00                 | 2.68E+00 |
|                   |                                       | Co-58    | <3.00E+00 | 0.00E+00                 | 3.00E+00 |
|                   |                                       | Fe-59    | <7.66E+00 | 0.00E+00                 | 7.66E+00 |
|                   |                                       | Co-60    | <3.06E+00 | 0.00E+00                 | 3.06E+00 |
|                   |                                       | Zn-65    | <1.27E+00 | 0.00E+00                 | 1.27E+00 |
|                   |                                       | Zr-95    | <6.85E+00 | 0.00E+00                 | 6.85E+00 |
|                   |                                       | Nb-95    | <5.00E+00 | 0.00E+00                 | 5.00E+00 |
|                   |                                       | I-131    | <1.11E+01 | 0.00E+00                 | 1.11E+01 |
|                   |                                       | Cs-134   | <3.67E+00 | 0.00E+00                 | 3.67E+00 |
|                   |                                       | Cs-137   | <3.20E+00 | 0.00E+00                 | 3.20E+00 |
|                   |                                       | BaLa-140 | <8.04E+00 | 0.00E+00                 | 8.04E+00 |
|                   |                                       | Be-7     | <1.96E+01 | 0.00E+00                 | 1.96E+01 |
|                   |                                       | K-40     | 4.05E+01  | 2.66E+01                 | 3.48E+01 |
| Sample ID: 360722 | Sample Dates: 10/13/2014 - 11/10/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Mn-54    | <2.54E+00 | 0.00E+00                 | 2.54E+00 |
|                   |                                       | Co-58    | <2.88E+00 | 0.00E+00                 | 2.88E+00 |
|                   |                                       | Fe-59    | <5.94E+00 | 0.00E+00                 | 5.94E+00 |
|                   |                                       | Co-60    | <2.18E+00 | 0.00E+00                 | 2.18E+00 |
|                   |                                       | Zn-65    | <4.80E+00 | 0.00E+00                 | 4.80E+00 |
|                   |                                       | Zr-95    | <5.20E+00 | 0.00E+00                 | 5.20E+00 |
|                   |                                       | Nb-95    | <3.57E+00 | 0.00E+00                 | 3.57E+00 |
|                   |                                       | I-131    | <1.18E+01 | 0.00E+00                 | 1.18E+01 |
|                   |                                       | Cs-134   | <2.66E+00 | 0.00E+00                 | 2.66E+00 |
|                   |                                       | Cs-137   | <2.34E+00 | 0.00E+00                 | 2.34E+00 |
|                   |                                       | BaLa-140 | <7.32E+00 | 0.00E+00                 | 7.32E+00 |
|                   |                                       | Be-7     | <2.33E+01 | 0.00E+00                 | 2.33E+01 |
|                   |                                       | K-40     | 2.04E+02  | 3.97E+01                 | 4.16E+01 |
| Sample ID: 363533 | Sample Dates: 11/10/2014 - 12/8/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Mn-54    | <1.24E+00 | 0.00E+00                 | 1.24E+00 |
|                   |                                       | Co-58    | <1.48E+00 | 0.00E+00                 | 1.48E+00 |
|                   |                                       | Fe-59    | <3.10E+00 | 0.00E+00                 | 3.10E+00 |
|                   |                                       | Co-60    | <1.19E+00 | 0.00E+00                 | 1.19E+00 |
|                   |                                       | Zn-65    | <2.57E+00 | 0.00E+00                 | 2.57E+00 |
|                   |                                       | Zr-95    | <2.84E+00 | 0.00E+00                 | 2.84E+00 |
|                   |                                       | Nb-95    | <2.03E+00 | 0.00E+00                 | 2.03E+00 |
|                   |                                       | I-131    | <1.05E+01 | 0.00E+00                 | 1.05E+01 |
|                   |                                       | Cs-134   | <1.49E+00 | 0.00E+00                 | 1.49E+00 |
|                   |                                       | Cs-137   | <1.14E+00 | 0.00E+00                 | 1.14E+00 |
|                   |                                       | BaLa-140 | <4.16E+00 | 0.00E+00                 | 4.16E+00 |
|                   |                                       | Be-7     | <1.27E+01 | 0.00E+00                 | 1.27E+01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 062 [ CONTROL - ENE @ 0.85 miles ]

|                   |                                      |         |          |                          |          |
|-------------------|--------------------------------------|---------|----------|--------------------------|----------|
| Sample ID: 363533 | Sample Dates: 11/10/2014 - 12/8/2014 | Nuclide | Activity | Sigma Error <sup>1</sup> | LLD      |
|                   |                                      | K-40    | 1.75E+02 | 3.21E+01                 | 4.29E+01 |

|                   |                                     |         |           |                          |          |
|-------------------|-------------------------------------|---------|-----------|--------------------------|----------|
| Sample ID: 364522 | Sample Dates: 8/18/2014 - 12/8/2014 | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     | H3SW    | <8.01E+01 | 0.00E+00                 | 1.90E+02 |

Sample Point 063.1 [ INDICATOR - E @ 0.79 miles ]

|                   |                                    |          |           |                          |          |
|-------------------|------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 279024 | Sample Dates: 12/9/2013 - 1/6/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                    | Mn-54    | <2.74E+00 | 0.00E+00                 | 2.74E+00 |
|                   |                                    | Co-58    | <2.83E+00 | 0.00E+00                 | 2.83E+00 |
|                   |                                    | Fe-59    | <5.38E+00 | 0.00E+00                 | 5.38E+00 |
|                   |                                    | Co-60    | <2.93E+00 | 0.00E+00                 | 2.93E+00 |
|                   |                                    | Zn-65    | <5.38E+00 | 0.00E+00                 | 5.38E+00 |
|                   |                                    | Zr-95    | <5.36E+00 | 0.00E+00                 | 5.36E+00 |
|                   |                                    | Nb-95    | <4.12E+00 | 0.00E+00                 | 4.12E+00 |
|                   |                                    | I-131    | <1.44E+01 | 0.00E+00                 | 1.44E+01 |
|                   |                                    | Cs-134   | <2.04E+00 | 0.00E+00                 | 2.04E+00 |
|                   |                                    | Cs-137   | <2.67E+00 | 0.00E+00                 | 2.67E+00 |
|                   |                                    | BaLa-140 | <8.60E+00 | 0.00E+00                 | 8.60E+00 |
|                   |                                    | Be-7     | <2.75E+01 | 0.00E+00                 | 2.75E+01 |
|                   |                                    | K-40     | 4.86E+01  | 1.62E+01                 | 2.94E+01 |

|                   |                                   |          |           |                          |          |
|-------------------|-----------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 280870 | Sample Dates: 1/6/2014 - 2/3/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                   | Mn-54    | <3.47E+00 | 0.00E+00                 | 3.47E+00 |
|                   |                                   | Co-58    | <3.89E+00 | 0.00E+00                 | 3.89E+00 |
|                   |                                   | Fe-59    | <8.50E+00 | 0.00E+00                 | 8.50E+00 |
|                   |                                   | Co-60    | <3.97E+00 | 0.00E+00                 | 3.97E+00 |
|                   |                                   | Zn-65    | <8.32E+00 | 0.00E+00                 | 8.32E+00 |
|                   |                                   | Zr-95    | <7.08E+00 | 0.00E+00                 | 7.08E+00 |
|                   |                                   | Nb-95    | <4.55E+00 | 0.00E+00                 | 4.55E+00 |
|                   |                                   | I-131    | <1.41E+01 | 0.00E+00                 | 1.41E+01 |
|                   |                                   | Cs-134   | <3.17E+00 | 0.00E+00                 | 3.17E+00 |
|                   |                                   | Cs-137   | <3.72E+00 | 0.00E+00                 | 3.72E+00 |
|                   |                                   | BaLa-140 | <7.29E+00 | 0.00E+00                 | 7.29E+00 |
|                   |                                   | Be-7     | <3.56E+01 | 0.00E+00                 | 3.56E+01 |
|                   |                                   | K-40     | 1.36E+02  | 2.70E+01                 | 3.44E+01 |

|                   |                                   |          |           |                          |          |
|-------------------|-----------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 282985 | Sample Dates: 2/3/2014 - 3/3/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                   | Mn-54    | <3.19E+00 | 0.00E+00                 | 3.19E+00 |
|                   |                                   | Co-58    | <3.27E+00 | 0.00E+00                 | 3.27E+00 |
|                   |                                   | Fe-59    | <6.75E+00 | 0.00E+00                 | 6.75E+00 |
|                   |                                   | Co-60    | <3.18E+00 | 0.00E+00                 | 3.18E+00 |
|                   |                                   | Zn-65    | <5.85E+00 | 0.00E+00                 | 5.85E+00 |
|                   |                                   | Zr-95    | <5.82E+00 | 0.00E+00                 | 5.82E+00 |
|                   |                                   | Nb-95    | <4.06E+00 | 0.00E+00                 | 4.06E+00 |
|                   |                                   | I-131    | <1.37E+01 | 0.00E+00                 | 1.37E+01 |
|                   |                                   | Cs-134   | <2.79E+00 | 0.00E+00                 | 2.79E+00 |
|                   |                                   | Cs-137   | <2.93E+00 | 0.00E+00                 | 2.93E+00 |
|                   |                                   | BaLa-140 | <6.84E+00 | 0.00E+00                 | 6.84E+00 |
|                   |                                   | Be-7     | <3.03E+01 | 0.00E+00                 | 3.03E+01 |
|                   |                                   | K-40     | 1.64E+02  | 1.97E+01                 | 2.77E+01 |

|                   |                                    |         |          |                          |          |
|-------------------|------------------------------------|---------|----------|--------------------------|----------|
| Sample ID: 284710 | Sample Dates: 12/9/2013 - 3/3/2014 | Nuclide | Activity | Sigma Error <sup>1</sup> | LLD      |
|                   |                                    | H3SW    | 2.06E+03 | 8.57E+01                 | 1.89E+02 |

|                   |                                    |          |           |                          |          |
|-------------------|------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 285765 | Sample Dates: 3/3/2014 - 3/31/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                    | Mn-54    | <3.65E+00 | 0.00E+00                 | 3.65E+00 |
|                   |                                    | Co-58    | <3.40E+00 | 0.00E+00                 | 3.40E+00 |
|                   |                                    | Fe-59    | <1.02E+01 | 0.00E+00                 | 1.02E+01 |
|                   |                                    | Co-60    | <4.38E+00 | 0.00E+00                 | 4.38E+00 |
|                   |                                    | Zn-65    | <7.21E+00 | 0.00E+00                 | 7.21E+00 |
|                   |                                    | Zr-95    | <7.52E+00 | 0.00E+00                 | 7.52E+00 |
|                   |                                    | Nb-95    | <4.76E+00 | 0.00E+00                 | 4.76E+00 |
|                   |                                    | I-131    | <1.41E+01 | 0.00E+00                 | 1.41E+01 |
|                   |                                    | Cs-134   | <3.61E+00 | 0.00E+00                 | 3.61E+00 |
|                   |                                    | Cs-137   | <3.29E+00 | 0.00E+00                 | 3.29E+00 |
|                   |                                    | BaLa-140 | <5.61E+00 | 0.00E+00                 | 5.61E+00 |
|                   |                                    | Be-7     | <3.68E+01 | 0.00E+00                 | 3.68E+01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 063.1 [ INDICATOR - E @ 0.79 miles ]

|            |        |               |                       |          |           |                          |          |
|------------|--------|---------------|-----------------------|----------|-----------|--------------------------|----------|
| Sample ID: | 285765 | Sample Dates: | 3/3/2014 - 3/31/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | K-40     | 7.27E+01  | 1.68E+01                 | 2.94E+01 |
| Sample ID: | 289129 | Sample Dates: | 3/31/2014 - 4/28/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Mn-54    | <3.25E+00 | 0.00E+00                 | 3.25E+00 |
|            |        |               |                       | Co-58    | <3.24E+00 | 0.00E+00                 | 3.24E+00 |
|            |        |               |                       | Fe-59    | <8.64E+00 | 0.00E+00                 | 8.64E+00 |
|            |        |               |                       | Co-60    | <3.95E+00 | 0.00E+00                 | 3.95E+00 |
|            |        |               |                       | Zn-65    | <5.67E+00 | 0.00E+00                 | 5.67E+00 |
|            |        |               |                       | Zr-95    | <5.70E+00 | 0.00E+00                 | 5.70E+00 |
|            |        |               |                       | Nb-95    | <4.61E+00 | 0.00E+00                 | 4.61E+00 |
|            |        |               |                       | I-131    | <1.21E+01 | 0.00E+00                 | 1.21E+01 |
|            |        |               |                       | Cs-134   | <2.73E+00 | 0.00E+00                 | 2.73E+00 |
|            |        |               |                       | Cs-137   | <3.57E+00 | 0.00E+00                 | 3.57E+00 |
|            |        |               |                       | BaLa-140 | <8.93E+00 | 0.00E+00                 | 8.93E+00 |
|            |        |               |                       | Be-7     | <3.13E+01 | 0.00E+00                 | 3.13E+01 |
|            |        |               |                       | K-40     | 7.46E+01  | 1.62E+01                 | 4.03E+01 |
| Sample ID: | 292824 | Sample Dates: | 4/28/2014 - 5/27/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Mn-54    | <2.05E+00 | 0.00E+00                 | 2.05E+00 |
|            |        |               |                       | Co-58    | <2.47E+00 | 0.00E+00                 | 2.47E+00 |
|            |        |               |                       | Fe-59    | <4.42E+00 | 0.00E+00                 | 4.42E+00 |
|            |        |               |                       | Co-60    | <2.26E+00 | 0.00E+00                 | 2.26E+00 |
|            |        |               |                       | Zn-65    | <4.47E+00 | 0.00E+00                 | 4.47E+00 |
|            |        |               |                       | Zr-95    | <4.45E+00 | 0.00E+00                 | 4.45E+00 |
|            |        |               |                       | Nb-95    | <2.75E+00 | 0.00E+00                 | 2.75E+00 |
|            |        |               |                       | I-131    | <1.44E+01 | 0.00E+00                 | 1.44E+01 |
|            |        |               |                       | Cs-134   | <2.04E+00 | 0.00E+00                 | 2.04E+00 |
|            |        |               |                       | Cs-137   | <2.19E+00 | 0.00E+00                 | 2.19E+00 |
|            |        |               |                       | BaLa-140 | <6.10E+00 | 0.00E+00                 | 6.10E+00 |
|            |        |               |                       | Be-7     | <2.39E+01 | 0.00E+00                 | 2.39E+01 |
|            |        |               |                       | K-40     | 1.60E+02  | 1.52E+01                 | 1.74E+01 |
| Sample ID: | 295228 | Sample Dates: | 3/3/2014 - 5/27/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | H3SW     | 3.53E+03  | 1.02E+02                 | 1.90E+02 |
| Sample ID: | 295487 | Sample Dates: | 5/27/2014 - 6/23/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Mn-54    | <2.74E+00 | 0.00E+00                 | 2.74E+00 |
|            |        |               |                       | Co-58    | <2.95E+00 | 0.00E+00                 | 2.95E+00 |
|            |        |               |                       | Fe-59    | <7.04E+00 | 0.00E+00                 | 7.04E+00 |
|            |        |               |                       | Co-60    | <3.20E+00 | 0.00E+00                 | 3.20E+00 |
|            |        |               |                       | Zn-65    | <6.67E+00 | 0.00E+00                 | 6.67E+00 |
|            |        |               |                       | Zr-95    | <5.37E+00 | 0.00E+00                 | 5.37E+00 |
|            |        |               |                       | Nb-95    | <3.91E+00 | 0.00E+00                 | 3.91E+00 |
|            |        |               |                       | I-131    | <9.92E+00 | 0.00E+00                 | 9.92E+00 |
|            |        |               |                       | Cs-134   | <2.98E+00 | 0.00E+00                 | 2.98E+00 |
|            |        |               |                       | Cs-137   | <3.32E+00 | 0.00E+00                 | 3.32E+00 |
|            |        |               |                       | BaLa-140 | <9.12E+00 | 0.00E+00                 | 9.12E+00 |
|            |        |               |                       | Be-7     | <3.02E+01 | 0.00E+00                 | 3.02E+01 |
|            |        |               |                       | K-40     | 8.42E+01  | 1.40E+01                 | 2.57E+01 |
| Sample ID: | 296995 | Sample Dates: | 6/23/2014 - 7/21/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Mn-54    | <1.46E+00 | 0.00E+00                 | 1.46E+00 |
|            |        |               |                       | Co-58    | <1.62E+00 | 0.00E+00                 | 1.62E+00 |
|            |        |               |                       | Fe-59    | <3.65E+00 | 0.00E+00                 | 3.65E+00 |
|            |        |               |                       | Co-60    | <1.49E+00 | 0.00E+00                 | 1.49E+00 |
|            |        |               |                       | Zn-65    | <2.85E+00 | 0.00E+00                 | 2.85E+00 |
|            |        |               |                       | Zr-95    | <2.98E+00 | 0.00E+00                 | 2.98E+00 |
|            |        |               |                       | Nb-95    | <2.27E+00 | 0.00E+00                 | 2.27E+00 |
|            |        |               |                       | I-131    | <9.50E+00 | 0.00E+00                 | 9.50E+00 |
|            |        |               |                       | Cs-134   | <1.16E+00 | 0.00E+00                 | 1.16E+00 |
|            |        |               |                       | Cs-137   | <1.45E+00 | 0.00E+00                 | 1.45E+00 |
|            |        |               |                       | BaLa-140 | <5.82E+00 | 0.00E+00                 | 5.82E+00 |
|            |        |               |                       | Be-7     | <1.35E+01 | 0.00E+00                 | 1.35E+01 |
|            |        |               |                       | K-40     | 8.76E+01  | 1.86E+01                 | 2.32E+01 |
| Sample ID: | 353438 | Sample Dates: | 7/21/2014 - 8/18/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                       | Mn-54    | <2.43E+00 | 0.00E+00                 | 2.43E+00 |

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





# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 063.1 [ INDICATOR - E @ 0.79 miles ]

|                   |                                       |          |           |                          |          |
|-------------------|---------------------------------------|----------|-----------|--------------------------|----------|
| Sample ID: 353438 | Sample Dates: 7/21/2014 - 8/18/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Co-58    | <2.61E+00 | 0.00E+00                 | 2.61E+00 |
|                   |                                       | Fe-59    | <6.67E+00 | 0.00E+00                 | 6.67E+00 |
|                   |                                       | Co-60    | <1.93E+00 | 0.00E+00                 | 1.93E+00 |
|                   |                                       | Zn-65    | <5.08E+00 | 0.00E+00                 | 5.08E+00 |
|                   |                                       | Zr-95    | <5.51E+00 | 0.00E+00                 | 5.51E+00 |
|                   |                                       | Nb-95    | <3.59E+00 | 0.00E+00                 | 3.59E+00 |
|                   |                                       | I-131    | <1.19E+01 | 0.00E+00                 | 1.19E+01 |
|                   |                                       | Cs-134   | <2.82E+00 | 0.00E+00                 | 2.82E+00 |
|                   |                                       | Cs-137   | <2.84E+00 | 0.00E+00                 | 2.84E+00 |
|                   |                                       | BaLa-140 | <6.85E+00 | 0.00E+00                 | 6.85E+00 |
|                   |                                       | Be-7     | <2.77E+01 | 0.00E+00                 | 2.77E+01 |
|                   |                                       | K-40     | 8.95E+01  | 2.54E+01                 | 2.69E+01 |
|                   |                                       |          |           |                          |          |
| Sample ID: 354213 | Sample Dates: 5/27/2014 - 8/18/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | H3SW     | 1.42E+03  | 1.51E+02                 | 1.88E+02 |
|                   |                                       |          |           |                          |          |
|                   |                                       |          |           |                          |          |
|                   |                                       |          |           |                          |          |
|                   |                                       |          |           |                          |          |
|                   |                                       |          |           |                          |          |
|                   |                                       |          |           |                          |          |
|                   |                                       |          |           |                          |          |
|                   |                                       |          |           |                          |          |
|                   |                                       |          |           |                          |          |
|                   |                                       |          |           |                          |          |
|                   |                                       |          |           |                          |          |
|                   |                                       |          |           |                          |          |
|                   |                                       |          |           |                          |          |
| Sample ID: 355188 | Sample Dates: 8/18/2014 - 9/15/2014   | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Mn-54    | <3.97E+00 | 0.00E+00                 | 3.97E+00 |
|                   |                                       | Co-58    | <3.69E+00 | 0.00E+00                 | 3.69E+00 |
|                   |                                       | Fe-59    | <7.42E+00 | 0.00E+00                 | 7.42E+00 |
|                   |                                       | Co-60    | <3.76E+00 | 0.00E+00                 | 3.76E+00 |
|                   |                                       | Zn-65    | <5.24E+00 | 0.00E+00                 | 5.24E+00 |
|                   |                                       | Zr-95    | <6.06E+00 | 0.00E+00                 | 6.06E+00 |
|                   |                                       | Nb-95    | <4.69E+00 | 0.00E+00                 | 4.69E+00 |
|                   |                                       | I-131    | <1.15E+01 | 0.00E+00                 | 1.15E+01 |
|                   |                                       | Cs-134   | <3.94E+00 | 0.00E+00                 | 3.94E+00 |
|                   |                                       | Cs-137   | <3.84E+00 | 0.00E+00                 | 3.84E+00 |
|                   |                                       | BaLa-140 | <7.08E+00 | 0.00E+00                 | 7.08E+00 |
|                   |                                       | Be-7     | <2.85E+01 | 0.00E+00                 | 2.85E+01 |
|                   |                                       | K-40     | 8.15E+01  | 3.35E+01                 | 3.54E+01 |
|                   |                                       |          |           |                          |          |
| Sample ID: 358059 | Sample Dates: 9/15/2014 - 10/13/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Mn-54    | <2.03E+00 | 0.00E+00                 | 2.03E+00 |
|                   |                                       | Co-58    | <1.92E+00 | 0.00E+00                 | 1.92E+00 |
|                   |                                       | Fe-59    | <4.58E+00 | 0.00E+00                 | 4.58E+00 |
|                   |                                       | Co-60    | <1.64E+00 | 0.00E+00                 | 1.64E+00 |
|                   |                                       | Zn-65    | <4.30E+00 | 0.00E+00                 | 4.30E+00 |
|                   |                                       | Zr-95    | <4.28E+00 | 0.00E+00                 | 4.28E+00 |
|                   |                                       | Nb-95    | <2.88E+00 | 0.00E+00                 | 2.88E+00 |
|                   |                                       | I-131    | <1.17E+01 | 0.00E+00                 | 1.17E+01 |
|                   |                                       | Cs-134   | <2.38E+00 | 0.00E+00                 | 2.38E+00 |
|                   |                                       | Cs-137   | <1.81E+00 | 0.00E+00                 | 1.81E+00 |
|                   |                                       | BaLa-140 | <5.84E+00 | 0.00E+00                 | 5.84E+00 |
|                   |                                       | Be-7     | <1.92E+01 | 0.00E+00                 | 1.92E+01 |
|                   |                                       | K-40     | 1.76E+02  | 3.48E+01                 | 4.14E+01 |
|                   |                                       |          |           |                          |          |
| Sample ID: 360723 | Sample Dates: 10/13/2014 - 11/10/2014 | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Mn-54    | <2.59E+00 | 0.00E+00                 | 2.59E+00 |
|                   |                                       | Co-58    | <2.76E+00 | 0.00E+00                 | 2.76E+00 |
|                   |                                       | Fe-59    | <5.51E+00 | 0.00E+00                 | 5.51E+00 |
|                   |                                       | Co-60    | <2.80E+00 | 0.00E+00                 | 2.80E+00 |
|                   |                                       | Zn-65    | <5.34E+00 | 0.00E+00                 | 5.34E+00 |
|                   |                                       | Zr-95    | <4.84E+00 | 0.00E+00                 | 4.84E+00 |
|                   |                                       | Nb-95    | <3.51E+00 | 0.00E+00                 | 3.51E+00 |
|                   |                                       | I-131    | <1.06E+01 | 0.00E+00                 | 1.06E+01 |
|                   |                                       | Cs-134   | <2.93E+00 | 0.00E+00                 | 2.93E+00 |
|                   |                                       | Cs-137   | <2.29E+00 | 0.00E+00                 | 2.29E+00 |
|                   |                                       | BaLa-140 | <6.38E+00 | 0.00E+00                 | 6.38E+00 |
|                   |                                       | Be-7     | <2.14E+01 | 0.00E+00                 | 2.14E+01 |
|                   |                                       | K-40     | 1.02E+02  | 2.96E+01                 | 3.76E+01 |
|                   |                                       |          |           |                          |          |
| Sample ID: 363534 | Sample Dates: 11/10/2014 - 12/8/2014  | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                       | Mn-54    | <1.29E+00 | 0.00E+00                 | 1.29E+00 |
|                   |                                       | Co-58    | <1.71E+00 | 0.00E+00                 | 1.71E+00 |
|                   |                                       | Fe-59    | <3.11E+00 | 0.00E+00                 | 3.11E+00 |
|                   |                                       | Co-60    | <1.21E+00 | 0.00E+00                 | 1.21E+00 |
|                   |                                       | Zn-65    | <3.03E+00 | 0.00E+00                 | 3.03E+00 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 063.1 [ INDICATOR - E @ 0.79 miles ]

| Sample ID: | Sample Dates:          | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|------------|------------------------|----------|-----------|--------------------------|----------|
| 363534     | 11/10/2014 - 12/8/2014 | Zr-95    | <2.99E+00 | 0.00E+00                 | 2.99E+00 |
|            |                        | Nb-95    | <2.33E+00 | 0.00E+00                 | 2.33E+00 |
|            |                        | I-131    | <1.09E+01 | 0.00E+00                 | 1.09E+01 |
|            |                        | Cs-134   | <1.43E+00 | 0.00E+00                 | 1.43E+00 |
|            |                        | Cs-137   | <1.54E+00 | 0.00E+00                 | 1.54E+00 |
|            |                        | BaLa-140 | <5.35E+00 | 0.00E+00                 | 5.35E+00 |
|            |                        | Be-7     | <1.43E+01 | 0.00E+00                 | 1.43E+01 |
|            |                        | K-40     | 2.96E+01  | 1.55E+01                 | 2.32E+01 |
| Sample ID: | Sample Dates:          | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
| 364523     | 8/18/2014 - 12/8/2014  | H3SW     | 6.96E+03  | 2.61E+02                 | 1.91E+02 |

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

Sample Point 020 [ INDICATOR - N @ 0.16 miles ]

TLD RING TLD\_INNER

| Sample ID: | Sample Dates:          | Nuclide    | Activity |
|------------|------------------------|------------|----------|
| 286453     | 12/17/2013 - 3/18/2014 | mR/Std Qtr | 22.20    |
| Sample ID: | Sample Dates:          | Nuclide    | Activity |
| 296401     | 3/18/2014 - 6/17/2014  | mR/Std Qtr | 17.90    |
| Sample ID: | Sample Dates:          | Nuclide    | Activity |
| 365635     | 6/17/2014 - 9/16/2014  | mR/Std Qtr | 17.60    |
| Sample ID: | Sample Dates:          | Nuclide    | Activity |
| 362556     | 9/16/2014 - 12/16/2014 | mR/Std Qtr | 20.25    |

Sample Point 021 [ INDICATOR - NNE @ 0.25 miles ]

TLD RING TLD\_INNER

| Sample ID: | Sample Dates:          | Nuclide    | Activity |
|------------|------------------------|------------|----------|
| 286454     | 12/17/2013 - 3/18/2014 | mR/Std Qtr | 18.44    |
| Sample ID: | Sample Dates:          | Nuclide    | Activity |
| 296402     | 3/18/2014 - 6/17/2014  | mR/Std Qtr | 12.47    |
| Sample ID: | Sample Dates:          | Nuclide    | Activity |
| 365636     | 6/17/2014 - 9/16/2014  | mR/Std Qtr | 13.84    |
| Sample ID: | Sample Dates:          | Nuclide    | Activity |
| 362557     | 9/16/2014 - 12/16/2014 | mR/Std Qtr | 13.18    |

Sample Point 022 [ INDICATOR - NE @ 0.53 miles ]

TLD RING TLD\_INNER

| Sample ID: | Sample Dates:          | Nuclide    | Activity |
|------------|------------------------|------------|----------|
| 286455     | 12/17/2013 - 3/18/2014 | mR/Std Qtr | 26.15    |
| Sample ID: | Sample Dates:          | Nuclide    | Activity |
| 296403     | 3/18/2014 - 6/17/2014  | mR/Std Qtr | 21.32    |
| Sample ID: | Sample Dates:          | Nuclide    | Activity |
| 365637     | 6/17/2014 - 9/16/2014  | mR/Std Qtr | 20.91    |
| Sample ID: | Sample Dates:          | Nuclide    | Activity |
| 362558     | 9/16/2014 - 12/16/2014 | mR/Std Qtr | 24.39    |

Sample Point 023 [ INDICATOR - ENE @ 0.93 miles ]

TLD RING TLD\_INNER

| Sample ID: | Sample Dates:          | Nuclide    | Activity |
|------------|------------------------|------------|----------|
| 286456     | 12/17/2013 - 3/18/2014 | mR/Std Qtr | 24.68    |
| Sample ID: | Sample Dates:          | Nuclide    | Activity |
| 296404     | 3/18/2014 - 6/17/2014  | mR/Std Qtr | 20.03    |
| Sample ID: | Sample Dates:          | Nuclide    | Activity |
| 365638     | 6/17/2014 - 9/16/2014  | mR/Std Qtr | 20.25    |
| Sample ID: | Sample Dates:          | Nuclide    | Activity |
| 362559     | 9/16/2014 - 12/16/2014 | mR/Std Qtr | 23.45    |

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



## OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 024 [ INDICATOR - E @ 0.79 miles ]

TLD RING TLD\_INNER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286457 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 27.46    |
| Sample ID: | 296405 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.65    |
| Sample ID: | 365640 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 23.31    |
| Sample ID: | 362560 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 25.48    |

Sample Point 025 [ INDICATOR - ESE @ 0.42 miles ]

TLD RING TLD\_INNER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286458 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.59    |
| Sample ID: | 296406 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 18.03    |
| Sample ID: | 365641 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 18.35    |
| Sample ID: | 362561 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 21.13    |

Sample Point 026 [ INDICATOR - SE @ 0.34 miles ]

TLD RING TLD\_INNER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286460 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 19.59    |
| Sample ID: | 296408 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 15.75    |
| Sample ID: | 365642 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 16.38    |
| Sample ID: | 362562 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 19.32    |

Sample Point 027 [ INDICATOR - SSE @ 0.49 miles ]

TLD RING TLD\_INNER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286461 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.42    |
| Sample ID: | 296409 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 18.32    |
| Sample ID: | 365643 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 18.93    |
| Sample ID: | 362563 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 19.13    |

Sample Point 028 [ INDICATOR - S @ 0.46 miles ]

TLD RING TLD\_INNER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286462 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 18.54    |
| Sample ID: | 296410 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 15.46    |
| Sample ID: | 365645 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 15.62    |
| Sample ID: | 362564 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 19.07    |

Sample Point 029 [ INDICATOR - SSW @ 0.56 miles ]

TLD RING TLD\_INNER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286463 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 17.09    |
| Sample ID: | 296411 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 15.44    |

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



## OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 029 [ INDICATOR - SSW @ 0.56 miles ]

TLD RING TLD\_INNER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 365646 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 14.30    |
| Sample ID: | 362565 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 15.86    |

Sample Point 030 [ INDICATOR - SW @ 0.42 miles ]

TLD RING TLD\_INNER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286464 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 19.09    |
| Sample ID: | 296412 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 15.55    |
| Sample ID: | 365647 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 16.34    |
| Sample ID: | 362566 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 20.73    |

Sample Point 031 [ INDICATOR - WSW @ 0.27 miles ]

TLD RING TLD\_INNER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286465 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 19.00    |
| Sample ID: | 296413 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 14.18    |
| Sample ID: | 365649 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 18.11    |
| Sample ID: | 362567 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 17.66    |

Sample Point 032 [ INDICATOR - WNW @ 0.19 miles ]

TLD RING TLD\_INNER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286466 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 20.49    |
| Sample ID: | 296414 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 16.81    |
| Sample ID: | 365650 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 16.52    |
| Sample ID: | 362568 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 21.54    |

Sample Point 033 [ INDICATOR - WNW @ 0.21 miles ]

TLD RING TLD\_INNER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286467 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.33    |
| Sample ID: | 296415 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 17.59    |
| Sample ID: | 365651 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 17.82    |
| Sample ID: | 362569 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 21.95    |

Sample Point 034 [ INDICATOR - NW @ 0.22 miles ]

TLD RING TLD\_INNER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286468 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 25.24    |
| Sample ID: | 296416 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 21.00    |
| Sample ID: | 365652 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 20.77    |
| Sample ID: | 362570 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 23.81    |

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



## OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 035 [ INDICATOR - NNW @ 0.17 miles ]

TLD RING TLD\_INNER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286469 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 28.03    |
| Sample ID: | 296417 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 23.01    |
| Sample ID: | 365654 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 23.55    |
| Sample ID: | 362571 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 25.50    |

Sample Point 036 [ INDICATOR - N @ 4.18 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286470 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 28.00    |
| Sample ID: | 296418 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 21.73    |
| Sample ID: | 365655 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.95    |
| Sample ID: | 362572 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 26.96    |

Sample Point 037 [ INDICATOR - NNE @ 4.85 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286471 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 23.61    |
| Sample ID: | 296419 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 16.41    |
| Sample ID: | 365656 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 20.77    |
| Sample ID: | 362573 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 19.07    |

Sample Point 038 [ INDICATOR - NE @ 4.24 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286472 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 25.48    |
| Sample ID: | 296420 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 19.48    |
| Sample ID: | 365657 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 19.42    |
| Sample ID: | 362574 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.73    |

Sample Point 039 [ INDICATOR - ENE @ 4.02 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286473 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 26.70    |
| Sample ID: | 296421 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.95    |
| Sample ID: | 365659 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.88    |
| Sample ID: | 362575 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 24.42    |

Sample Point 040 [ INDICATOR - E @ 4.74 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286474 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 29.59    |
| Sample ID: | 296422 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 24.40    |

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



## OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 040 [ INDICATOR - E @ 4.74 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 365660 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 24.56    |
| Sample ID: | 362576 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 28.23    |

Sample Point 041 [ INDICATOR - ESE @ 4.25 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286491 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 19.61    |
| Sample ID: | 296439 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 15.82    |
| Sample ID: | 365662 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 15.16    |
| Sample ID: | 362577 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 18.56    |

Sample Point 042 [ INDICATOR - SE @ 4.93 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286475 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 29.20    |
| Sample ID: | 296423 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 24.22    |
| Sample ID: | 365663 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 24.95    |
| Sample ID: | 362578 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 26.92    |

Sample Point 043 [ INDICATOR - SSE @ 4.09 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 296424 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 21.81    |
| Sample ID: | 365664 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.05    |
| Sample ID: | 362579 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 25.10    |

Sample Point 044 [ INDICATOR - S @ 3.96 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286477 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 21.76    |
| Sample ID: | 296425 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 17.29    |
| Sample ID: | 365665 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 18.50    |
| Sample ID: | 362580 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 18.76    |

Sample Point 045 [ INDICATOR - SSW @ 4.78 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286478 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 18.48    |
| Sample ID: | 296426 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 15.76    |
| Sample ID: | 365667 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 15.42    |
| Sample ID: | 362581 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 19.72    |

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



## OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 046 [ INDICATOR - SW @ 4.61 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286479 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 25.19    |
| Sample ID: | 296427 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 20.99    |
| Sample ID: | 365668 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 21.33    |
| Sample ID: | 362582 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.99    |

Sample Point 047 [ INDICATOR - WSW @ 3.58 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286480 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 26.62    |
| Sample ID: | 296428 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 21.39    |
| Sample ID: | 365670 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 21.82    |
| Sample ID: | 362583 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 23.81    |

Sample Point 048 [ INDICATOR - W @ 3.64 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286481 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 28.32    |
| Sample ID: | 296429 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 24.21    |
| Sample ID: | 365671 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 27.17    |
| Sample ID: | 362584 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 29.24    |

Sample Point 049 [ INDICATOR - WNW @ 3.6 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286482 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 25.43    |
| Sample ID: | 296430 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 21.39    |
| Sample ID: | 365672 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.63    |
| Sample ID: | 362585 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.92    |

Sample Point 050 [ INDICATOR - NW @ 3.53 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286483 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 20.22    |
| Sample ID: | 296431 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 16.02    |
| Sample ID: | 365673 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 19.78    |
| Sample ID: | 362586 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 19.44    |

Sample Point 051 [ INDICATOR - NNW @ 4.64 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286484 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 20.96    |
| Sample ID: | 296432 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 18.53    |

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





# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 051 [ INDICATOR - NNW @ 4.64 miles ]

TLD RING TLD\_OUTER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 365675 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 18.55    |
| Sample ID: | 362587 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 23.64    |

Sample Point 052 [ INDICATOR - ENE @ 12.4 miles ]

TLD RING TLD\_SPEC

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286485 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 27.04    |
| Sample ID: | 296433 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.99    |
| Sample ID: | 365676 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.37    |
| Sample ID: | 362588 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 24.09    |

Sample Point 053 [ INDICATOR - E @ 11.7 miles ]

TLD RING TLD\_SPEC

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286486 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 29.27    |
| Sample ID: | 296434 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 24.19    |
| Sample ID: | 365678 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 21.18    |
| Sample ID: | 362589 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 26.83    |

Sample Point 054 [ INDICATOR - ESE @ 8.6 miles ]

TLD RING TLD\_SPEC

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286487 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 24.23    |
| Sample ID: | 296435 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 16.80    |
| Sample ID: | 365679 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 16.25    |
| Sample ID: | 362590 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 21.57    |

Sample Point 055 [ INDICATOR - SSE @ 9.27 miles ]

TLD RING TLD\_SPEC

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286488 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 19.54    |
| Sample ID: | 296436 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 14.07    |
| Sample ID: | 365680 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 14.33    |
| Sample ID: | 362591 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 15.61    |

Sample Point 056 [ INDICATOR - SSW @ 7.3 miles ]

TLD RING TLD\_SPEC

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286489 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 25.96    |
| Sample ID: | 296437 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 23.45    |
| Sample ID: | 365681 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.73    |
| Sample ID: | 362592 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 24.04    |

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





# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 057 [ INDICATOR - SW @ 8.42 miles ]

TLD RING TLD\_SPEC

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286490 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 28.17    |
| Sample ID: | 296438 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 21.66    |
| Sample ID: | 365683 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 29.42    |
| Sample ID: | 362593 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 24.53    |

Sample Point 058 [ CONTROL - WSW @ 9.39 miles ]

TLD RING TLD\_CTRL

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286492 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 34.90    |
| Sample ID: | 296440 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 29.21    |
| Sample ID: | 365684 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 28.84    |
| Sample ID: | 362594 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 32.08    |

Sample Point 059 [ INDICATOR - NW @ 9.2 miles ]

TLD RING TLD\_SPEC

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286493 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 27.10    |
| Sample ID: | 296441 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 24.53    |
| Sample ID: | 365685 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 25.76    |
| Sample ID: | 362595 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 25.07    |

Sample Point 076 [ INDICATOR - W @ 0.19 miles ]

TLD RING TLD\_INNER

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286494 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 27.02    |
| Sample ID: | 296442 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.16    |
| Sample ID: | 365687 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 21.51    |
| Sample ID: | 362596 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 21       |

Sample Point 081 [ CONTROL - SE @ 9.33 miles ]

TLD RING TLD\_CTRL

|            |        |               |                        |            |          |
|------------|--------|---------------|------------------------|------------|----------|
| Sample ID: | 286495 | Sample Dates: | 12/17/2013 - 3/18/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 25.53    |
| Sample ID: | 296443 | Sample Dates: | 3/18/2014 - 6/17/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 23.20    |
| Sample ID: | 365688 | Sample Dates: | 6/17/2014 - 9/16/2014  | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 22.17    |
| Sample ID: | 362597 | Sample Dates: | 9/16/2014 - 12/16/2014 | Nuclide    | Activity |
|            |        |               |                        | mR/Std Qtr | 24.3     |

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

Sample Point 077 [ INDICATOR - SW @ 1 miles ]

|            |        |               |                     |          |         |           |                          |          |
|------------|--------|---------------|---------------------|----------|---------|-----------|--------------------------|----------|
| Sample ID: | 275257 | Sample Dates: | 1/6/2014 - 1/6/2014 | MIXEDBLV | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|            |        |               |                     |          | I-131   | <3.63E+01 | 0.00E+00                 | 3.63E+01 |
|            |        |               |                     |          | Cs-134  | <3.17E+01 | 0.00E+00                 | 3.17E+01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 077 [ INDICATOR - SW @ 1 miles ]

|                   |                                   |          |          |           |                          |     |
|-------------------|-----------------------------------|----------|----------|-----------|--------------------------|-----|
| Sample ID: 275257 | Sample Dates: 1/6/2014 - 1/6/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | Cs-137   | <2.43E+01 |                          |     |
|                   |                                   |          | Be-7     | 2.57E+03  |                          |     |
|                   |                                   |          | K-40     | 3.86E+03  |                          |     |
| Sample ID: 279583 | Sample Dates: 2/3/2014 - 2/3/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <3.59E+01 |                          |     |
|                   |                                   |          | Cs-134   | <3.90E+01 |                          |     |
|                   |                                   |          | Cs-137   | <3.30E+01 |                          |     |
|                   |                                   |          | Be-7     | 7.27E+02  |                          |     |
| Sample ID: 281220 | Sample Dates: 3/3/2014 - 3/3/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <3.74E+01 |                          |     |
|                   |                                   |          | Cs-134   | <2.85E+01 |                          |     |
|                   |                                   |          | Cs-137   | <3.32E+01 |                          |     |
|                   |                                   |          | Be-7     | 7.06E+02  |                          |     |
| Sample ID: 284401 | Sample Dates: 4/7/2014 - 4/7/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <2.87E+01 |                          |     |
|                   |                                   |          | Cs-134   | <4.72E+01 |                          |     |
|                   |                                   |          | Cs-137   | <4.66E+01 |                          |     |
|                   |                                   |          | Be-7     | 1.75E+03  |                          |     |
| Sample ID: 287038 | Sample Dates: 5/5/2014 - 5/5/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <2.88E+01 |                          |     |
|                   |                                   |          | Cs-134   | <3.57E+01 |                          |     |
|                   |                                   |          | Cs-137   | <3.89E+01 |                          |     |
|                   |                                   |          | Be-7     | 2.56E+02  |                          |     |
| Sample ID: 289839 | Sample Dates: 6/2/2014 - 6/2/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <2.50E+01 |                          |     |
|                   |                                   |          | Cs-134   | <2.15E+01 |                          |     |
|                   |                                   |          | Cs-137   | <3.04E+01 |                          |     |
|                   |                                   |          | Be-7     | 7.00E+02  |                          |     |
| Sample ID: 294843 | Sample Dates: 7/7/2014 - 7/7/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | Mn-54    | <1.72E+01 |                          |     |
|                   |                                   |          | Co-58    | <1.89E+01 |                          |     |
|                   |                                   |          | Fe-59    | <5.59E+01 |                          |     |
|                   |                                   |          | Co-60    | <1.89E+01 |                          |     |
|                   |                                   |          | Zn-65    | <5.20E+01 |                          |     |
|                   |                                   |          | Zr-95    | <3.08E+01 |                          |     |
|                   |                                   |          | Nb-95    | <2.56E+01 |                          |     |
|                   |                                   |          | I-131    | <4.78E+01 |                          |     |
|                   |                                   |          | Cs-134   | <1.33E+01 |                          |     |
|                   |                                   |          | Cs-137   | <1.57E+01 |                          |     |
|                   |                                   |          | BaLa-140 | <4.67E+01 |                          |     |
|                   |                                   |          | Be-7     | 7.25E+02  |                          |     |
|                   |                                   |          | K-40     | 4.10E+03  |                          |     |
| Sample ID: 296611 | Sample Dates: 8/4/2014 - 8/4/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | Mn-54    | <3.01E+01 |                          |     |
|                   |                                   |          | Co-58    | <3.34E+01 |                          |     |
|                   |                                   |          | Fe-59    | <7.77E+01 |                          |     |
|                   |                                   |          | Co-60    | <5.92E+01 |                          |     |
|                   |                                   |          | Zn-65    | <6.70E+01 |                          |     |
|                   |                                   |          | Zr-95    | <5.16E+01 |                          |     |
|                   |                                   |          | Nb-95    | <3.79E+01 |                          |     |
|                   |                                   |          | I-131    | <3.74E+01 |                          |     |
|                   |                                   |          | Cs-134   | <3.22E+01 |                          |     |
|                   |                                   |          | Cs-137   | <4.64E+01 |                          |     |
|                   |                                   |          | BaLa-140 | <5.33E+01 |                          |     |
|                   |                                   |          | Be-7     | 1.15E+03  |                          |     |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 077 [ INDICATOR - SW @ 1 miles ]

|  |        |               |                       |          |          |           |                          |          |
|--|--------|---------------|-----------------------|----------|----------|-----------|--------------------------|----------|
| Sample ID:                                       | 296611 | Sample Dates: | 8/4/2014 - 8/4/2014   | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|  |        |               |                       |          | K-40     | 3.81E+03  | 9.01E+02                 | 5.32E+02 |
| Sample ID:                                       | 354456 | Sample Dates: | 9/2/2014 - 9/2/2014   | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|  |        |               |                       |          | Mn-54    | <3.43E+01 | 0.00E+00                 | 3.43E+01 |
|  |        |               |                       |          | Co-58    | <3.84E+01 | 0.00E+00                 | 3.84E+01 |
|  |        |               |                       |          | Fe-59    | <8.46E+01 | 0.00E+00                 | 8.46E+01 |
|  |        |               |                       |          | Co-60    | <4.79E+01 | 0.00E+00                 | 4.79E+01 |
|  |        |               |                       |          | Zn-65    | <8.85E+01 | 0.00E+00                 | 8.85E+01 |
|  |        |               |                       |          | Zr-95    | <6.96E+01 | 0.00E+00                 | 6.96E+01 |
|  |        |               |                       |          | Nb-95    | <3.07E+01 | 0.00E+00                 | 3.07E+01 |
|  |        |               |                       |          | I-131    | <3.49E+01 | 0.00E+00                 | 3.49E+01 |
|  |        |               |                       |          | Cs-134   | <3.57E+01 | 0.00E+00                 | 3.57E+01 |
|  |        |               |                       |          | Cs-137   | <3.27E+01 | 0.00E+00                 | 3.27E+01 |
|  |        |               |                       |          | BaLa-140 | <6.02E+01 | 0.00E+00                 | 6.02E+01 |
|  |        |               |                       |          | Be-7     | 1.84E+03  | 4.37E+02                 | 4.43E+02 |
|  |        |               |                       |          | K-40     | 3.77E+03  | 8.55E+02                 | 5.54E+02 |
| Sample ID:                                       | 357059 | Sample Dates: | 10/6/2014 - 10/6/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|  |        |               |                       |          | Mn-54    | <2.56E+01 | 0.00E+00                 | 2.56E+01 |
|  |        |               |                       |          | Co-58    | <2.81E+01 | 0.00E+00                 | 2.81E+01 |
|  |        |               |                       |          | Fe-59    | <6.46E+01 | 0.00E+00                 | 6.46E+01 |
|  |        |               |                       |          | Co-60    | <2.99E+01 | 0.00E+00                 | 2.99E+01 |
|  |        |               |                       |          | Zn-65    | <6.74E+01 | 0.00E+00                 | 6.74E+01 |
|  |        |               |                       |          | Zr-95    | <4.72E+01 | 0.00E+00                 | 4.72E+01 |
|  |        |               |                       |          | Nb-95    | <2.81E+01 | 0.00E+00                 | 2.81E+01 |
|  |        |               |                       |          | I-131    | <2.80E+01 | 0.00E+00                 | 2.80E+01 |
|  |        |               |                       |          | Cs-134   | <3.50E+01 | 0.00E+00                 | 3.50E+01 |
|  |        |               |                       |          | Cs-137   | <2.72E+01 | 0.00E+00                 | 2.72E+01 |
|  |        |               |                       |          | BaLa-140 | <7.34E+00 | 0.00E+00                 | 7.34E+00 |
|  |        |               |                       |          | Be-7     | 2.32E+03  | 3.84E+02                 | 3.00E+02 |
|  |        |               |                       |          | K-40     | 4.56E+03  | 7.45E+02                 | 4.01E+02 |
| Sample ID:                                       | 360040 | Sample Dates: | 11/3/2014 - 11/3/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|  |        |               |                       |          | Mn-54    | <2.87E+01 | 0.00E+00                 | 2.87E+01 |
|  |        |               |                       |          | Co-58    | <2.54E+01 | 0.00E+00                 | 2.54E+01 |
|  |        |               |                       |          | Fe-59    | <5.53E+01 | 0.00E+00                 | 5.53E+01 |
|  |        |               |                       |          | Co-60    | <2.57E+01 | 0.00E+00                 | 2.57E+01 |
|  |        |               |                       |          | Zn-65    | <5.61E+01 | 0.00E+00                 | 5.61E+01 |
|  |        |               |                       |          | Zr-95    | <3.04E+01 | 0.00E+00                 | 3.04E+01 |
|  |        |               |                       |          | Nb-95    | <2.34E+01 | 0.00E+00                 | 2.34E+01 |
|  |        |               |                       |          | I-131    | <2.30E+01 | 0.00E+00                 | 2.30E+01 |
|  |        |               |                       |          | Cs-134   | <3.23E+01 | 0.00E+00                 | 3.23E+01 |
|  |        |               |                       |          | Cs-137   | <2.38E+01 | 0.00E+00                 | 2.38E+01 |
|  |        |               |                       |          | BaLa-140 | <2.95E+01 | 0.00E+00                 | 2.95E+01 |
|  |        |               |                       |          | Be-7     | 2.74E+03  | 4.38E+02                 | 3.30E+02 |
|  |        |               |                       |          | K-40     | 2.89E+03  | 5.69E+02                 | 2.62E+02 |
| Sample ID:                                       | 362793 | Sample Dates: | 12/1/2014 - 12/1/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|  |        |               |                       |          | Mn-54    | <2.25E+01 | 0.00E+00                 | 2.25E+01 |
|  |        |               |                       |          | Co-58    | <2.76E+01 | 0.00E+00                 | 2.76E+01 |
|  |        |               |                       |          | Fe-59    | <5.39E+01 | 0.00E+00                 | 5.39E+01 |
|  |        |               |                       |          | Co-60    | <2.91E+01 | 0.00E+00                 | 2.91E+01 |
|  |        |               |                       |          | Zn-65    | <6.77E+01 | 0.00E+00                 | 6.77E+01 |
|  |        |               |                       |          | Zr-95    | <4.27E+01 | 0.00E+00                 | 4.27E+01 |
|  |        |               |                       |          | Nb-95    | <2.93E+01 | 0.00E+00                 | 2.93E+01 |
|  |        |               |                       |          | I-131    | <2.92E+01 | 0.00E+00                 | 2.92E+01 |
|  |        |               |                       |          | Cs-134   | <2.88E+01 | 0.00E+00                 | 2.88E+01 |
|  |        |               |                       |          | Cs-137   | <2.68E+01 | 0.00E+00                 | 2.68E+01 |
|  |        |               |                       |          | BaLa-140 | <2.05E+01 | 0.00E+00                 | 2.05E+01 |
|  |        |               |                       |          | Be-7     | 2.66E+03  | 4.18E+02                 | 2.97E+02 |
|  |        |               |                       |          | K-40     | 3.11E+03  | 5.95E+02                 | 3.44E+02 |
| Sample Point 079 [ INDICATOR - NE @ 0.56 miles ] |        |               |                       |          |          |           |                          |          |
| Sample ID:                                       | 275259 | Sample Dates: | 1/6/2014 - 1/6/2014   | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|  |        |               |                       |          | I-131    | <4.74E+01 | 0.00E+00                 | 4.74E+01 |
|  |        |               |                       |          | Cs-134   | <3.86E+01 | 0.00E+00                 | 3.86E+01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 079 [ INDICATOR - NE @ 0.56 miles ]

|                   |                                   |          |          |           |                          |     |
|-------------------|-----------------------------------|----------|----------|-----------|--------------------------|-----|
| Sample ID: 275259 | Sample Dates: 1/6/2014 - 1/6/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | Cs-137   | <5.76E+01 |                          |     |
|                   |                                   |          | Be-7     | 7.66E+02  |                          |     |
|                   |                                   |          | K-40     | 2.31E+03  |                          |     |
| Sample ID: 279585 | Sample Dates: 2/3/2014 - 2/3/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <5.52E+01 |                          |     |
|                   |                                   |          | Cs-134   | <2.79E+01 |                          |     |
|                   |                                   |          | Cs-137   | <4.29E+01 |                          |     |
|                   |                                   |          | Be-7     | 8.54E+02  |                          |     |
| Sample ID: 281222 | Sample Dates: 3/3/2014 - 3/3/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <5.74E+01 |                          |     |
|                   |                                   |          | Cs-134   | <4.37E+01 |                          |     |
|                   |                                   |          | Cs-137   | <5.35E+01 |                          |     |
|                   |                                   |          | Be-7     | <5.21E+02 |                          |     |
| Sample ID: 284402 | Sample Dates: 4/7/2014 - 4/7/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <2.77E+01 |                          |     |
|                   |                                   |          | Cs-134   | <2.82E+01 |                          |     |
|                   |                                   |          | Cs-137   | <2.62E+01 |                          |     |
|                   |                                   |          | Be-7     | 3.96E+02  |                          |     |
| Sample ID: 287039 | Sample Dates: 5/5/2014 - 5/5/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <2.39E+01 |                          |     |
|                   |                                   |          | Cs-134   | <1.77E+01 |                          |     |
|                   |                                   |          | Cs-137   | <2.63E+01 |                          |     |
|                   |                                   |          | Be-7     | 4.11E+02  |                          |     |
| Sample ID: 289840 | Sample Dates: 6/2/2014 - 6/2/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <2.87E+01 |                          |     |
|                   |                                   |          | Cs-134   | <2.63E+01 |                          |     |
|                   |                                   |          | Cs-137   | <2.91E+01 |                          |     |
|                   |                                   |          | Be-7     | 5.20E+02  |                          |     |
| Sample ID: 294844 | Sample Dates: 7/7/2014 - 7/7/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | Mn-54    | <1.60E+01 |                          |     |
|                   |                                   |          | Co-58    | <1.84E+01 |                          |     |
|                   |                                   |          | Fe-59    | <3.99E+01 |                          |     |
|                   |                                   |          | Co-60    | <1.69E+01 |                          |     |
|                   |                                   |          | Zn-65    | <3.48E+01 |                          |     |
|                   |                                   |          | Zr-95    | <3.13E+01 |                          |     |
|                   |                                   |          | Nb-95    | <1.98E+01 |                          |     |
|                   |                                   |          | I-131    | <4.79E+01 |                          |     |
|                   |                                   |          | Cs-134   | <1.30E+01 |                          |     |
|                   |                                   |          | Cs-137   | <1.54E+01 |                          |     |
|                   |                                   |          | BaLa-140 | <2.78E+01 |                          |     |
|                   |                                   |          | Be-7     | 4.11E+02  |                          |     |
|                   |                                   |          | K-40     | 3.73E+03  |                          |     |
| Sample ID: 296612 | Sample Dates: 8/4/2014 - 8/4/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | Mn-54    | <1.53E+01 |                          |     |
|                   |                                   |          | Co-58    | <1.67E+01 |                          |     |
|                   |                                   |          | Fe-59    | <3.29E+01 |                          |     |
|                   |                                   |          | Co-60    | <2.01E+01 |                          |     |
|                   |                                   |          | Zn-65    | <4.84E+01 |                          |     |
|                   |                                   |          | Zr-95    | <3.34E+01 |                          |     |
|                   |                                   |          | Nb-95    | <1.80E+01 |                          |     |
|                   |                                   |          | I-131    | <2.69E+01 |                          |     |
|                   |                                   |          | Cs-134   | <1.59E+01 |                          |     |
|                   |                                   |          | Cs-137   | <1.67E+01 |                          |     |
|                   |                                   |          | BaLa-140 | <3.42E+01 |                          |     |
|                   |                                   |          | Be-7     | 3.85E+02  |                          |     |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 079 [ INDICATOR - NE @ 0.56 miles ]

|                   |                                     |          |          |           |                          |          |
|-------------------|-------------------------------------|----------|----------|-----------|--------------------------|----------|
| Sample ID: 296612 | Sample Dates: 8/4/2014 - 8/4/2014   | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     |          | K-40     | 4.09E+03  | 6.12E+02                 | 5.18E+02 |
| Sample ID: 354457 | Sample Dates: 9/2/2014 - 9/2/2014   | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     |          | Mn-54    | <3.51E+01 | 0.00E+00                 | 3.51E+01 |
|                   |                                     |          | Co-58    | <3.49E+01 | 0.00E+00                 | 3.49E+01 |
|                   |                                     |          | Fe-59    | <6.18E+01 | 0.00E+00                 | 6.18E+01 |
|                   |                                     |          | Co-60    | <3.46E+01 | 0.00E+00                 | 3.46E+01 |
|                   |                                     |          | Zn-65    | <8.64E+01 | 0.00E+00                 | 8.64E+01 |
|                   |                                     |          | Zr-95    | <5.41E+01 | 0.00E+00                 | 5.41E+01 |
|                   |                                     |          | Nb-95    | <3.39E+01 | 0.00E+00                 | 3.39E+01 |
|                   |                                     |          | I-131    | <3.39E+01 | 0.00E+00                 | 3.39E+01 |
|                   |                                     |          | Cs-134   | <4.06E+01 | 0.00E+00                 | 4.06E+01 |
|                   |                                     |          | Cs-137   | <3.03E+01 | 0.00E+00                 | 3.03E+01 |
|                   |                                     |          | BaLa-140 | <2.61E+01 | 0.00E+00                 | 2.61E+01 |
|                   |                                     |          | Be-7     | 6.41E+02  | 2.35E+02                 | 2.82E+02 |
|                   |                                     |          | K-40     | 3.05E+03  | 6.93E+02                 | 5.69E+02 |
| Sample ID: 357060 | Sample Dates: 10/6/2014 - 10/6/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     |          | Mn-54    | <3.89E+01 | 0.00E+00                 | 3.89E+01 |
|                   |                                     |          | Co-58    | <3.27E+01 | 0.00E+00                 | 3.27E+01 |
|                   |                                     |          | Fe-59    | <6.17E+01 | 0.00E+00                 | 6.17E+01 |
|                   |                                     |          | Co-60    | <3.60E+01 | 0.00E+00                 | 3.60E+01 |
|                   |                                     |          | Zn-65    | <9.11E+01 | 0.00E+00                 | 9.11E+01 |
|                   |                                     |          | Zr-95    | <5.67E+01 | 0.00E+00                 | 5.67E+01 |
|                   |                                     |          | Nb-95    | <3.63E+01 | 0.00E+00                 | 3.63E+01 |
|                   |                                     |          | I-131    | <3.83E+01 | 0.00E+00                 | 3.83E+01 |
|                   |                                     |          | Cs-134   | <4.36E+01 | 0.00E+00                 | 4.36E+01 |
|                   |                                     |          | Cs-137   | <3.17E+01 | 0.00E+00                 | 3.17E+01 |
|                   |                                     |          | BaLa-140 | <3.75E+01 | 0.00E+00                 | 3.75E+01 |
|                   |                                     |          | Be-7     | 1.03E+03  | 3.07E+02                 | 3.33E+02 |
|                   |                                     |          | K-40     | 3.56E+03  | 7.72E+02                 | 5.42E+02 |
| Sample ID: 360041 | Sample Dates: 11/3/2014 - 11/3/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     |          | Mn-54    | <4.47E+01 | 0.00E+00                 | 4.47E+01 |
|                   |                                     |          | Co-58    | <4.87E+01 | 0.00E+00                 | 4.87E+01 |
|                   |                                     |          | Fe-59    | <8.06E+01 | 0.00E+00                 | 8.06E+01 |
|                   |                                     |          | Co-60    | <4.57E+01 | 0.00E+00                 | 4.57E+01 |
|                   |                                     |          | Zn-65    | <1.01E+02 | 0.00E+00                 | 1.01E+02 |
|                   |                                     |          | Zr-95    | <6.77E+01 | 0.00E+00                 | 6.77E+01 |
|                   |                                     |          | Nb-95    | <4.25E+01 | 0.00E+00                 | 4.25E+01 |
|                   |                                     |          | I-131    | <4.08E+01 | 0.00E+00                 | 4.08E+01 |
|                   |                                     |          | Cs-134   | <4.44E+01 | 0.00E+00                 | 4.44E+01 |
|                   |                                     |          | Cs-137   | <4.62E+01 | 0.00E+00                 | 4.62E+01 |
|                   |                                     |          | BaLa-140 | <4.16E+01 | 0.00E+00                 | 4.16E+01 |
|                   |                                     |          | Be-7     | 7.30E+02  | 4.54E+02                 | 6.98E+02 |
|                   |                                     |          | K-40     | 2.97E+03  | 8.04E+02                 | 7.70E+02 |
| Sample ID: 362794 | Sample Dates: 12/1/2014 - 12/1/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     |          | Mn-54    | <1.18E+01 | 0.00E+00                 | 1.18E+01 |
|                   |                                     |          | Co-58    | <1.18E+01 | 0.00E+00                 | 1.18E+01 |
|                   |                                     |          | Fe-59    | <2.86E+01 | 0.00E+00                 | 2.86E+01 |
|                   |                                     |          | Co-60    | <1.30E+01 | 0.00E+00                 | 1.30E+01 |
|                   |                                     |          | Zn-65    | <2.73E+01 | 0.00E+00                 | 2.73E+01 |
|                   |                                     |          | Zr-95    | <2.26E+01 | 0.00E+00                 | 2.26E+01 |
|                   |                                     |          | Nb-95    | <1.43E+01 | 0.00E+00                 | 1.43E+01 |
|                   |                                     |          | I-131    | <4.77E+01 | 0.00E+00                 | 4.77E+01 |
|                   |                                     |          | Cs-134   | <1.26E+01 | 0.00E+00                 | 1.26E+01 |
|                   |                                     |          | Cs-137   | <1.28E+01 | 0.00E+00                 | 1.28E+01 |
|                   |                                     |          | BaLa-140 | <2.86E+01 | 0.00E+00                 | 2.86E+01 |
|                   |                                     |          | Be-7     | 1.12E+03  | 1.63E+02                 | 1.55E+02 |
|                   |                                     |          | K-40     | 3.31E+03  | 3.73E+02                 | 2.20E+02 |

Sample Point 081 [ CONTROL - SE @ 9.33 miles ]

|                   |                                   |          |         |           |                          |          |
|-------------------|-----------------------------------|----------|---------|-----------|--------------------------|----------|
| Sample ID: 275260 | Sample Dates: 1/6/2014 - 1/6/2014 | MIXEDBLV | Nuclide | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                   |          | I-131   | <4.34E+01 | 0.00E+00                 | 4.34E+01 |
|                   |                                   |          | Cs-134  | <2.72E+01 | 0.00E+00                 | 2.72E+01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 081 [ CONTROL - SE @ 9.33 miles ]

|                   |                                   |          |          |           |                          |     |
|-------------------|-----------------------------------|----------|----------|-----------|--------------------------|-----|
| Sample ID: 275260 | Sample Dates: 1/6/2014 - 1/6/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | Cs-137   | <4.33E+01 |                          |     |
|                   |                                   |          | Be-7     | 3.76E+02  |                          |     |
|                   |                                   |          | K-40     | 4.57E+03  |                          |     |
| Sample ID: 279586 | Sample Dates: 2/3/2014 - 2/3/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <3.43E+01 |                          |     |
|                   |                                   |          | Cs-134   | <3.27E+01 |                          |     |
|                   |                                   |          | Cs-137   | <4.42E+01 |                          |     |
|                   |                                   |          | Be-7     | 4.19E+02  |                          |     |
| Sample ID: 281223 | Sample Dates: 3/3/2014 - 3/3/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <5.06E+01 |                          |     |
|                   |                                   |          | Cs-134   | <4.93E+01 |                          |     |
|                   |                                   |          | Cs-137   | <6.36E+01 |                          |     |
|                   |                                   |          | Be-7     | <5.24E+02 |                          |     |
| Sample ID: 284403 | Sample Dates: 4/7/2014 - 4/7/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <4.84E+01 |                          |     |
|                   |                                   |          | Cs-134   | <4.55E+01 |                          |     |
|                   |                                   |          | Cs-137   | <5.26E+01 |                          |     |
|                   |                                   |          | Be-7     | <5.14E+02 |                          |     |
| Sample ID: 287040 | Sample Dates: 5/5/2014 - 5/5/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <4.08E+01 |                          |     |
|                   |                                   |          | Cs-134   | <3.66E+01 |                          |     |
|                   |                                   |          | Cs-137   | <5.85E+01 |                          |     |
|                   |                                   |          | Be-7     | 6.12E+02  |                          |     |
| Sample ID: 289841 | Sample Dates: 6/2/2014 - 6/2/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <4.81E+01 |                          |     |
|                   |                                   |          | Cs-134   | <4.32E+01 |                          |     |
|                   |                                   |          | Cs-137   | <4.43E+01 |                          |     |
|                   |                                   |          | Be-7     | 2.39E+02  |                          |     |
| Sample ID: 294845 | Sample Dates: 7/7/2014 - 7/7/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | Mn-54    | <2.22E+01 |                          |     |
|                   |                                   |          | Co-58    | <1.95E+01 |                          |     |
|                   |                                   |          | Fe-59    | <5.70E+01 |                          |     |
|                   |                                   |          | Co-60    | <2.61E+01 |                          |     |
|                   |                                   |          | Zn-65    | <5.42E+01 |                          |     |
|                   |                                   |          | Zr-95    | <4.25E+01 |                          |     |
|                   |                                   |          | Nb-95    | <2.67E+01 |                          |     |
|                   |                                   |          | I-131    | <4.78E+01 |                          |     |
|                   |                                   |          | Cs-134   | <1.29E+01 |                          |     |
|                   |                                   |          | Cs-137   | <2.00E+01 |                          |     |
|                   |                                   |          | BaLa-140 | <3.91E+01 |                          |     |
|                   |                                   |          | Be-7     | 6.87E+02  |                          |     |
|                   |                                   |          | K-40     | 3.51E+03  |                          |     |
| Sample ID: 296613 | Sample Dates: 8/4/2014 - 8/4/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | Mn-54    | <2.29E+01 |                          |     |
|                   |                                   |          | Co-58    | <2.67E+01 |                          |     |
|                   |                                   |          | Fe-59    | <5.45E+01 |                          |     |
|                   |                                   |          | Co-60    | <3.18E+01 |                          |     |
|                   |                                   |          | Zn-65    | <6.07E+01 |                          |     |
|                   |                                   |          | Zr-95    | <3.34E+01 |                          |     |
|                   |                                   |          | Nb-95    | <2.59E+01 |                          |     |
|                   |                                   |          | I-131    | <2.34E+01 |                          |     |
|                   |                                   |          | Cs-134   | <2.43E+01 |                          |     |
|                   |                                   |          | Cs-137   | <2.32E+01 |                          |     |
|                   |                                   |          | BaLa-140 | <3.53E+01 |                          |     |
|                   |                                   |          | Be-7     | 2.11E+03  |                          |     |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 081 [ CONTROL - SE @ 9.33 miles ]

|   |        |               |                       |          |          |           |                          |          |
|---|--------|---------------|-----------------------|----------|----------|-----------|--------------------------|----------|
| Sample ID:  | 296613 | Sample Dates: | 8/4/2014 - 8/4/2014   | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |        |               |                       |          | K-40     | 5.24E+03  | 8.15E+02                 | 4.35E+02 |
| Sample ID:  | 354458 | Sample Dates: | 9/2/2014 - 9/2/2014   | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |        |               |                       |          | Mn-54    | <4.65E+01 | 0.00E+00                 | 4.65E+01 |
|   |        |               |                       |          | Co-58    | <3.35E+01 | 0.00E+00                 | 3.35E+01 |
|   |        |               |                       |          | Fe-59    | <5.52E+01 | 0.00E+00                 | 5.52E+01 |
|   |        |               |                       |          | Co-60    | <5.78E+01 | 0.00E+00                 | 5.78E+01 |
|   |        |               |                       |          | Zn-65    | <7.95E+01 | 0.00E+00                 | 7.95E+01 |
|   |        |               |                       |          | Zr-95    | <8.30E+01 | 0.00E+00                 | 8.30E+01 |
|   |        |               |                       |          | Nb-95    | <3.49E+01 | 0.00E+00                 | 3.49E+01 |
|   |        |               |                       |          | I-131    | <3.48E+01 | 0.00E+00                 | 3.48E+01 |
|   |        |               |                       |          | Cs-134   | <4.55E+01 | 0.00E+00                 | 4.55E+01 |
|   |        |               |                       |          | Cs-137   | <3.20E+01 | 0.00E+00                 | 3.20E+01 |
|   |        |               |                       |          | BaLa-140 | <4.93E+01 | 0.00E+00                 | 4.93E+01 |
|   |        |               |                       |          | Be-7     | 2.32E+03  | 4.81E+02                 | 4.08E+02 |
|   |        |               |                       |          | K-40     | 5.13E+03  | 1.01E+03                 | 3.99E+02 |
| Sample ID:  | 357061 | Sample Dates: | 10/6/2014 - 10/6/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |        |               |                       |          | Mn-54    | <4.69E+01 | 0.00E+00                 | 4.69E+01 |
|   |        |               |                       |          | Co-58    | <3.63E+01 | 0.00E+00                 | 3.63E+01 |
|   |        |               |                       |          | Fe-59    | <8.14E+01 | 0.00E+00                 | 8.14E+01 |
|   |        |               |                       |          | Co-60    | <3.91E+01 | 0.00E+00                 | 3.91E+01 |
|   |        |               |                       |          | Zn-65    | <9.68E+01 | 0.00E+00                 | 9.68E+01 |
|   |        |               |                       |          | Zr-95    | <7.37E+01 | 0.00E+00                 | 7.37E+01 |
|   |        |               |                       |          | Nb-95    | <4.05E+01 | 0.00E+00                 | 4.05E+01 |
|   |        |               |                       |          | I-131    | <4.53E+01 | 0.00E+00                 | 4.53E+01 |
|   |        |               |                       |          | Cs-134   | <4.62E+01 | 0.00E+00                 | 4.62E+01 |
|   |        |               |                       |          | Cs-137   | <4.75E+01 | 0.00E+00                 | 4.75E+01 |
|   |        |               |                       |          | BaLa-140 | <4.66E+01 | 0.00E+00                 | 4.66E+01 |
|   |        |               |                       |          | Be-7     | 1.69E+03  | 4.14E+02                 | 4.64E+02 |
|   |        |               |                       |          | K-40     | 4.80E+03  | 9.13E+02                 | 5.86E+02 |
| Sample ID:  | 360042 | Sample Dates: | 11/3/2014 - 11/3/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |        |               |                       |          | Mn-54    | <2.15E+01 | 0.00E+00                 | 2.15E+01 |
|   |        |               |                       |          | Co-58    | <1.76E+01 | 0.00E+00                 | 1.76E+01 |
|   |        |               |                       |          | Fe-59    | <3.66E+01 | 0.00E+00                 | 3.66E+01 |
|   |        |               |                       |          | Co-60    | <2.58E+01 | 0.00E+00                 | 2.58E+01 |
|   |        |               |                       |          | Zn-65    | <5.72E+01 | 0.00E+00                 | 5.72E+01 |
|   |        |               |                       |          | Zr-95    | <3.69E+01 | 0.00E+00                 | 3.69E+01 |
|   |        |               |                       |          | Nb-95    | <1.82E+01 | 0.00E+00                 | 1.82E+01 |
|   |        |               |                       |          | I-131    | <1.75E+01 | 0.00E+00                 | 1.75E+01 |
|   |        |               |                       |          | Cs-134   | <3.15E+01 | 0.00E+00                 | 3.15E+01 |
|   |        |               |                       |          | Cs-137   | <2.09E+01 | 0.00E+00                 | 2.09E+01 |
|   |        |               |                       |          | BaLa-140 | <2.71E+01 | 0.00E+00                 | 2.71E+01 |
|   |        |               |                       |          | Be-7     | 1.33E+03  | 2.77E+02                 | 2.48E+02 |
|   |        |               |                       |          | K-40     | 2.58E+03  | 5.31E+02                 | 3.42E+02 |
| Sample ID:  | 362795 | Sample Dates: | 12/1/2014 - 12/1/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |        |               |                       |          | Mn-54    | <1.76E+01 | 0.00E+00                 | 1.76E+01 |
|   |        |               |                       |          | Co-58    | <2.13E+01 | 0.00E+00                 | 2.13E+01 |
|   |        |               |                       |          | Fe-59    | <4.88E+01 | 0.00E+00                 | 4.88E+01 |
|   |        |               |                       |          | Co-60    | <2.24E+01 | 0.00E+00                 | 2.24E+01 |
|   |        |               |                       |          | Zn-65    | <5.61E+01 | 0.00E+00                 | 5.61E+01 |
|   |        |               |                       |          | Zr-95    | <4.09E+01 | 0.00E+00                 | 4.09E+01 |
|   |        |               |                       |          | Nb-95    | <2.57E+01 | 0.00E+00                 | 2.57E+01 |
|   |        |               |                       |          | I-131    | <2.42E+01 | 0.00E+00                 | 2.42E+01 |
|   |        |               |                       |          | Cs-134   | <3.36E+01 | 0.00E+00                 | 3.36E+01 |
|   |        |               |                       |          | Cs-137   | <2.36E+01 | 0.00E+00                 | 2.36E+01 |
|   |        |               |                       |          | BaLa-140 | <2.17E+01 | 0.00E+00                 | 2.17E+01 |
|   |        |               |                       |          | Be-7     | 1.12E+03  | 2.44E+02                 | 2.37E+02 |
|   |        |               |                       |          | K-40     | 3.16E+03  | 5.45E+02                 | 2.20E+02 |
| Sample Point 084 [ INDICATOR - NNE @ 2.58 miles ] |        |               |                       |          |          |           |                          |          |
| Sample ID:  | 275261 | Sample Dates: | 1/6/2014 - 1/6/2014   | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|   |        |               |                       |          | I-131    | <3.14E+01 | 0.00E+00                 | 3.14E+01 |
|   |        |               |                       |          | Cs-134   | <2.39E+01 | 0.00E+00                 | 2.39E+01 |

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



# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 084 [ INDICATOR - NNE @ 2.58 miles ]

|                   |                                   |          |          |           |                          |     |
|-------------------|-----------------------------------|----------|----------|-----------|--------------------------|-----|
| Sample ID: 275261 | Sample Dates: 1/6/2014 - 1/6/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | Cs-137   | <2.82E+01 |                          |     |
|                   |                                   |          | Be-7     | 4.53E+03  |                          |     |
|                   |                                   |          | K-40     | 2.03E+03  |                          |     |
| Sample ID: 279587 | Sample Dates: 2/3/2014 - 2/3/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <2.23E+01 |                          |     |
|                   |                                   |          | Cs-134   | <2.22E+01 |                          |     |
|                   |                                   |          | Cs-137   | <1.99E+01 |                          |     |
|                   |                                   |          | Be-7     | 1.40E+03  |                          |     |
| Sample ID: 281224 | Sample Dates: 3/3/2014 - 3/3/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <2.27E+01 |                          |     |
|                   |                                   |          | Cs-134   | <2.29E+01 |                          |     |
|                   |                                   |          | Cs-137   | <2.90E+01 |                          |     |
|                   |                                   |          | Be-7     | 2.70E+03  |                          |     |
| Sample ID: 284405 | Sample Dates: 4/7/2014 - 4/7/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <3.74E+01 |                          |     |
|                   |                                   |          | Cs-134   | <3.67E+01 |                          |     |
|                   |                                   |          | Cs-137   | <4.50E+01 |                          |     |
|                   |                                   |          | Be-7     | 2.18E+03  |                          |     |
| Sample ID: 287042 | Sample Dates: 5/5/2014 - 5/5/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <3.33E+01 |                          |     |
|                   |                                   |          | Cs-134   | <3.17E+01 |                          |     |
|                   |                                   |          | Cs-137   | <3.14E+01 |                          |     |
|                   |                                   |          | Be-7     | 2.90E+02  |                          |     |
| Sample ID: 289843 | Sample Dates: 6/2/2014 - 6/2/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | I-131    | <5.83E+01 |                          |     |
|                   |                                   |          | Cs-134   | <4.79E+01 |                          |     |
|                   |                                   |          | Cs-137   | <5.14E+01 |                          |     |
|                   |                                   |          | Be-7     | 4.58E+02  |                          |     |
| Sample ID: 294847 | Sample Dates: 7/7/2014 - 7/7/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | Mn-54    | <1.48E+01 |                          |     |
|                   |                                   |          | Co-58    | <1.48E+01 |                          |     |
|                   |                                   |          | Fe-59    | <3.94E+01 |                          |     |
|                   |                                   |          | Co-60    | <1.65E+01 |                          |     |
|                   |                                   |          | Zn-65    | <3.43E+01 |                          |     |
|                   |                                   |          | Zr-95    | <2.85E+01 |                          |     |
|                   |                                   |          | Nb-95    | <1.60E+01 |                          |     |
|                   |                                   |          | I-131    | <4.11E+01 |                          |     |
|                   |                                   |          | Cs-134   | <1.12E+01 |                          |     |
|                   |                                   |          | Cs-137   | <1.53E+01 |                          |     |
|                   |                                   |          | BaLa-140 | <2.46E+01 |                          |     |
|                   |                                   |          | Be-7     | 7.01E+02  |                          |     |
|                   |                                   |          | K-40     | 2.74E+03  |                          |     |
| Sample ID: 296615 | Sample Dates: 8/4/2014 - 8/4/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD |
|                   |                                   |          | Mn-54    | <4.21E+01 |                          |     |
|                   |                                   |          | Co-58    | <4.50E+01 |                          |     |
|                   |                                   |          | Fe-59    | <1.04E+02 |                          |     |
|                   |                                   |          | Co-60    | <6.77E+01 |                          |     |
|                   |                                   |          | Zn-65    | <7.67E+01 |                          |     |
|                   |                                   |          | Zr-95    | <1.49E+01 |                          |     |
|                   |                                   |          | Nb-95    | <3.32E+01 |                          |     |
|                   |                                   |          | I-131    | <3.70E+01 |                          |     |
|                   |                                   |          | Cs-134   | <4.11E+01 |                          |     |
|                   |                                   |          | Cs-137   | <5.96E+01 |                          |     |
|                   |                                   |          | BaLa-140 | <6.09E+01 |                          |     |
|                   |                                   |          | Be-7     | 1.12E+03  |                          |     |

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





# OCONEE Radiological Environmental Monitoring Analysis Report - 2014 (Appendix E)

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

Sample Point 084 [ INDICATOR - NNE @ 2.58 miles ]

|                   |                                     |          |          |           |                          |          |
|-------------------|-------------------------------------|----------|----------|-----------|--------------------------|----------|
| Sample ID: 296615 | Sample Dates: 8/4/2014 - 8/4/2014   | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     |          | K-40     | 2.34E+03  | 7.79E+02                 | 6.91E+02 |
| Sample ID: 354459 | Sample Dates: 9/2/2014 - 9/2/2014   | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     |          | Mn-54    | <1.46E+01 | 0.00E+00                 | 1.46E+01 |
|                   |                                     |          | Co-58    | <1.55E+01 | 0.00E+00                 | 1.55E+01 |
|                   |                                     |          | Fe-59    | <3.39E+01 | 0.00E+00                 | 3.39E+01 |
|                   |                                     |          | Co-60    | <1.53E+01 | 0.00E+00                 | 1.53E+01 |
|                   |                                     |          | Zn-65    | <3.65E+01 | 0.00E+00                 | 3.65E+01 |
|                   |                                     |          | Zr-95    | <2.93E+01 | 0.00E+00                 | 2.93E+01 |
|                   |                                     |          | Nb-95    | <1.89E+01 | 0.00E+00                 | 1.89E+01 |
|                   |                                     |          | I-131    | <4.41E+01 | 0.00E+00                 | 4.41E+01 |
|                   |                                     |          | Cs-134   | <1.96E+01 | 0.00E+00                 | 1.96E+01 |
|                   |                                     |          | Cs-137   | <1.39E+01 | 0.00E+00                 | 1.39E+01 |
|                   |                                     |          | BaLa-140 | <3.15E+01 | 0.00E+00                 | 3.15E+01 |
|                   |                                     |          | Be-7     | 3.00E+02  | 1.46E+02                 | 2.26E+02 |
|                   |                                     |          | K-40     | 2.24E+03  | 3.94E+02                 | 4.52E+02 |
| Sample ID: 357062 | Sample Dates: 10/6/2014 - 10/6/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     |          | Mn-54    | <2.09E+01 | 0.00E+00                 | 2.09E+01 |
|                   |                                     |          | Co-58    | <2.24E+01 | 0.00E+00                 | 2.24E+01 |
|                   |                                     |          | Fe-59    | <5.49E+01 | 0.00E+00                 | 5.49E+01 |
|                   |                                     |          | Co-60    | <3.06E+01 | 0.00E+00                 | 3.06E+01 |
|                   |                                     |          | Zn-65    | <5.42E+01 | 0.00E+00                 | 5.42E+01 |
|                   |                                     |          | Zr-95    | <4.52E+01 | 0.00E+00                 | 4.52E+01 |
|                   |                                     |          | Nb-95    | <2.99E+01 | 0.00E+00                 | 2.99E+01 |
|                   |                                     |          | I-131    | <4.71E+01 | 0.00E+00                 | 4.71E+01 |
|                   |                                     |          | Cs-134   | <2.74E+01 | 0.00E+00                 | 2.74E+01 |
|                   |                                     |          | Cs-137   | <2.72E+01 | 0.00E+00                 | 2.72E+01 |
|                   |                                     |          | BaLa-140 | <4.61E+01 | 0.00E+00                 | 4.61E+01 |
|                   |                                     |          | Be-7     | 1.21E+03  | 3.18E+02                 | 4.33E+02 |
|                   |                                     |          | K-40     | 3.04E+03  | 4.91E+02                 | 3.74E+02 |
| Sample ID: 360043 | Sample Dates: 11/3/2014 - 11/3/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     |          | Mn-54    | <1.73E+01 | 0.00E+00                 | 1.73E+01 |
|                   |                                     |          | Co-58    | <1.46E+01 | 0.00E+00                 | 1.46E+01 |
|                   |                                     |          | Fe-59    | <2.71E+01 | 0.00E+00                 | 2.71E+01 |
|                   |                                     |          | Co-60    | <1.46E+01 | 0.00E+00                 | 1.46E+01 |
|                   |                                     |          | Zn-65    | <3.17E+01 | 0.00E+00                 | 3.17E+01 |
|                   |                                     |          | Zr-95    | <2.53E+01 | 0.00E+00                 | 2.53E+01 |
|                   |                                     |          | Nb-95    | <1.63E+01 | 0.00E+00                 | 1.63E+01 |
|                   |                                     |          | I-131    | <1.37E+01 | 0.00E+00                 | 1.37E+01 |
|                   |                                     |          | Cs-134   | <2.09E+01 | 0.00E+00                 | 2.09E+01 |
|                   |                                     |          | Cs-137   | <1.56E+01 | 0.00E+00                 | 1.56E+01 |
|                   |                                     |          | BaLa-140 | <1.71E+01 | 0.00E+00                 | 1.71E+01 |
|                   |                                     |          | Be-7     | 1.83E+03  | 2.48E+02                 | 1.92E+02 |
|                   |                                     |          | K-40     | 2.78E+03  | 3.89E+02                 | 2.53E+02 |
| Sample ID: 362796 | Sample Dates: 12/1/2014 - 12/1/2014 | MIXEDBLV | Nuclide  | Activity  | Sigma Error <sup>1</sup> | LLD      |
|                   |                                     |          | Mn-54    | <2.16E+01 | 0.00E+00                 | 2.16E+01 |
|                   |                                     |          | Co-58    | <1.74E+01 | 0.00E+00                 | 1.74E+01 |
|                   |                                     |          | Fe-59    | <4.49E+01 | 0.00E+00                 | 4.49E+01 |
|                   |                                     |          | Co-60    | <3.01E+01 | 0.00E+00                 | 3.01E+01 |
|                   |                                     |          | Zn-65    | <6.32E+01 | 0.00E+00                 | 6.32E+01 |
|                   |                                     |          | Zr-95    | <3.57E+01 | 0.00E+00                 | 3.57E+01 |
|                   |                                     |          | Nb-95    | <1.91E+01 | 0.00E+00                 | 1.91E+01 |
|                   |                                     |          | I-131    | <2.01E+01 | 0.00E+00                 | 2.01E+01 |
|                   |                                     |          | Cs-134   | <1.67E+01 | 0.00E+00                 | 1.67E+01 |
|                   |                                     |          | Cs-137   | <2.25E+01 | 0.00E+00                 | 2.25E+01 |
|                   |                                     |          | BaLa-140 | <2.29E+01 | 0.00E+00                 | 2.29E+01 |
|                   |                                     |          | Be-7     | 3.22E+03  | 4.32E+02                 | 1.73E+02 |
|                   |                                     |          | K-40     | 2.69E+03  | 5.51E+02                 | 4.48E+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

Oconee 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). Oconee environmental TLD data were evaluated and it was determined the quarters affected were Oconee 3Q2009, Oconee 1Q2011, and Oconee 1Q2013. Oconee 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 Oconee AREOR entities affected:

- Section 3.8, Figure 3.8
- Section 3.8, Table 3.8
- 2009 inner ring average updated from 83.7 mR/yr to 85.1 mR/yr
- 2009 outer ring average updated from 93.0 mR/yr to 94.5 mR/yr
- 2009 control average updated from 110 mR/yr to 112 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)<br>Range | Location<br>Code                  | Mean (Fraction)<br>Range | Mean (Fraction)<br>Range |
| 22.3 (160 / 160)         | 042                               | 27.5 (4 / 4)             | 27.5 (8 / 8)             |
| 13.9 – 30.9              | (4.93 mi SE)                      | 23.2 – 30.7              | 20.4 – 34.8              |

### **Updated 2009 TLD Appendix B section**

| All Indicator Locations  | Location with Highest Annual Mean |                          | Control Location         |
|--------------------------|-----------------------------------|--------------------------|--------------------------|
| Mean (Fraction)<br>Range | Location<br>Code                  | Mean (Fraction)<br>Range | Mean (Fraction)<br>Range |
| 22.6 (160 / 160)         | 042                               | 28.0 (4 / 4)             | 28.0 (8 / 8)             |
| 15.0 – 30.9              | (4.93 mi SE)                      | 25.1 – 30.7              | 22.0 – 34.8              |

2011 Oconee AREOR entities affected:

- Section 3.8, Figure 3.8-1, Figure 3.8-2, Figure 3.8-3
- Section 3.8, Table 3.8-A, Table 3.8-B, Table 3.8-C
- 2011 inner ring average updated from 83.7 mR/yr to 83.8 mR/yr
- 2011 outer ring average updated from 94.0 mR/yr to 93.8 mR/yr
- 2011 control average updated from 111 mR/yr to 111 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)<br>Range | Location<br>Code                  | Mean (Fraction)<br>Range | Mean (Fraction)<br>Range |
| 22.4 (160 / 160)         | 048                               | 28.0 (4 / 4)             | 27.8 (8 / 8)             |
| 12.0 – 32.0              | (3.64 mi W)                       | 25.0 – 32.0              | 20.0 – 37.0              |

**Updated 2011 TLD Appendix B section**

| All Indicator Locations  | Location with Highest Annual Mean |                          | Control Location         |
|--------------------------|-----------------------------------|--------------------------|--------------------------|
| Mean (Fraction)<br>Range | Location<br>Code                  | Mean (Fraction)<br>Range | Mean (Fraction)<br>Range |
| 22.4 (160 / 160)         | 048                               | 28.0 (4 / 4)             | 27.7 (8 / 8)             |
| 12.0 – 32.1              | (3.64 mi W)                       | 25.0 – 31.8              | 20.0 – 36.8              |

2013 Oconee AREOR entities affected:

- Section 3.8, Figure 3.8
- Section 3.8, Table 3.8
- 2013 inner ring average updated from 80.7 mR/yr to 82.4 mR/yr
- 2013 outer ring average updated from 91.0 mR/yr to 93.0 mR/yr
- 2013 control average updated from 110 mR/yr to 112 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)<br>Range | Location<br>Code                  | Mean (Fraction)<br>Range | Mean (Fraction)<br>Range |
| 21.7 (159 / 159)         | 040                               | 27.6 (3 / 3)             | 27.5 (8 / 8)             |
| 14.0 – 29.7              | (4.74 mi E)                       | 26.0 – 29.7              | 21.0 – 35.3              |

**Updated 2013 TLD Appendix B section**

| All Indicator Locations  | Location with Highest Annual Mean |                          | Control Location         |
|--------------------------|-----------------------------------|--------------------------|--------------------------|
| Mean (Fraction)<br>Range | Location<br>Code                  | Mean (Fraction)<br>Range | Mean (Fraction)<br>Range |
| 22.1 (159 / 159)         | 040                               | 28.3 (3 / 3)             | 28.1 (8 / 8)             |
| 14.0 – 31.9              | (4.74 mi E)                       | 26.0 – 31.9              | 21.0 – 38.1              |