DUKE ENERGY.

Scott L. Batson
Vice President
Oconee Nuclear Station

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April 30, 2013

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

Subject: Duke Energy Carolinas, LLC
Oconee Nuclear Station,
Docket Nos. 50-269, 50-270 and 50-287
2012 Annual Radioactive Effluent Release Report (ARERR)

Pursuant to Oconee Nuclear Station Technical Specification (TS) 5.6.3 and Selected Licensee Commitment 16.11-9, please find attached the Annual Radioactive Effluent Release Report for the period of January 1, 2012 through December 31, 2012. In accordance with TS 5.5.1, the Offsite Dose Calculation Manual (ODCM) is included in this submittal.

Attachment 1	Summary of Gaseous and Liquid Effluents Report
Attachment 2	Supplemental Information
Attachment 3	Solid Waste Disposal Report
Attachment 4	Meteorological Data
Attachment 5	Unplanned Offsite Releases
Attachment 6	Assessment of Radiation Dose from Radioactive Effluents to Members of the Public (includes fuel cycle dose calculation results)
Attachment 7	Revisions to UFSAR Section 16.11 Radiological Effluent Controls
Attachment 8	Revisions to the Radioactive Waste Process Control Program Manual (Compact Disc)
Attachment 9	Information to Support the NEI Groundwater Protection Initiative
Attachment 10	Inoperable Equipment
Attachment 11	Radioactive Waste Systems Changes

IE48
A009
NRR

Enclosure 2012 Offsite Dose Calculation Manual (Compact Disc)

Any questions concerning this report should be directed to Kent Alter at 864-873-3255.

Sincerely,

Scott Batson
Vice President
Oconee Nuclear Station

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

xc (with attachments and enclosure): :

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xc (with attachments only):

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ATTACHMENT 1

Summary of Gaseous and Liquid Effluents Report

This attachment includes a summary of the quantities of radioactive liquid and gaseous effluents as outlined in Regulatory Guide 1.21, Revision 1, Appendix B.

TABLE 1A

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

Oconee Nuclear Station Units 1, 2, & 3

REPORT FOR 2012	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
A. Fission and Activation Gases						
1. Total Release	Ci	1.64E+01	2.47E+00	3.17E-02	6.02E-02	1.90E+01
2. Avg. Release Rate	µCi/sec	2.09E+00	3.14E-01	3.99E-03	7.57E-03	6.00E-01
B. Iodine-131						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	1.80E-08	1.80E-08
2. Avg. Release Rate	µCi/sec	0.00E+00	0.00E+00	0.00E+00	2.26E-09	5.69E-10
C. Particulates Half Life >= 8 days						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Avg. Release Rate	µCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
D. Tritium						
1. Total Release	Ci	1.01E+02	1.81E+01	3.02E+01	3.16E+01	1.81E+02
2. Avg. Release Rate	µCi/sec	1.29E+01	2.31E+00	3.80E+00	3.97E+00	5.73E+00
E. Carbon-14						
1. Total Release	Ci	6.11E+00	4.74E+00	5.95E+00	5.37E+00	2.22E+01
2. Avg. Release Rate	µCi/sec	7.77E-01	6.03E-01	7.48E-01	6.76E-01	7.01E-01
F. Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Avg. Release Rate	µCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TABLE 1B

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
GASEOUS EFFLUENTS - ELEVATED RELEASES - CONTINUOUS MODE

Oconee Nuclear Station Units 1, 2, & 3

REPORT FOR 2012	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
1. Fission and Activation Gases						
XE-133	Ci	1.64E+01	2.29E+00	0.00E+00	0.00E+00	1.87E+01
Totals for Period...	Ci	1.64E+01	2.29E+00	0.00E+00	0.00E+00	1.87E+01
2. Iodines						
** No Nuclide Activities **		.....	.....	.....	.....	.....
3. Particulates Half Life >= 8 days						
** No Nuclide Activities **		.....	.....	.....	.....	.....
4. Tritium						
H-3	Ci	9.59E+01	1.33E+01	2.66E+01	2.60E+01	1.62E+02
5. Carbon-14						
C-14	Ci	1.83E+00	1.43E+00	1.78E+00	1.61E+00	6.65E+00
6. Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

TABLE 1B

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
GASEOUS EFFLUENTS - ELEVATED RELEASES - BATCH MODE

Oconee Nuclear Station Units 1, 2, & 3

REPORT FOR 2012	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
1. Fission and Activation Gases						
AR-41	Ci	0.00E+00	2.75E-03	2.46E-02	1.27E-02	4.00E-02
KR-85	Ci	1.27E-02	7.28E-03	5.84E-03	1.29E-03	2.71E-02
KR-85M	Ci	0.00E+00	0.00E+00	0.00E+00	1.47E-05	1.47E-05
XE-133	Ci	0.00E+00	1.62E-01	1.32E-03	4.02E-02	2.04E-01
XE-133M	Ci	0.00E+00	0.00E+00	0.00E+00	7.02E-04	7.02E-04
XE-135	Ci	0.00E+00	3.90E-03	0.00E+00	5.30E-03	9.19E-03
Totals for Period...	Ci	1.27E-02	1.76E-01	3.17E-02	6.02E-02	2.81E-01
2. Iodines						
I-131	Ci	0.00E+00	0.00E+00	0.00E+00	1.80E-08	1.80E-08
I-133	Ci	0.00E+00	0.00E+00	0.00E+00	3.04E-08	3.04E-08
Totals for Period...	Ci	0.00E+00	0.00E+00	0.00E+00	4.84E-08	4.84E-08
3. Particulates Half Life >= 8 days						
** No Nuclide Activities **		.....	.....	.....	.....	.....
4. Tritium						
H-3	Ci	1.61E-05	2.46E-02	4.46E-02	6.41E-02	1.33E-01
5. Carbon-14						
C-14	Ci	4.27E+00	3.33E+00	4.15E+00	3.76E+00	1.55E+01
6. Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

TABLE 1C

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
GASEOUS EFFLUENTS - GROUND RELEASES - CONTINUOUS MODE

Oconee Nuclear Station Units 1, 2, & 3

REPORT FOR 2012	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
1. Fission and Activation Gases						
** No Nuclide Activities **	.....	.....	.....	.....	.....	.....
2. Iodines						
** No Nuclide Activities **	.....	.....	.....	.....	.....	.....
3. Particulates Half Life >= 8 days						
** No Nuclide Activities **	.....	.....	.....	.....	.....	.....
4. Tritium						
H-3	Ci	5.33E+00	4.83E+00	3.54E+00	5.49E+00	1.92E+01
5. Carbon-14						
** No Nuclide Activities **	.....	.....	.....	.....	.....	.....
6. Gross Alpha Radioactivity						
** No Nuclide Activities **	.....	.....	.....	.....	.....	.....

TABLE 1C

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
GASEOUS EFFLUENTS - GROUND RELEASES - BATCH MODE

Oconee Nuclear Station Units 1, 2, & 3

REPORT FOR 2012	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
1. Fission and Activation Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....
2. Iodines						
** No Nuclide Activities **		.....	.....	.....	.....	.....
3. Particulates Half Life >= 8 days						
** No Nuclide Activities **		.....	.....	.....	.....	.....
4. Tritium						
H-3	Ci	0.00E+00	3.40E-09	0.00E+00	3.40E-09	6.80E-09
5. Carbon-14						
** No Nuclide Activities **		.....	.....	.....	.....	.....
6. Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

TABLE 2A

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

Oconee Nuclear Station Units 1, 2, & 3

REPORT FOR 2012	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
A. Fission and Activation Products						
1. Total Release	Ci	2.29E-03	1.47E-02	7.13E-03	1.55E-03	2.57E-02
2. Average Diluted Concentration						
a. Continuous Releases	µCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
b. Batch Releases	µCi/ml	2.71E-10	1.74E-09	8.34E-10	1.81E-10	7.56E-10
B. Tritium						
1. Total Release	Ci	1.51E+02	1.90E+02	2.54E+02	1.65E+02	7.59E+02
2. Average Diluted Concentration						
a. Continuous Releases	µCi/ml	3.04E-08	2.94E-08	3.74E-08	2.66E-08	3.10E-08
b. Batch Releases	µCi/ml	1.78E-05	2.25E-05	2.96E-05	1.92E-05	2.23E-05
C. Dissolved and Entrained Gases						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Average Diluted Concentration						
a. Continuous Releases	µCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
b. Batch Releases	µCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
D. Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2. Average Diluted Concentration						
a. Continuous Releases	µCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
b. Batch Releases	µCi/ml	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
E. Volume of Liquid Waste						
1. Continuous Releases	liters	5.57E+08	6.08E+08	6.25E+08	6.53E+08	2.44E+09
2. Batch Releases	liters	1.03E+06	3.14E+06	1.46E+06	2.44E+06	8.07E+06
F. Volume of Dilution Water						
1. Continuous Releases	liters	8.46E+09	8.46E+09	8.55E+09	8.55E+09	3.40E+10
2. Batch Releases	liters	8.46E+09	8.46E+09	8.55E+09	8.55E+09	3.40E+10

TABLE 2B

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
LIQUID EFFLUENTS - CONTINUOUS MODE

Oconee Nuclear Station Units 1, 2, & 3

REPORT FOR 2012	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
1. Fission and Activation Products						
** No Nuclide Activities **	.....	.....	.....	.....	.....	.....
2. Tritium						
H-3	Ci	2.74E-01	2.67E-01	3.43E-01	2.45E-01	1.13E+00
3. Dissolved and Entrained Gases						
** No Nuclide Activities **	.....	.....	.....	.....	.....	.....
4. Gross Alpha Radioactivity						
** No Nuclide Activities **	.....	.....	.....	.....	.....	.....

TABLE 2B

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
LIQUID EFFLUENTS - BATCH MODE

Oconee Nuclear Station Units 1, 2, & 3

REPORT FOR 2012	Unit	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
1. Fission and Activation Products						
AG-110M	Ci	3.61E-05	2.35E-04	4.07E-05	8.46E-05	3.96E-04
CO-57	Ci	0.00E+00	0.00E+00	3.17E-05	0.00E+00	3.17E-05
CO-58	Ci	1.56E-03	1.12E-02	4.08E-03	1.18E-03	1.80E-02
CO-60	Ci	4.46E-05	1.31E-03	7.78E-04	9.57E-05	2.22E-03
CR-51	Ci	0.00E+00	4.49E-04	0.00E+00	0.00E+00	4.49E-04
CS-134	Ci	0.00E+00	2.70E-05	0.00E+00	0.00E+00	2.70E-05
CS-137	Ci	3.76E-05	3.43E-05	1.25E-05	0.00E+00	8.45E-05
MN-54	Ci	0.00E+00	2.64E-04	8.20E-05	0.00E+00	3.46E-04
NB-95	Ci	2.17E-04	8.55E-04	2.60E-04	9.76E-05	1.43E-03
NB-97	Ci	0.00E+00	5.68E-05	6.81E-05	2.82E-05	1.53E-04
SB-122	Ci	0.00E+00	0.00E+00	0.00E+00	1.23E-05	1.23E-05
SB-124	Ci	0.00E+00	0.00E+00	1.01E-04	0.00E+00	1.01E-04
SB-125	Ci	2.99E-04	8.74E-05	1.58E-03	0.00E+00	1.96E-03
ZR-95	Ci	1.04E-04	2.61E-04	2.91E-05	1.79E-05	4.12E-04
ZR-97	Ci	0.00E+00	0.00E+00	6.81E-05	2.82E-05	9.63E-05
Totals for Period...	Ci	2.29E-03	1.47E-02	7.13E-03	1.55E-03	2.57E-02
2. Tritium						
H-3	Ci	1.50E+02	1.90E+02	2.53E+02	1.64E+02	7.58E+02
3. Dissolved and Entrained Gases						
** No Nuclide Activities **		.....	.....	.....	.....	.....
4. Gross Alpha Radioactivity						
** No Nuclide Activities **		.....	.....	.....	.....	.....

ATTACHMENT 2

Supplemental Information

to the

Gaseous and Liquid Effluents Report

Oconee 2012 ARERR - Carbon-14 Supplemental Information

Carbon-14 (C-14), with a half-life of 5730 years, is a naturally occurring isotope of carbon produced by cosmic ray interactions in the atmosphere. Nuclear weapons testing in the 1950s and 1960s significantly increased the amount of C-14 in the atmosphere. C-14 is also produced in commercial nuclear reactors, but the amounts produced are much less than those produced naturally or from weapons testing.

In Regulatory Guide 1.21, Revision 2, "Measuring, Evaluating, and Reporting Radioactive Material in Liquid and Gaseous Effluents and Solid Waste", the NRC recommends U.S. nuclear power plants evaluate whether C-14 is a "principal radionuclide", and if so, report the amount of C-14 released. At Oconee, improvements over the years in effluent management practices and fuel performance have resulted in a decrease in gaseous radionuclide (non-C-14) concentrations, and a change in the distribution of gaseous radionuclides released to the environment. As a result, C-14 has become a "principal radionuclide" for the gaseous effluent pathway at Oconee, as defined in Regulatory Guide 1.21, Rev. 2. Oconee's 2012 Annual Radioactive Effluent Release Report (ARERR) contains estimates of C-14 radioactivity released in 2012, and estimates of public dose resulting from the C-14 effluent.

Because the dose contribution of C-14 from liquid radioactive waste is much less than that contributed by gaseous radioactive waste, evaluation of C-14 in liquid radioactive waste at Oconee is not required (Ref. Reg. Guide 1.21, Rev. 2). The quantity of gaseous C-14 released to the environment can be estimated by use of a C-14 source term scaling factor based on power generation (Ref. Reg. Guide 1.21, Rev. 2). Many documents provide information related to the magnitude of C-14 in typical effluents from commercial nuclear power plants. Those documents suggest that nominal annual releases of C-14 in gaseous effluents are approximately 5 to 7.3 curies from PWRs (Ref. Reg. Guide 1.21, Rev. 2). A more recent study recommends a higher C-14 gaseous source term scaling factor of approximately 9.0 to 9.8 Ci/GWe-yr for a Westinghouse PWR and 10.4 to 11.3 for a CE PWR (Ref. EPRI 1021106). The EPRI report did not provide a source term scaling factor for a B&W PWR, but for the 2012 Oconee ARERR a source term scaling factor of 9.4 Ci/GWe-yr is assumed in order to be consistent with the scaling factor used for the Catawba and McGuire ARERRs. Using a source term scaling factor of 9.4 Ci/GWe-yr and actual electric generation (MWe-hrs) from Oconee in 2012 results in a site total C-14 gaseous release estimate to the environment of ~22 Curies. 70% of the C-14 gaseous effluent is assumed to be from batch releases (e.g. WGDTs), and 30% of C-14 gaseous effluent is assumed to be from continuous releases through the unit vents (ref. IAEA Technical Reports Series no. 421, "Management of Waste Containing Tritium and Carbon-14", 2004).

C-14 releases in PWRs occur primarily as a mix of organic carbon and carbon dioxide released from the waste gas system. Since the PWR operates with a reducing chemistry, most, if not all, of the C-14 species initially produced are organic (e.g., methane). As a general rule, C-14 in the primary coolant is essentially all organic with a large fraction as a gaseous species. Any time the RCS liquid or gas is exposed to an oxidizing environment (e.g. during shutdown or refueling), a slow transformation from an organic to an inorganic chemical form can occur. Various studies documenting measured C-14 releases from PWRs suggest a range of 70% to 95% organic with

an average of 80% organic with the remainder being CO_2 (Ref. EPRI TR-105715). For the Oconee 2012 ARERR a value of 80% organic C-14 is assumed.

Public dose estimates from airborne C-14 are performed using dose models in NUREG-0133 and Regulatory Guide 1.109. The dose models and assumptions used are documented in the Oconee ODCM. The estimated C-14 dose impact on the maximum organ dose from airborne effluents released from Oconee in 2012 is well below the 10CFR50, Appendix I, ALARA design objective (i.e., 15 mrem/yr per unit).

OCONEE NUCLEAR STATION

2012 EFFLUENT AND WASTE DISPOSAL SUPPLEMENTAL INFORMATION

I. REGULATORY LIMITS - STATION

A. NOBLE GASES - AIR DOSE
1. CALENDAR QUARTER - GAMMA DOSE = 15 MRAD
2. CALENDAR QUARTER - BETA DOSE = 30 MRAD
3. CALENDAR YEAR - GAMMA DOSE = 30 MRAD
4. CALENDAR YEAR - BETA DOSE = 60 MRAD

B. LIQUID EFFLUENTS - DOSE
1. CALENDAR QUARTER - TOTAL BODY DOSE = 4.5 MREM
2. CALENDAR QUARTER - ORGAN DOSE = 15 MREM
3. CALENDAR YEAR - TOTAL BODY DOSE = 9 MREM
4. CALENDAR YEAR - ORGAN DOSE = 30 MREM

C. IODINE - 131 AND 133, TRITIUM, PARTICULATES W/T 1/2 > 8 DAYS - ORGAN DOSE
1. CALENDAR QUARTER = 22.5 MREM
2. CALENDAR YEAR = 45 MREM

II. MAXIMUM PERMISSIBLE EFFLUENT CONCENTRATIONS

A. GASEOUS EFFLUENTS - INFORMATION FOUND IN OFFSITE DOSE CALCULATION MANUAL
B. LIQUID EFFLUENTS - INFORMATION FOUND IN 10CFR20, APPENDIX B, TABLE 2, COLUMN 2

III. AVERAGE ENERGY - NOT APPLICABLE

IV. MEASUREMENTS AND APPROXIMATIONS OF TOTAL RADIOACTIVITY

ANALYSES OF SPECIFIC RADIONUCLIDES IN SELECTED OR COMPOSITED SAMPLES AS DESCRIBED IN THE SELECTED LICENSEE COMMITMENTS ARE USED TO DETERMINE THE RADIONUCLIDE COMPOSITION OF THE EFFLUENT. A SUMMARY DESCRIPTION OF THE METHOD USED FOR ESTIMATING OVERALL ERRORS ASSOCIATED WITH RADIOACTIVITY MEASUREMENTS IS PROVIDED AS PART OF THE "SUPPLEMENTAL INFORMATION" ATTACHMENT.

V. BATCH RELEASES

A. LIQUID EFFLUENT
1. 9.30E+01 = TOTAL NUMBER OF BATCH RELEASES
2. 2.00E+04 = TOTAL TIME (MIN.) FOR BATCH RELEASES.
3. 2.47E+02 = MAXIMUM TIME (MIN.) FOR A BATCH RELEASE.
4. 2.15E+02 = AVERAGE TIME (MIN.) FOR A BATCH RELEASE.
5. 1.06E+02 = MINIMUM TIME (MIN.) FOR A BATCH RELEASE.
6. 1.70E+04 = AVERAGE DILUTION WATER FLOW DURING RELEASES (GPM).

B. GASEOUS EFFLUENT
1. 4.50E+01 = TOTAL NUMBER OF BATCH RELEASES.
2. 1.23E+05 = TOTAL TIME (MIN.) FOR BATCH RELEASES.
3. 3.60E+04 = MAXIMUM TIME (MIN.) FOR A BATCH RELEASE.
4. 2.73E+03 = AVERAGE TIME (MIN.) FOR A BATCH RELEASE.
5. 1.78E+02 = MINIMUM TIME (MIN.) FOR A BATCH RELEASE.

VI. ABNORMAL RELEASES

(SEE "UNPLANNED OFFSITE RELEASES" ATTACHMENT)

OCONEE NUCLEAR STATION

Overall Estimate of Error for Effluent Radioactivity Release Reported

The estimated percentage of overall error for both Liquid and Gaseous effluent release data at Oconee Nuclear Station has been determined to be ± 30.3%. This value was derived by taking the square root of the sum of the squares of the following discrete individual estimates of error:

(1) Flow Rate Determining Devices	= ± 20%
(2) Counting Statistical Error	= ± 20%
(3) Calibration Error	= ± 10%
(4) Calibration Source Error	= ± 2.5%
(5) Sample Preparation Error	= ± 3%

Attachment 3

Oconee Nuclear Site

Solid Waste Disposal Report

DUKE ENERGY COMPANY OCONEE NUCLEAR STATION

155 EAST PICKENS HIGHWAY
SENECA, S.C. 29672

March 21, 2013

Judy Smith
Regulatory Compliance

SUBJECT: Oconee Nuclear Station
"Annual Solid Waste
Disposal Report - 2012"
FILE NO: OS-770.05

Pursuant to Oconee Nuclear Station Technical Specifications 5.6.3, please find attached 2012 Annual Solid Waste Disposal Report for the period JANUARY 1, 2012 to DECEMBER 31, 2012. The format of the attachment meets all of the regulatory requirements for this type of reporting.

Lagrone D. Robinson
Radiation Protection Manager

HBN

Attachments

cc: Larry E. Haynes
Victor Owens
Carl Ingram
Clay Lemons

DUKE ENERGY
Oconee Nuclear Station
SOLID RADIOACTIVE WASTE SHIPPED TO A DISPOSAL FACILITY

Report Period: January - December 2012

Waste Type	NUMBER OF SHIPMENTS	NUMBER OF CONTAINERS	WASTE CLASS A-U	A-S	B	C	CONTAINER TYPE	BURIAL VOLUME CU. FT.	CU. M.	TOTAL ACTIVITY CURIES
1) WASTE FROM LIQUID SYSTEM										
(A) Dewatered Powdex Resin	0	0	0	0	0	0	GDP	0	0.00	0.00
(B) Dewatered Primary Resin	5	5	0	0	5	0	TYPE A	601.5	17.03	560.00
(C) Dewatered Mechanical Filters										
1. Primary Filter Media	2	2	0	0	0	2	TYPE A	240.6	6.81	53.00
2. Secondary Filter Media	1	1	1	0	0	0	GDP	90	2.54	0.0050
(D) Solidified oil, liquid, sludge	0	0	0	0	0	0	GDP	0	0.00	0.00
2) DRY SOLID WASTE										
(A) Dry Active Waste - Processor to Burial	60	60	60	0	0	0	GDP	6632.5	193.48	4.77
Metal - Processor to Burial	17	17	17	0	0	0	GDP	1506.28	42.65	0.21
(B) Dry Active Waste to Burial	1	1	0	1	0	0	TYPE A	120.3	3.41	0.70
(C) Dry Active Waste Brokered	0	0	0	0	0	0		0	0.00	0.00
(D) Irradiated Components	0	0	0	0	0	0		0	0.00	0.00
TOTAL	86	86	78	1	5	2		9391.23	265.93	618.69

OCONEE NUCLEAR STATION SOLID RADWASTE REPORT
Report Period: January - December 2012
Waste Type: Powdex Resin

ISOTOPE:	% ABUNDANCE							# OF LINERS SHIPPED TO ENVIROCARE						# OF SHIPMENTS TO ENVIROCARE										TOTAL	AVE.
CR-51	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
MN-54	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
CO-57	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
CO-58	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
CO-60	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
NB-95	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
ZR-95	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
CS-134	0.0000	0.0000	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	#VALUE!
RU-103	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
AG-110m	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
SB-125	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
I-131	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
CS-137	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
H-3	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
NI-63	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
FE-55	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
SR-90	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
TE-125m	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
CS-136	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
XE-133	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
C-14	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
PU-241	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
ZN-65	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
FE-59	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
SB-124	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
RU-106	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
CE-144	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
TE-132	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
AM-241	0.0000	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#VALUE!
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.30	#VALUE!
CLASS C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CLASS B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CLASS AS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CLASS AU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CURIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CU. FT.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CU. M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
RSR#																									

OCONEE NUCLEAR STATION SOLID RADWASTE REPORT
Report Period: January - December 2012
Waste Type: Primary Resin

 # OF LINERS SHIPPED TO CNSI 5

 # OF SHIPMENTS TO CNSI 5

ISOTOPE:	% ABUNDANCE/LINER																				TOTAL	AVE.
AG-110m	0.2614	0.0000	0.1048	0.0370	0.1115	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.5147	0.1029
AM-241	0.0001	0.0000	0.0000	0.0002	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0004	0.0001
Be-7	0.0000	0.1902	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1902	0.0380
C-14	0.8192	0.0000	0.1032	0.0737	0.3336	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.3297	0.2659
CE-144	0.0490	0.0518	0.0411	0.0054	0.0052	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1525	0.0305
CM-242	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002	0.0000
CM-243/44	0.0003	0.0000	0.0000	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005	0.0001
CO-57	0.3508	0.4747	0.7020	0.2467	0.3566	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.1308	0.4262
CO-58	44.2266	59.1954	19.5159	6.9737	10.4918	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	140.4034	28.0807
CO-60	3.1808	1.9195	3.6762	1.5263	2.3115	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	12.6143	2.5229
CR-51	0.2919	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2919	0.0584
CS-134	10.2832	3.1494	7.0348	2.7829	4.8639	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	27.9143	5.5829
CS-136	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
CS-137	12.6797	4.7989	11.0138	4.5858	8.4426	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	41.5008	8.3001
FE-55	8.9107	4.1609	13.3132	14.9342	21.1475	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	62.4665	12.4933
FE-59	0.0338	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0338	0.0068
H-3	0.0000	0.0000	0.0277	0.0043	0.0048	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0368	0.0074
I-129	0.0000	0.0000	0.0003	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006	0.0001
I-131	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MN-54	0.8998	0.6724	1.0197	0.3849	0.4910	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.4678	0.6936
NB-95	0.8039	0.0356	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.8394	0.1679
NI-59	0.0639	0.2609	0.2481	0.4342	0.3975	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.4246	0.2849
NI-63	16.2527	25.0575	42.8139	67.7632	51.1475	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	203.0348	40.6070
PU-238	0.0002	0.0001	0.0000	0.0002	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0009	0.0002
PU-239/40	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000
PU-241	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
RU-106	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SB-124	0.0000	0.0000	0.0000	0.0000	0.0018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0018	0.0004
SB-125	0.0000	0.0000	0.1755	0.0504	0.0765	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3024	0.0605
SN-113	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SR-89	0.0116	0.0002	0.0046	0.0046	0.0023	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0235	0.0047
SR-90	0.0115	0.0008	0.0281	0.0382	0.0406	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1192	0.0238
TC-99	0.0088	0.0039	0.0042	0.0026	0.0013	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0208	0.0042
TE-125m	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
XE-133	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ZN-65	0.2309	0.0284	0.0577	0.0224	0.0293	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3687	0.0737
ZR-95	0.4641	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.4641	0.0928
TOTAL	99.86	100.00	99.88	99.85	100.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	499.65	99.93
CLASS C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CLASS B	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
CLASS AS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CLASS AU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CURIES	45.9	174	66.1	152	122	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	560	

CU. FT.	120.3	120.3	120.3	120.3	120.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	601.5
CU. M	3.41	3.41	3.41	3.41	3.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.03
RSR#	12-2009	12-2014	12-2041	12-2044	12-2048																

OCONEE NUCLEAR STATION SOLID RADWASTE REPORT
Report Period: January - December 2012
Waste Type: Primary filters

 # OF DRUMS/LINERS TO CNSI 2

 # OF SHIPMENTS TO CNSI 2

ISOTOPE:																					TOTAL	AVE.
AG-110m	0.00020	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.047
AM-241	0.00050	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.003
BA-140	0.00000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
C-14	0.08770	2.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.55	1.273
CD-109	0.00000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
CE-141	0.00000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
CE-144	0.51210	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.282
CM-242	0.00000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
CM-243/44	0.00070	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
CO-57	0.40190	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.221
CO-58	30.46730	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.56	15.278
CO-60	5.13080	4.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.7880	4.89400
CR-51	0.44580	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.223
CS-134	16.72887	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.10	8.549
CS-136	0.00000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
CS-137	16.82240	0.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.56	8.778
FE-55	3.79440	78.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	82.05	41.023
FE-59	0.05790	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.029
H-3	2.71960	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.72	1.361
HG-203	0.00000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
I-129	0.00000	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.021
MN-54	0.97200	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.18	0.589
NB-94	0.00000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
NB-95	2.30840	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.31	1.154
NI-59	0.02600	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.013
NI-63	15.14020	12.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.76	13.882
PU-238	0.00080	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
PU-239	0.00030	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
PU-241	0.01790	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.009
RU-103	0.00000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
RU-106	0.00220	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.001
SB-124	0.00000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
SB-125	0.01750	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.009
SN-113	0.00000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.001
SR-89	0.00000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00000	0.0000000
SR-90	0.00560	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.006	0.003
TC-99	0.00020	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.1097	0.05485
TE-125m	0.00000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.00000
XE-133	0.00000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	0.00000
ZN-65	0.20930	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.2535	0.12675
ZR-95	4.31780	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.3227	2.16135
TOTAL	100.19	99.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	199.97	99.98

CLASS C	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
CLASS B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLASS AS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CLASS AU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CURIES	10.7	42.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53
CU. FT.	120.3	120.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	240.6
CU. M	3.406581	3.406581	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.813162
RSR#	12-2039	12-2038																			

OCONEE NUCLEAR STATION SOLID RADWASTE REPORT
Report Period: January - December 2012
Waste Type: DAW to Processor

# OF SHIPMENTS FROM ONS TO ENERGY SOLUTIONS	31	# OF CONTAINERS FROM ONS TO ENERGY SOLUTIONS	58
# OF SHIPMENTS FROM PROCESSOR TO CLIVE	60	# OF CONTAINERS FROM PROCESSOR TO CLIVE	60
# OF SHIPMENTS FROM PROCESSOR TO BARNWELL	0	# OF CONTAINERS FROM PROCESSOR TO BARNWELL	0

YEAR #	CU. FT.. SHIPPED	CURIES SHIPPED	CU. FT. DISPOSAL FACILITY	CI TO DISPOSAL FACILITY
11-2030	0	0	111.3065	3.04E+00
11-2041	0	0	30.3	4.94E-01
11-2054	0	0	141.2944	0.005187
11-2057	0	0	73.18571	0.017128
11-2063	0	0	0.349	0.00003
11-2064	0	0	17.271	0.00559
11-2065	0	0	123.714	0.01328
12-2002	1868.8	0.0385	174.000	0.03853
12-2003	1868.8	0.0016	170.857	0.00163
12-2004	1868.8	0.0118	25.904	0.00125
12-2006	1471.4	0.0024	184.114	0.00666
12-2007	684	0.0009	0.000	0.00000
12-2008	684	0.0008	42.714	0.00018
12-2013	1868.8	0.0033	206.243	0.00326
12-2015	934.4	0.0006	200.643	0.00356
12-2016	1599.4	0.0054	288.300	0.00495
12-2017	1868.8	0.0091	145.810	0.00788
12-2018	1868.8	0.0011	165.500	0.00075
12-2021	486.5	0.0019	486.500	0.00190
12-2023	1868.8	0.0121	190.571	0.01196
12-2026	1868.8	0.0285	128.929	0.01345
12-2027	1868.8	0.0706	244.429	0.07050
12-2029	1868.8	0.0719	292.000	0.07193
12-2030	1868.8	0.0407	250.000	0.02761
12-2031	1868.8	0.0166	334.000	0.01516
12-2034	1868.8	0.0243	243.094	0.02060
12-2036	1868.8	0.0227	95.429	0.00738
12-2037	934.4	0.0005	380.446	0.00134
12-2042	1868.8	0.0453	318.571	0.04532
12-2043	1868.8	0.0377	329.786	0.03757
12-2047	1425	0.0060	174.643	0.00498
12-2048	1868.8	0.0396	201.343	0.03749
12-2049	1868.8	0.0263	231.571	0.02607
12-2050	1868.8	0.5620	179.800	0.34923
12-2052	1868.8	0.0315	192.571	0.03147
12-2053	1868.8	0.0072	0.000	0.00000
12-2059	1868.8	0.1760	206.857	0.17838
12-2060	1868.8	0.1870	250.200	0.17796
TOTAL	51201.8	1.482	6832.55	4.77261

TOTAL CURIES BURIED	4.773
TOTAL CUBIC FEET BURIED	6832.55
TOTAL CUBIC METERS	193.48

OCONEE NUCLEAR STATION SOLID RADWASTE REPORT
Report Period: January - December 2012
Waste Type: DAW to Burial

OF SHIPMENTS FROM ONS TO CNSI 1
OF CONTAINERS FROM ONS TO CNSI 1

RSR NUMBER	CUBIC FEET	CURIES	A-U	A-S	B	C
12-2019	120.3	0.699	0	1	0	0
			0	0	0	0
TOTAL	120.3	0.699	0	1	0	0

TOTAL CUBIC METERS 3.41

OCONEE NUCLEAR STATION SOLID RADWASTE REPORT
Report Period: January - December 2012
Waste Type: Metal

# OF SHIPMENTS TO PROCESSOR	2	# OF SHIPMENTS TO CLIVE	17
# OF CONTAINERS TO PROCESSOR	2	# OF CONTAINERS TO CLIVE:	17

RSR #	DECON/DISP. FACILITY	CU. FT.. TO PROCESSOR	CURIES TO PROCESSOR	CU. FT. TO DISPOSAL FACILITY	CURIES TO DISPOSAL FACILITY
11-2040		0	0	0.68	2.00E-06
11-2049		0	0	1.42857	3.17E-05
11-2054		0	0	72.28571	1.22E-03
11-2055		0	0	163.8	0.0011526
11-2057		0	0	295.0143	0.1825894
11-2063		0	0	289.2533	7.85E-03
12-2004		0	0	17.6	1.31E-04
12-2007		0	0	268.3334	8.71E-04
12-2008		0	0	173.9163	6.27E-04
12-2013		0	0	0.010181	7.00E-07
12-2015		760	0.00791	0.20362	6.00E-07
12-2016		0	0	6.77E+01	3.25E-05
12-2023		0	0	17.58571	1.30E-04
12-2030		0	0	79.14286	1.31E-02
12-2034		0	0	44.78571	3.65E-03
12-2037		855	8.63E-04	14.42857	4.54E-05
TOTAL		1615	0.008773	1506.28	0.21119

TOTAL CUBIC METERS 42.65398

OCONEE NUCLEAR STATION SOLID RADWASTE REPORT
Report Period: January - December 2012
Waste Type: Irradiated Components

OF CONTAINERS SHIPPED TO CNS/DURATEK 0

ISOTOPE:	% ABUNDANCE/LINER											# OF SHIPMENTS TO CNS/DURATEK											0	TOTAL	AVE.
AG-110m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
C-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CE-144	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CM-242	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CM-243	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CO-57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CO-58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CO-60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CR-51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CS-134	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CS-136	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CS-137	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
FE-55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
FE-59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
H-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
I-131	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
MN-54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
NB-95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
NI-59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
NI-63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
PU-238	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
PU-241	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	#DIV/0!
RU-103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
RU-106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
SB-124	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
SB-125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
TA-182	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
TE-125m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
TRU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	#DIV/0!
XE-133	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	#DIV/0!
ZR-95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0000	#DIV/0!
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CLASS C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CLASS B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CLASS AS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CLASS AU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CURIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CU. FT.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CU. M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
RSR#																									

OCONEE NUCLEAR STATION SOLID RADWASTE REPORT
Report Period: January - December 2012
Waste Type: Secondary Filters

OF CONTAINERS SHIPPED TO DURATEK 1 # OF CONTAINERS SHIPPED TO CNSI / ENVIROCARE 0

OF SHIPMENTS TO DURATEK 1 # OF SHIPMENTS TO CNSI / ENVIROCARE 0

ISOTOPE:																				TOTAL	AVE.
AG-108m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AG-110m	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.77
AM-241	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-14	3.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.98	3.98
CE-144	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06
CM-242	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CM-243	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CO-57	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.12
CO-58	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.24	1.24
CO-60	2.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.58	2.58
CR-51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CS-134	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10
CS-136	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CS-137	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.64
FE-55	6.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.64	6.64
FE-59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H-3	77.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	77.60	77.60
I-131	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MN-54	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.32
NB-95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NI-63	3.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.20	3.20
PU-238	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PU-239	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PU-241	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RU-103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RU-106	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.42
SB-124	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SB-125	2.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SR-89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SR-90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TE-125m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
XE-133	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZN-65	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10
TOTAL	99.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	97.79	97.79
CLASS C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CLASS B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CLASS AS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CLASS AU	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
CURIES	5.00E-03	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.005	
FT3 Shipped	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90	180
CU. M Shipped	2.5486	0.0000	0.0000	0.0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.54858	5.0971
FT3 Buried	90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90	
CU. M Buried	2.5486	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.54858	
RSRM	12-2006																				

OCONEE NUCLEAR STATION SOLID RADWASTE REPORT
Report Period: January - December 2012
Waste Type: Solidified Oil, Liquid, Sludge

OF CONTAINERS SHIPPED 0

OF SHIPMENTS 0

ISOTOPE:	% ABUNDANCE/LINER																								TOTAL AVE.
CR-51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
MN-54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CO-57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CO-58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CO-60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
NB-95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
ZR-95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CS-134	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
RU-103	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
AG-110m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
SB-125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
I-131	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CS-137	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
H-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
NI-63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
FE-55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
SR-90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
TE-125m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CS-136	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
XE-133	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
C-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
PU-241	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
TRU	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
FE-59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
SB-124	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
RU-106	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CE-144	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CM-242	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
CLASS C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CLASS B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CLASS AS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CLASS AU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CURIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CU. FT.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CU. M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

RSR#

Attachment 4

Oconee Nuclear Site

Meteorological Data

JFD ONS 2012		SECTOR															
		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
		No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
STAB	WSCLS(m/s)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A	0.46-0.75																
	0.76-1.00	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0
	1.01-1.25	1	0	0	0	0	0	0	2	1	3	4	0	1	0	0	2
	1.26-1.50	2	2	1	1	0	0	0	2	1	8	10	1	2	2	2	0
	1.51-2.00	4	6	4	2	1	0	1	0	1	15	46	19	4	5	2	2
	2.01-3.00	0	5	6	19	9	2	0	3	5	65	118	38	5	3	3	0
	3.01-4.00	1	1	3	10	3	0	1	1	1	15	36	6	2	4	2	0
	4.01-5.00	0	0	0	2	0	0	0	0	0	1	5	4	2	3	3	1
	5.01-6.00	0	0	0	0	0	0	0	0	0	0	1	3	2	3	4	0
	6.01-8.00	0	0	0	0	0	0	0	0	0	0	1	9	0	4	4	1
	8.01-10.00	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0
B	0.46-0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0.76-1.00	0	0	1	0	0	0	0	0	0	0	4	2	1	2	0	1
	1.01-1.25	2	0	0	2	0	0	1	0	1	1	1	3	3	0	0	2
	1.26-1.50	3	1	2	0	1	0	1	1	0	9	11	2	1	2	4	2
	1.51-2.00	3	9	5	4	3	5	0	2	4	22	54	27	12	7	4	0
	2.01-3.00	2	3	8	29	15	8	6	0	5	43	76	29	8	2	0	1
	3.01-4.00	1	1	1	6	2	0	0	0	0	18	16	2	3	0	2	0
	4.01-5.00	1	0	0	1	0	0	0	0	0	0	2	3	2	2	2	0
	5.01-6.00	1	0	0	0	0	0	0	0	0	0	2	2	1	6	2	0
	6.01-8.00	0	0	0	0	0	0	0	0	0	0	0	3	0	6	8	0
	8.01-10.00	0	0	0	0	0	0	0	0	0	0	1	1	2	2	6	0
C	0.46-0.75	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
	0.76-1.00	0	1	0	0	0	0	0	0	0	1	2	1	0	2	1	1
	1.01-1.25	0	0	2	0	1	0	3	1	2	5	2	6	1	5	0	2

	1.26-1.50	5	8	2	2	3	1	1	1	3	7	12	8	7	3	4	5
	1.51-2.00	10	9	16	13	10	7	5	8	9	24	39	17	8	7	5	1
	2.01-3.00	1	4	12	26	17	4	5	2	5	25	52	13	3	2	0	0
	3.01-4.00	0	0	3	12	0	0	0	1	2	8	20	3	2	1	0	2
	4.01-5.00	0	0	0	1	0	0	0	0	0	2	2	1	1	4	1	2
	5.01-6.00	0	0	0	0	0	0	0	0	0	0	3	6	5	11	6	0
	6.01-8.00	0	0	0	0	0	0	0	0	0	0	0	5	4	3	4	0
	8.01-10.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
D	0.46-0.75	10	4	3	4	6	3	8	5	8	5	11	8	13	9	9	9
	0.76-1.00	32	16	15	10	17	14	9	11	15	16	26	24	26	25	27	46
	1.01-1.25	46	23	38	19	17	15	22	22	22	21	27	24	29	18	23	35
	1.26-1.50	28	39	31	47	41	30	21	28	33	20	44	38	36	18	15	26
	1.51-2.00	25	30	51	108	64	26	44	58	52	51	51	34	32	17	14	20
	2.01-3.00	12	18	78	152	56	14	17	11	28	98	118	61	32	28	14	22
	3.01-4.00	5	5	24	45	4	0	0	0	5	22	83	35	23	31	25	18
	4.01-5.00	2	2	0	2	1	0	0	0	1	14	33	41	33	25	16	0
	5.01-6.00	1	0	0	0	0	0	0	0	0	1	17	24	13	11	11	1
	6.01-8.00	0	0	0	0	0	0	0	0	0	1	4	18	10	11	7	0
	8.01-10.00	0	0	0	0	0	0	0	0	0	0	1	7	1	2	0	0
E	0.46-0.75	44	38	27	16	18	11	3	9	22	10	10	10	16	22	42	31
	0.76-1.00	84	52	54	37	41	27	13	28	19	25	25	24	49	73	87	67
	1.01-1.25	41	35	29	33	43	32	21	23	23	31	36	28	25	46	75	58
	1.26-1.50	25	19	26	38	44	46	34	43	25	25	19	24	12	32	41	23
	1.51-2.00	11	7	21	43	30	26	55	50	39	22	28	14	10	9	23	10
	2.01-3.00	6	8	10	15	13	4	8	14	12	23	30	24	14	4	12	6
	3.01-4.00	0	0	0	2	1	0	0	0	1	5	15	20	8	1	2	0
	4.01-5.00	0	0	0	0	1	0	1	0	0	3	2	1	1	1	0	0

	5.01-6.00	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
	6.01-8.00	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
	8.01-10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F	0.46-0.75	2	0	0	0	1	1	0	0	0	1	0	2	4	3	6	3
	0.76-1.00	6	1	2	1	0	0	1	3	1	2	3	2	17	37	20	6
	1.01-1.25	4	0	0	2	3	2	3	0	0	1	5	3	6	57	40	7
	1.26-1.50	3	0	0	1	3	1	5	0	2	1	1	2	1	18	23	0
	1.51-2.00	0	0	1	1	4	4	6	2	0	0	0	0	1	3	8	0
	2.01-3.00	0	0	0	0	1	1	2	1	1	0	4	2	0	1	0	0
	3.01-4.00	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
	4.01-5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5.01-6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6.01-8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8.01-10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G	0.46-0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
	0.76-1.00	0	0	0	0	0	0	0	0	0	0	0	2	2	11	3	1
	1.01-1.25	1	0	0	0	0	0	0	0	0	0	1	0	2	13	2	0
	1.26-1.50	0	0	0	0	1	0	1	0	0	0	0	0	0	6	0	0
	1.51-2.00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
	2.01-3.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3.01-4.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4.01-5.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5.01-6.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6.01-8.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8.01-10.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Attachment 5

Oconee Nuclear Site

Unplanned Offsite Releases

The ONS SLC 16.11.9, Radioactive Effluent Release Report, states:

"The Annual Radioactive Effluent Release Report shall include the following information for all unplanned releases to unrestricted areas of radioactive materials in gaseous and liquid effluents:

a. A description of the event and equipment involved;
b. Cause(s) for the unplanned release;
c. Actions taken to prevent recurrence; and,
d. Consequences of the unplanned release."

There were no known unplanned releases of radioactivity (material, liquid, or airborne) from Oconee Nuclear Station in 2012.

ATTACHMENT 6

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

(includes fuel cycle dose calculation results)

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

This attachment also includes an assessment of radiation doses to the maximum exposed member of the public from all uranium fuel cycle sources within 8 km of the site for the calendar year of this report to show conformance with 40 CFR 190.

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

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
GASEOUS ANNUAL DOSE SUMMARY REPORT

Oconee Nuclear Station Units 1, 2, & 3

1st Quarter 2012

=== IODINE, H3, and PARTICULATE DOSE LIMIT ANALYSIS=== Quarter 1 2012 ===

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q1 - Maximum Organ Dose	CHILD	BONE	9.09E-02	2.25E+01	4.04E-01

Maximum Organ Dose Receptor Location: 1.0 Mile SW
Critical Pathway: Vegetation

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
C-14	1.00E+02

=== NOBLE GAS DOSE LIMIT ANALYSIS=== Quarter 1 2012 ===

Period-Limit	Dose (mrad)	Limit (mrad)	% of Limit
Q1 - Maximum Gamma Air Dose	3.07E-04	1.50E+01	2.05E-03

Maximum Gamma Air Dose Receptor Location: 1.0 Mile SW

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
XE-133	1.00E+02

Q1 - Maximum Beta Air Dose			9.14E-04	3.00E+01	3.05E-03

Maximum Beta Air Dose Receptor Location: 1.0 Mile SW

Major Contributors (5% or greater to total)

Nuclide	Percentage
XE-133	9.99E+01

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
GASEOUS ANNUAL DOSE SUMMARY REPORT

Oconee Nuclear Station Units 1, 2, & 3

2nd Quarter 2012

==== IODINE, H3, and PARTICULATE DOSE LIMIT ANALYSIS==== Quarter 2 2012 ====

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q2 - Maximum Organ Dose	CHILD	BONE	7.06E-02	2.25E+01	3.14E-01

Maximum Organ Dose Receptor Location: 1.0 Mile SW
Critical Pathway: Vegetation

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
C-14	1.00E+02

==== NOBLE GAS DOSE LIMIT ANALYSIS==== Quarter 2 2012 ====

Period-Limit	Dose (mrad)	Limit (mrad)	% of Limit
Q2 - Maximum Gamma Air Dose	4.76E-05	1.50E+01	3.18E-04

Maximum Gamma Air Dose Receptor Location: 1.0 Mile SW

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
XE-133	9.63E+01

Q2 - Maximum Beta Air Dose			1.38E-04	3.00E+01	4.61E-04

Maximum Beta Air Dose Receptor Location: 1.0 Mile SW

Major Contributors (5% or greater to total)

Nuclide	Percentage
XE-133	9.87E+01

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
GASEOUS ANNUAL DOSE SUMMARY REPORT

Oconee Nuclear Station Units 1, 2, & 3

3rd Quarter 2012

=== IODINE, H3, and PARTICULATE DOSE LIMIT ANALYSIS ========== Quarter 3 2012 ====

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q3 - Maximum Organ Dose	CHILD	BONE	8.86E-02	2.25E+01	3.94E-01

Maximum Organ Dose Receptor Location: 1.0 Mile SW
Critical Pathway: Vegetation

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
C-14	1.00E+02

=== NOBLE GAS DOSE LIMIT ANALYSIS ========== Quarter 3 2012 ====

Period-Limit	Dose (mrad)	Limit (mrad)	% of Limit
Q3 - Maximum Gamma Air Dose	1.21E-05	1.50E+01	8.10E-05

Maximum Gamma Air Dose Receptor Location: 1.0 Mile SW

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	9.98E+01

Q3 - Maximum Beta Air Dose	4.95E-06	3.00E+01	1.65E-05

Maximum Beta Air Dose Receptor Location: 1.0 Mile SW

Major Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	8.63E+01
KR-85	1.22E+01

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
GASEOUS ANNUAL DOSE SUMMARY REPORT

Oconee Nuclear Station Units 1, 2, & 3

4th Quarter 2012

IODINE, H3, and PARTICULATE DOSE LIMIT ANALYSIS — Quarter 4 2012

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q4 - Maximum Organ Dose	CHILD	BONE	8.00E-02	2.25E+01	3.56E-01

Maximum Organ Dose Receptor Location: 1.0 Mile SW
Critical Pathway: Vegetation

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
C-14	1.00E+02

NOBLE GAS DOSE LIMIT ANALYSIS — Quarter 4 2012

Period-Limit	Dose (mrad)	Limit (mrad)	% of Limit
Q4 - Maximum Gamma Air Dose	7.57E-06	1.50E+01	5.04E-05

Maximum Gamma Air Dose Receptor Location: 1.0 Mile SW

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
AR-41	8.28E+01
XE-133	9.93E+00
XE-135	7.12E+00

Q4 - Maximum Beta Air Dose	5.32E-06	3.00E+01	1.77E-05

Maximum Beta Air Dose Receptor Location: 1.0 Mile SW

Major Contributors (5% or greater to total)

Nuclide	Percentage
XE-133	4.20E+01
AR-41	4.15E+01
XE-135	1.30E+01

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
GASEOUS ANNUAL DOSE SUMMARY REPORT

Oconee Nuclear Station Units 1, 2, & 3

ANNUAL 2012

=== IODINE, H3, and PARTICULATE DOSE LIMIT ANALYSIS=== Annual 2012 ===

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Yr - Maximum Organ Dose	CHILD	BONE	3.30E-01	4.50E+01	7.34E-01

Maximum Organ Dose Receptor Location: 1.0 Mile SW
Critical Pathway: Vegetation

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
C-14	1.00E+02

=== NOBLE GAS DOSE LIMIT ANALYSIS=== Annual 2012 ===

Period-Limit	Dose (mrad)	Limit (mrad)	% of Limit
Yr - Maximum Gamma Air Dose	3.74E-04	3.00E+01	1.25E-03

Maximum Gamma Air Dose Receptor Location: 1.0 Mile SW

Major Isotopic Contributors (5% or greater to total)

Nuclide	Percentage
XE-133	9.45E+01
AR-41	5.27E+00

Yr - Maximum Beta Air Dose	1.06E-03	6.00E+01	1.77E-03

Maximum Beta Air Dose Receptor Location: 1.0 Mile SW

Major Contributors (5% or greater to total)

Nuclide	Percentage
XE-133	9.90E+01

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
LIQUID ANNUAL DOSE SUMMARY REPORT

Oconee Nuclear Station Units 1, 2, & 3

1st Quarter 2012

BATCH LIQUID RELEASES — Quarter 1 2012

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q1 - Maximum Organ Dose	ADULT	GI-LLI	1.04E-01	1.50E+01	6.92E-01
Q1 - Total Body Dose	ADULT		2.35E-02	4.50E+00	5.22E-01

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

Nuclide	Percentage
NB-95	7.98E+01
H-3	1.93E+01

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

Nuclide	Percentage
H-3	8.54E+01
CS-137	1.42E+01

CONTINUOUS LIQUID RELEASES (CTP 3) — Quarter 1 2012

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q1 - Maximum Organ Dose	CHILD	LIVER	3.57E-05	1.50E+01	2.38E-04
Q1 - Total Body Dose	CHILD		3.57E-05	4.50E+00	7.93E-04

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

Nuclide	Percentage
H-3	1.00E+02

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

Nuclide	Percentage
H-3	1.00E+02

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
LIQUID ANNUAL DOSE SUMMARY REPORT

Oconee Nuclear Station Units 1, 2, & 3

2nd Quarter 2012

BATCH LIQUID RELEASES — Quarter 2 2012

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q2 - Maximum Organ Dose	ADULT	GI-LLI	3.60E-01	1.50E+01	2.40E+00
Q2 - Total Body Dose	ADULT		3.36E-02	4.50E+00	7.47E-01

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

Nuclide	Percentage
NB-95	9.06E+01
H-3	7.04E+00

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

Nuclide	Percentage
H-3	7.55E+01
CS-134	1.20E+01
CS-137	9.02E+00

CONTINUOUS LIQUID RELEASES (CTP 3) — Quarter 2 2012

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q2 - Maximum Organ Dose	CHILD	LIVER	3.45E-05	1.50E+01	2.30E-04
Q2 - Total Body Dose	CHILD		3.45E-05	4.50E+00	7.67E-04

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

Nuclide	Percentage
H-3	1.00E+02

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

Nuclide	Percentage
H-3	1.00E+02

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
LIQUID ANNUAL DOSE SUMMARY REPORT

Oconee Nuclear Station Units 1, 2, & 3

3rd Quarter 2012

=== BATCH LIQUID RELEASES ========== Quarter 3 2012 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q3 - Maximum Organ Dose	ADULT	GI-LLI	1.37E-01	1.50E+01	9.10E-01
Q3 - Total Body Dose	CHILD		3.60E-02	4.50E+00	8.00E-01

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

Nuclide	Percentage
NB-95	7.27E+01
H-3	2.48E+01

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

Nuclide	Percentage
H-3	9.77E+01

=== CONTINUOUS LIQUID RELEASES (CTP 3) ========== Quarter 3 2012 ======

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q3 - Maximum Organ Dose	CHILD	LIVER	4.44E-05	1.50E+01	2.96E-04
Q3 - Total Body Dose	CHILD		4.44E-05	4.50E+00	9.86E-04

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

Nuclide	Percentage
H-3	1.00E+02

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

Nuclide	Percentage
H-3	1.00E+02

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
LIQUID ANNUAL DOSE SUMMARY REPORT

Oconee Nuclear Station Units 1, 2, & 3

4th Quarter 2012

=== BATCH LIQUID RELEASES ========== Quarter 4 2012 ===

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q4 - Maximum Organ Dose	ADULT	GI-LLI	6.00E-02	1.50E+01	4.00E-01
Q4 - Total Body Dose	CHILD		2.29E-02	4.50E+00	5.09E-01

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

Nuclide	Percentage
NB-95	6.22E+01
H-3	3.66E+01

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

Nuclide	Percentage
H-3	9.95E+01

=== CONTINUOUS LIQUID RELEASES (CTP 3) ========== Quarter 4 2012 ===

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Q4 - Maximum Organ Dose	CHILD	LIVER	3.16E-05	1.50E+01	2.11E-04
Q4 - Total Body Dose	CHILD		3.16E-05	4.50E+00	7.02E-04

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

Nuclide	Percentage
H-3	1.00E+02

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

Nuclide	Percentage
H-3	1.00E+02

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT
PERIOD 1/1/12 TO 1/1/13
LIQUID ANNUAL DOSE SUMMARY REPORT

Oconee Nuclear Station Units 1, 2, & 3

ANNUAL 2012

=== BATCH LIQUID RELEASES ========== Annual 2012 ==========

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Yr - Maximum Organ Dose	ADULT	GI-LLI	6.61E-01	3.00E+01	2.20E+00
Yr - Total Body Dose	ADULT		1.15E-01	9.00E+00	1.27E+00

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

Nuclide	Percentage
NB-95	8.26E+01
H-3	1.53E+01

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

Nuclide	Percentage
H-3	8.83E+01
CS-137	6.51E+00

=== CONTINUOUS LIQUID RELEASES (CTP 3) ========== Annual 2012 ==========

Period-Limit	Critical Age	Critical Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
Yr - Maximum Organ Dose	CHILD	LIVER	1.46E-04	3.00E+01	4.87E-04
Yr - Total Body Dose	CHILD		1.46E-04	9.00E+00	1.62E-03

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

Nuclide	Percentage
H-3	1.00E+02

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

Nuclide	Percentage
H-3	1.00E+02

Oconee Nuclear Station
2012 Radioactive Effluent and ISFSI
40CFR190 Uranium Fuel Cycle Dose Calculation Results

In accordance with the requirements of 40CFR190, the annual dose commitment to any member of the general public shall be calculated to assure that doses are limited to 25 millirems to the total body or any organ with the exception of the thyroid which is limited to 75 millirems. The fuel cycle dose assessment for Oconee Nuclear Station only includes liquid and gaseous effluent dose contributions from Oconee and direct and air-scatter dose from Oconee's onsite Independent Spent Fuel Storage Installation (ISFSI) since no other uranium fuel cycle facility contributes significantly to Oconee's maximum exposed individual. Included in the gaseous effluent dose calculations is an estimate of the dose contributed by Carbon-14 (Ref. *"Carbon-14 Supplemental Information"*, contained in the ARERR for further information). The combined dose to a maximum exposed individual from Oconee's effluent releases and direct and air-scatter dose from Oconee's ISFSI is below 40CFR190 limits as shown by the following summary:

I. 2012 Oconee 40CFR190 Effluent Dose Summary

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

Maximum Total Body Dose = 2.33E-01 mrem

Maximum Location: 1.0 Mile, Southwest Sector
Critical Age: Child
Gas non-NG Contribution: 53%
Gas NG Contribution: <1%
Liquid Contribution: 47%

Maximum Organ (other than TB) Dose = 7.19E-01 mrem

Maximum Location: 1.0 Mile, Southwest Sector
Critical Age: Adult
Critical Organ: GI-LLI
Gas Contribution: 8%
Liquid Contribution: 92%

II. 2012 Oconee 40CFR190 ISFSI Dose Summary

Direct and air-scatter radiation dose contributions from the onsite Independent Spent Fuel Storage Installation (ISFSI) at Oconee have been calculated and documented in the "Oconee Nuclear Site 10CFR72.212 Written Evaluations" report. **As discussed in the report, the dose rate at 500 meters is 6.84 mrem per year. The nearest resident from the Oconee ISFSI is ~ 1600 meters so the dose rate at the nearest resident location would be much less than 6.84 mrem per year.**

The following excerpt, "C. 10CFR72.212(b)(2)(i)(C)- Requirements of 72.104", from the "Oconee Nuclear Site 10CFR72.212 Written Evaluations" report is provided to document the method used to estimate the Oconee ISFSI dose to the nearest "real individual".

The following three pages are excerpted from the Oconee Nuclear Site, "Independent Spent Fuel Storage Installation", 10CFR72.212 Evaluation for Phase VI report (Rev. 0, 6/7/2010).

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

"...the requirements of § 72.104 have been met."

10 CFR 72.104, as clarified by ISG-13[36], stipulates that the licensee perform dose evaluations which establish that any real individual beyond the controlled area boundary not sustain a dose equivalent in excess of 0.25 mSv (25 mrem) due to direct radiation from the Independent Spent Fuel Storage Installation and other fuel cycle operations in the area. This same dose limit is stipulated by the EPA for the fuel cycle in 40 CFR 190.10(a). Also operational restrictions for ALARA and limits for effluents must be established.

In accordance with these requirements, Duke Energy Corporation has performed dose calculations that model the characteristics (initial enrichment, burnup and

cooling time) of existing fuel in Phases I – V of the Oconee ISFSI, together with the characteristics of assumed "design basis" fuel in Phase VI of the Oconee ISFSI[37]. Calculation OSC-8675[38] develops the radiation source terms used in subsequent shielding and skyshine calculations using the SCALE Code System.

More specifically, the SAS2 Module of the SCALE Code System[39] was used to create a problem-dependent pin-cell model for the purpose of building cell-weighted, multigroup cross section sets for use in subsequent depletion calculations. The ORIGEN-S Module[40] of the SCALE Code System was used to perform the fuel depletion and characterization calculations using the cross section sets created by SAS2. These characterization calculations yielded the photon and neutron source terms to be used as input to subsequent shielding calculations. As mentioned above, problem-dependent cross section sets were developed for these analyses since ORIGEN-S was used within the SAS2 sequence. Duke Energy Corporation Radiological Engineering is experienced in the use of the SCALE Code System, and the SCALE Code System is installed and maintained under the purview of the pertinent software and data quality assurance program.

The results of the radiation source term calculation were used as input to Calculation OSC-8706[41] to evaluate the shielding characteristics of a single Horizontal Storage Module. The MCNP Monte Carlo particle transport computer code[42] was used to perform the transport calculations and to write a surface flux file for use in subsequent skyshine calculations.

Appropriate software quality controls have been implemented for the computer codes and data used in these analyses (specifically, Calculation DPC-1201.30-00-0010[43] contains the verification and validation for MCNP5, while SDQA-30269-NGO[69] documents the quality control measures in place for MCNP5).

Calculation OSC-8716[44] uses the surface flux files developed in OSC-8706[41] in a repeating array representing all of the Horizontal Storage Modules in the ISFSI, including Phase VI fully loaded with spent fuel. The source description in the MCNP input is constructed with source probabilities for each Horizontal Storage Module to represent the appropriate decay time associated with each HSM. Finally, a skyshine calculation is performed to obtain near- and far-field dose results from Phases I – VI of the Oconee ISFSI.

Calculation OSC-8716[44], Table 23.1-1, summarizes dose rate versus distance, showing a dose rate of 6.84 mRem per year at 500 meters, which is the longest distance at which results converge. The closest residence to the ISFSI is in the SW-SSW direction approximately 1 mile (~1600 meters) from the ISFSI, or 1.36 miles from the centerline of the site.[45] This is conservatively farther than the distance used for computation of dose rates. The 2009 40CFR190 Uranium Fuel Cycle Dose Calculation Results for the ONS site show a maximum total body

dose of 0.0754 mrem per year.[49] The total dose rate from all operations to the nearest real individual is therefore less than 7 mRem per year.

These calculations need not consider any effluent from Phase VI. The Phase VI HSMs use the NUHOMS-24PHB DSCs, which are designed as "leak-tight". Per Appendix N, Section N.11.2.8 of the NUHOMS FSAR[3], accidental releases are not credible.

Attachment 7

Oconee Nuclear Site

Revisions to UFSAR Section 16.11 Radiological Effluent Controls

16.11 RADIOLOGICAL EFFLUENTS CONTROL

16.11.6 Radiological Environmental Monitoring

COMMITMENT

a. The radiological environmental monitoring samples shall be collected in accordance with Table 16.11.6-1 and shall be analyzed pursuant to the requirements of Tables 16.11.6-1 and 16.11.6-2.

b. A land use census shall be conducted and shall identify the location of the nearest milk animal and the nearest residence in each of the 16 meteorological sectors within a distance of eight kilometers (five miles). Broad leaf vegetation sampling shall be performed at the site boundary in the direction sector with the highest D/Q in lieu of the garden census.

c. Analyses shall be performed on radioactive materials supplied as part of an Interlaboratory Comparison Program. A summary of the results obtained as part of the Interlaboratory Comparison Program shall be included in the Annual Radiological Environmental Operating Report. The Interlaboratory Comparison Program shall be described in the Annual Radiological Environmental Operating Report.

d. The results of the land use census shall be included in the Annual Radiological Environmental Operating Report.

---NOTE---

If samples required by Commitment part a, become permanently unavailable from any of the required sample locations, the locations from which samples were unavailable may then be deleted from the program provided replacement samples were obtained and added to the environmental monitoring program, if available. These new locations will be identified in the Annual Radioactive Effluent Release Report.

APPLICABILITY: At all times

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. Radiological environmental monitoring program is not conducted as required.	A.1	Submit a description of the reason for not conducting the program as required and plans to prevent a recurrence shall be included in the Annual Radiological Environmental Operating Report.	May 15 of following calendar year
B. Land use census identifies a Location which yields a calculated dose or dose commitment (via the same exposure pathway) 20% greater than a location from which samples are currently being obtained.	B.1	----------NOTE---------- The sampling location having the lowest calculated dose or dose commitment (via the same exposure pathway) may be deleted from this monitoring program after October 31 of the year in which this land use census was conducted. ----------	
		Add new location to the radiological environmental monitoring program.	30 days
	AND		
	B.2	Identify new locations in the next Annual Radioactive Effluent Release Report.	April 30 of following calendar year

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Interlaboratory Comparison Program analyses not performed as required.	C.1 Report corrective actions in the Annual Radiological Environmental Operating Report.	May 15 of following calendar year
D. Radioactivity level resulting from plant effluents in environmental sampling medium at a specified location in excess of reporting limits of Table 16.11.6-3 when averaged over a calendar quarter.	D.1 Prepare and submit a Special report that identifies the cause for exceeding the limits and defines the corrective actions to be taken to reduce radioactive effluents so that the potential annual dose to a MEMBER OF THE PUBLIC is less than the calendar year limits of SLC 16.11.1 or 16.11.2.	30 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 16.11.6.1	Conduct land use census during growing season using that information that will provide the best results, such as by a door-to-door survey, aerial survey, or by consulting local agriculture authorities.	12 months

Table 16.11.6-1
Radiological Environmental Monitoring Program

Exposure Pathway and/or Sample	Number of Sample Locations (b)	Sampling and Collection Frequency (d)	Time and Frequency of Analysis
1. AIRBORNE			
Radioiodine and Particulates	5	Continuous sampler operation with sample collection weekly, or more frequently if required by dust loading.	Radioiodine canister: I-131 analysis weekly. Particulate sampler: Gross beta radioactivity analysis following filter change; and gamma isotopic analysis of composite (by location) quarterly. (c)
2. DIRECT RADIATION	40	Quarterly.	Gamma dose quarterly.
3. WATERBORNE			
a. Surface	2	Composite (a) sample over a 1-month period.	Gamma isotopic analysis monthly. Composite for tritium analysis quarterly.
b. Drinking	3	Composite (a) sample over a 1-month period.	Composite for gross beta and gamma isotopic analyses monthly. Composite for tritium analysis quarterly.
c. Sediment from Shoreline	2	Semiannually.	Gamma isotopic analysis semiannually.

Table 16.11.6-1
Radiological Environmental Monitoring Program

Exposure Pathway and/or Sample	Number of Sample Locations (b)	Sampling and Collection Frequency (d)	Time and Frequency of Analysis
4. INGESTION			
a. Milk	4(e)	Semimonthly when animals are on pasture; monthly at other times.	Gamma isotopic and I-131 analysis semimonthly when animals are on pasture; monthly at other times.
b. Fish	2	Semiannually. One sample each commercially and recreationally important species.	Gamma isotopic analysis semiannually on edible portion.
c. Broad-leaf Vegetation	2	Monthly.	Gamma isotopic analysis monthly.

(a) Composite samples shall be collected by collecting an aliquot at intervals not exceeding 2 hours.

(b) Sample locations are identified in the ODCM.

(c) Airborne particulate sample filters shall be analyzed for gross beta radioactivity 24 hours or more after sampling to allow radon and thoron daughter decay. If gross beta activity in air particulate samples is greater than 10 times the yearly mean of control samples, gamma isotopic analysis shall be performed on the individual samples.

(d) Deviations are permitted from the required sampling schedule if specimens are unobtainable due to hazardous conditions, seasonal unavailability, or to malfunction of automatic sampling equipment. If the latter, every effort shall be made to complete corrective action prior to the end of the next sampling period.

(e) Samples from milking animals in three locations within 5 km distance having the highest dose potential. If there are none, then one sample from milking animals in each of three areas between 5 to 8 km distant where doses are calculated to be greater than 1 mrem per year. One sample from milking animals at a control location, as for example 15 to 30 km distant and in the least prevalent wind direction.

Table 16.11.6-2
Maximum Values for the Lower Limits of Detection (LLD) (a) (c)

Analysis	Water (pCi/l)	Airborne Particulate or Gases (pCi/m^3)	Fish (pCi/kg, wet)	Milk (pCi/l)	Broad-leaf Vegetation (pCi/kg, wet)	Sediment (pCi/kg, dry)
Gross Beta	4	1E-02				
H$_3$	2,000					
Mn-54	15		130			
Fe-59	30		260			
Co-58	15		130			
Co-60	15		130			
Zn-65	30		260			
Zr-95	15					
Nb-95	15					
I-131	15(b)	7E-02		1	60	
Cs-134	15	5E-02	130	15	60	150
Cs-137	18	6E-02	150	18	80	180
Ba-140	15			60		
La-140	15			15		

(a) The LLD is defined, for purposes of these commitments, as the smallest concentration of radioactive material in a sample with 95% probability of detection and with 5% probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement system (which may include radiochemical separation):

$$LLD = \frac{4.66\ Sb}{E \times V \times 2.22 \times Y \times \exp(-\lambda\Delta t)}$$

Where:

LLD is the lower limit of detection as defined above (as pCi per unit mass or volume)

Sb is the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate (as counts per minute)

Table 16.11.6-2
Maximum Values for the Lower Limits of Detection (LLD) (a) (c)

E is the counting efficiency (as counts per disintegration)

V is the sample size (in units of mass or volume)

2.22 is the number of disintegrations per minute per picocurie

Y is the fractional radiochemical yield (when applicable)

λ is the radioactive decay constant for the particular radionuclide

Δt is the elapsed time between sample collection (or end of the sample collection period) and time of counting

Typical values of E, V, Y and Δt should be used in the calculation.

The LLD is defined as an a priori (before the fact) limit representing the capability of a measurement system and not as a posteriori (after the fact) limit for a particular measurement.

Analyses shall be performed in such a manner that the stated LLDs will be achieved under routine conditions. Occasionally background fluctuations, unavoidably small sample sizes, the presence of interfering nuclides, or other uncontrollable circumstances, may render these LLDs unachievable. In such cases, the contributing factors will be identified and described in the Annual Radiological Environmental Operating Report.

(b) LLD for gamma isotopic analysis for I-131 in drinking water samples. Low level I-131 analysis on drinking water will not be routinely performed because the calculated dose from I-131 in drinking water at all locations is less than 1 mrem per year. Low level I-131 analyses will be performed if abnormal releases occur which could reasonably result in > 1 pCi/liter of I-131 in drinking water. For low level analyses of I-131 an LLD of 1 pCi/liter will be achieved.

(c) Other peaks which are measurable and identifiable, together with the radionuclides in Table 16.11.6-2, shall be identified and reported.

Table 16.11.6-3
Reporting Levels for Radioactivity Concentrations in Environmental Samples (c) (d)

Analysis	Water (pCi/l)	Airborne Particulate or Gases (pCi/m^3)	Fish (pCi/kg, wet)	Milk (pCi/l)	Broad-leaf Vegetation (pCi/kg, wet)
H-3	2E04(a)				
Mn-54	1E03		3E04		
Fe-59	4E02		1E04		
Co-58	1E03		3E04		
Co-60	3E02		1E04		
Zn-65	3E02		2E04		
Zr-Nb-95	4E02				
I-131	2(b)	0.9		3	1E02
Cs-134	30	10	1E03	60	1E03
Cs-137	50	20	2E03	70	2E03
Ba-La-140	2E02			3E02	

(a) For drinking water samples. This is 40 CFR Part 141 value.

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

(c) Report shall be submitted when any single radionuclide exceeds the reporting level in Table 16.11.6-3 or when more than one of the radionuclides in Table 16.11.6-3 are detected in sampling medium and

$$\frac{\text{concentration (1)}}{\text{reporting level (1)}} + \frac{\text{concentration (2)}}{\text{reporting level (2)}} + \ldots \geq 1.0$$

(d) Report shall be submitted when radionuclides other than those in table 16.11.6-3 are detected and are the result of plant effluents if the potential annual dose to a MEMBER OF THE PUBLIC from all radionuclides is equal to or greater than the calendar year limits of SLC 16.11.1 or 16.11.2.

BASES

The environmental monitoring program required by this commitment provides measurements of radiation and of radioactive materials in those exposure pathways and for those radionuclides which lead to the highest potential radiation exposures of individuals resulting from the station operation. This monitoring program thereby supplements the radiological effluent monitoring program by verifying that the measurable concentrations of radioactive materials and levels of radiation are not higher than expected on the basis of the effluent measurements and modeling of exposure pathways. The initially specified monitoring program will be effective for at least the first three years of commercial operation. Following this period, program changes may be initiated based on operational experience.

The detection capabilities required by Table 16.11.6-2 are considered optimum for routine environmental measurements in industrial laboratories. The specified lower limits of detection correspond to less than the 10 CFR 50. Appendix I, design objective dose-equivalent of 45 mrem/year for atmospheric releases to the most sensitive organ and individual. The land use census commitment is provided to assure that changes in the use of unrestricted areas are identified and that modifications to the monitoring program are provided if required by the results of this census.

The requirements for participation in an Interlaboratory Comparison Program is provided to assure that independent checks on the precision and accuracy of the measurements of radioactive material in environmental sample matrices are performed as part of a quality assurance program for environmental monitoring in order to demonstrate that the results are reasonably valid.

With the level of radioactivity in an environmental sampling medium at a specified location exceeding the reporting levels of Table 16.11.6-3 when averaged over any calendar quarter, in lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days a Special Report that defines the corrective action to be taken to reduce radioactive effluents so that the potential annual dose to a MEMBER OF THE PUBLIC is less than the calendar year limits of SLC 16.11.1 or SLC 16.11.2. When more than one of the radionuclides in Table 16.11.6-3 are detected in the sampling medium, this report shall be submitted if

$$\frac{\text{concentration (1)}}{\text{reporting level (1)}} + \frac{\text{concentration (2)}}{\text{reporting level (2)}} + \ldots \geq 1.0$$

When radionuclides other than those in Table 16.11.6-3 are detected and are the result of plant effluents, this report shall be submitted if the potential annual dose to a MEMBER OF THE PUBLIC from all radionuclides is equal to or greater than the calendar year limits of SLC 16.11.1 or SLC 16.11.2. This report is not required if the measured level of radioactivity was not the result of plant effluents; however, in such an event, the condition shall be reported and described in the Annual Radiological Environmental Operating Report required by Technical Specification 5.6.2. The methodology and parameters used to estimate the potential annual dose to a MEMBER OF THE PUBLIC shall be indicated in the 30-day Special Report.

The following requirement(s) were relocated from the CTS 6.4.4.f during the conversion to ITS.

The station shall have a program to monitor the radiation and radionuclides in the environs of the plant. The program shall provide (1) representative measurements of radioactivity in the highest potential exposure pathways, and (2) verification of the accuracy of the effluent monitoring program and modeling of environmental exposure pathways. The program shall (1) be contained in UFSAR Chapter 16, (2) conform to the guidance of Appendix I to 10 CFR Part 50, and (3) include the following:

1. Monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment in accordance with the methodology and parameters in the ODCM;

2. A Land Use Census to ensure that changes in the use of areas at and beyond the SITE BOUNDARY are identified and that modifications to the monitoring program are made if required by the results of this census; and,

3. Participation in an Interlaboratory Comparison Program to ensure that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

REFERENCES:

1. 10 CFR Part 50, Appendix I.
2. Offsite Dose Calculation Manual.

Attachment 8

Oconee Nuclear Site

Revisions to the Radioactive Waste Process Control Program Manual

The following letter dated March 27, 2013, from David L. Vaught, Senior Engineer, Nuclear Chemistry, summarizes how the Process Control Program (PCP) manual has been revised. This version of the PCP Manual contains all the changes implemented during 2012 and is designated on the Compact Disc cover as the "2012 ARERR".

Duke Energy Radioactive Waste Process Control Program Manual
Summary of 2012 Changes

March 27, 2013

KR Alter
Regulatory Affairs
Oconee Nuclear Safety Assurance

Attention: J. E. Smith

Subject: Oconee Nuclear Station
2012 Annual Radioactive Effluent Release Report
Process Control Program Changes
File: GS-764.25, OS-215.06

Enclosed are CD copies of the PDF file of the Radioactive Waste Process Control Program Manual to be included in the NRC distribution of the Annual Radioactive Effluent Release Report for Oconee Nuclear Station for the period of January 1, 2012 through December 31, 2012. This version of the Manual contains all the changes implemented during 2012 and is designated on the CD cover as the "2012 Report Year".

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

The attachment summarizes the scope of the changes during 2012.A more detailed summary of changes and basis are in the Appendix H of the PCP Manual.

The PDF file "DukeEnergy-2013-PCP-Manual.pdf" on the CDs was reviewed and verified against the control copies of the PCP Manual published on the NEDL Portal. Two CD copies are for internal distribution, one is for SC DHEC and four CDs are for the NRC as follows:

DUKE
1. ELL
2. Master File

SC STATE
3. DHEC primary contact Russell Keown

NRC
4. NRC Document Control Desk
5. Oconee NRC Project Manager
6. Oconee Senior Resident Inspector
7. NRC Regional Administrator

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

Larry A. Wilson
Supervising Scientist
Nuclear Chemistry

David D Vaught

by: David L Vaught
Senior Engineer
Nuclear Chemistry - Radwaste

ATTACHMENT

Appendix L – ARERR ATTACHMENT 8
Revisions to the Radioactive Waste Process Control Program Manual

A brief summary of the 2012 changes to the Duke Energy Radioactive Waste PCP Manual is found below. These are described in more detail in APPENDIX H "Revision Summary - Licensee Initiated Changes"

PCP MANUAL SECTIONS CHANGED
APPENDIX A: "ONS PCP" Rev 15 Minor Change
APPENDIX D: "Approved Suppliers of PCP Services" Rev 3
APPENDIX E: "PCP Manual Review and Approval Requirements" Rev 2

DESCRIPTION OF CHANGES BY SECTION

APPENDIX A: "ONS PCP" Rev 15 Minor Change

A Minor Change was published to address a NOS Audit Deficiency identified during the 2012 ONS Radiological Effluent Controls Audit.

1. Two procedures listed in the manual have been revised from "B" to "A" procedures.

2. The procedure CP/0/B/5200/054, "Radwaste Liquid Waste Processing" was removed from the implementing procedure list after it was determined that it does not implement or impact any part of the PCP.

3. Two editorial changes were included to correct procedure title wording

APPENDIX D: "Approved Suppliers of PCP Services" Rev 3

CHANGES:

1. Added Waste Management Group (WMG) to the Approved Suppliers of PCP Services table.

2. Edited details of the DOCUMENTATION section to clarify applicability.

3. Added the PIP reference G-04-00113 that documents the review and approval of the Studsvik Processing Facility, LLC previously added to the table.

4. Deleted section 2.2 due to changes in internal Duke administrative processes outside the PCP Manual purview.

APPENDIX E: "PCP Manual Review and Approval Requirements" Rev 2

CHANGES:

1. Changed titles to reflect post merger.

2. Changed the approval protocol for the PCP Manual sections to simplify the approval process by lowering the management approval level required based on significance of the section being changed and whether it is a revision or a minor change.

A brief summary of the 2012 changes to the Duke Energy Radioactive Waste PCP Manual is found below. These are described in more detail in APPENDIX H "Revision Summary - Licensee Initiated Changes"

PCP MANUAL SECTIONS CHANGED
APPENDIX A: "ONS PCP" Rev 15 Minor Change
APPENDIX D: "Approved Suppliers of PCP Services" Rev 3
APPENDIX E: "PCP Manual Review and Approval Requirements" Rev 2

DESCRIPTION OF CHANGES BY SECTION

APPENDIX A: "ONS PCP" Rev 15 Minor Change

A Minor Change was published to address a NOS Audit Deficiency identified during the 2012 ONS Radiological Effluent Controls Audit.

1. Two procedures listed in the manual have been revised from "B" to "A" procedures.
2. The procedure CP/0/B/5200/054, "Radwaste Liquid Waste Processing" was removed from the implementing procedure list after it was determined that it does not implement or impact any part of the PCP.
3. Two editorial changes were included to correct procedure title wording

APPENDIX D: "Approved Suppliers of PCP Services" Rev 3

CHANGES:

1. Added Waste Management Group (WMG) to the Approved Suppliers of PCP Services table.
2. Edited details of the DOCUMENTATION section to clarify applicability.
3. Added the PIP reference G-04-00113 that documents the review and approval of the Studsvik Processing Facility, LLC previously added to the table.
4. Deleted section 2.2 due to changes in internal Duke administrative processes outside the PCP Manual purview.

APPENDIX E: "PCP Manual Review and Approval Requirements" Rev 2

CHANGES:

1. Changed titles to reflect post merger.
2. Changed the approval protocol for the PCP Manual sections to simplify the approval process by lowering the management approval level required based on significance of the section being changed and whether it is a revision or a minor change.

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Attachment 9

Oconee Nuclear Site

Information to Support the Nuclear Energy Institute (NEI) Groundwater Protection Initiative

2012 Annual Radiological Effluent Release Report
Ground Water Well Data

Duke Energy implemented a Ground Water Protection program in 2007. This program was developed to ensure timely and effective management of situations involving inadvertent releases of licensed material to ground water. As part of this program, Oconee monitored sixty-six ground water wells during 2012. Tritium activity in wells GM-7R and GM-7DR was reported per NEI 07-07 in February, 2010. The probable source of this activity was determined to be discharges of the turbine building sumps to Chemical Treatment Pond #3 through the east yard drain. Discharges of the turbine building sump through this pathway were discontinued in 2008. Installation of a recovery well in 2011 has resulted in decreased tritium concentrations in well GM-7DR.

Monitoring wells are sampled quarterly, semi-annually or annually. The recovery well discharge composite is collected weekly. Ground water samples are regularly analyzed for tritium and gamma emitters with selected wells being analyzed for difficult to detect radionuclides. No gamma or difficult to detect radionuclides (other than naturally occurring radionuclides) were identified in well samples during 2012.

Results from sampling during 2012 are shown in the table below.

Well Name	Location	Tritium Concentration (pCi/l)				# of Samples
		1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	
GM-1R	CTP-1/2	<MDA	<MDA	<MDA	<MDA	4
GM-2R	U-1/2 SFP	415	956	1,120	822	4
GM-2DR	U-1/2 SFP	340	366	381	354	4
GM-3R	U-3 SFP	190	271	287	174	4
GM-3DR	U-3 SFP	393	376	299	294	4
GM-4	Warehouse 10	366	413	432	319	4
GM-5	Rdwst. Bldg.	<MDA	189	190	<MDA	4
GM-5R	Rdwst. Bldg.	NS	<MDA	<MDA	<MDA	3
GM-6	Outflow to CTP-3	<MDA	189	NS	<MDA	3
GM-6R	Outflow to CTP-3	<MDA	<MDA	NS	<MDA	3
GM-7	525 kv Sw. Yard	474	652	943	906	4
GM-7R	525 kv Sw. Yard	7,500	4,610	3,390	2,800	4
GM-7DR	525 kv Sw. Yard	<MDA	<MDA	<MDA	<MDA	4
GM-8	E of U-3 TB	391	348	222	300	4
GM-8R	E of U-3 TB	377	457	432	335	4
GM-9	E of U-2 TB	217	246	301	253	4
GM-9R	E of U-2 TB	<MDA	180	<MDA	<MDA	4
GM-10	525 kv Sw. Yard	<MDA	<MDA	<MDA	<MDA	4
GM-10R	525 kv Sw. Yard	<MDA	<MDA	<MDA	<MDA	4
GM-11	ONS Garage	282	<MDA	NS	<MDA	3
GM-11R	ONS Garage	<MDA	<MDA	NS	<MDA	3
GM-12	E of Access Rd.	<MDA	<MDA	<MDA	<MDA	4
GM-12R	E of Access Rd.	<MDA	<MDA	<MDA	<MDA	4

2012 Annual Radiological Effluent Release Report
Ground Water Well Data

Well Name	Location	Tritium Concentration (pCi/l) 1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	# of Samples
GM-13	525 kv Sw. Yard	<MDA	<MDA	<MDA	<MDA	4
GM-13R	525 kv Sw. Yard	<MDA	<MDA	<MDA	<MDA	4
GM-14	Mnt. Trg. Facility	<MDA	<MDA	<MDA	<MDA	4
GM-14R	Mnt. Trg. Facility	<MDA	<MDA	<MDA	<MDA	4
GM-15	525 kv Sw. Yard	<MDA	<MDA	235	<MDA	4
GM-15R	525 kv Sw. Yard	255	<MDA	<MDA	222	4
GM-16R	TBSMT	2,440	NS	NS	1,630	2
GM-16DR	TBSMT	10,700	9,570	9,960	9,450	4
GM-16DDR	TBSMT	477	343	458	332	4
GM-17R	Oil Drum Storage	2,420	1,640	1,510	1,470	4
GM-17DR	Oil Drum Storage	3,290	3,240	3,180	3,140	4
GM-18R	RCP Refurb. Bldg	10,300	9,880	8,490	8,280	4
GM-19	525 kv Sw. Yard	486	242	364	494	4
GM-19R	525 kv Sw. Yard	351	319	315	421	4
GM-20	SG Retire. Facility	<MDA	<MDA	<MDA	<MDA	4
GM-20R	SG Retire. Facility	<MDA	<MDA	<MDA	<MDA	4
GM-21	Sec.Trg. Facility	<MDA	<MDA	<MDA	<MDA	4
GM-22	Sec.Trg. Facility	<MDA	<MDA	<MDA	<MDA	4
GM-23	525 kv Sw. Yard	353	325	344	287	4
GM-24R	3T Transformer	2,090	1,400	1,600	1,510	4
GM-25R	CT3 Transformer	218	318	350	432	4
BG-4	Ball Field	<MDA	<MDA	<MDA	<MDA	4
MW A-1	CTP-1/2	<MDA	<MDA	<MDA	NS	3
MW A-2	CTP-1/2	<MDA	<MDA	<MDA	<MDA	4
MW A-8	CTP-1/2	NS	NS	NS	NS	0
MW A-9	CTP-1/2	199	<MDA	<MDA	183	4
MW A-10	CTP-3	435	457	462	601	4
MW A-11	CTP-3	<MDA	<MDA	<MDA	<MDA	4
MW A-12	CTP-3	<MDA	<MDA	<MDA	<MDA	4
MW A-13	CTP-1/2	872	507	449	506	4
MW A-14	CTP-1/2	<MDA	370	489	489	4
MW A-17	CTP-1/2	<MDA	<MDA	<MDA	189	4
MW A-18	CTP-1/2	<MDA	<MDA	<MDA	<MDA	4

Well Name	Location	Tritium Concentration (pCi/l) 1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	# of Samples
*011 (IW-1)	Ball Field	<MDA	<MDA	<MDA	<MDA	4
*013 (IW-2)	WH-5	<MDA	<MDA	<MDA	<MDA	4
*015	Brown's Bottom	<MDA	<MDA	<MDA	<MDA	4

2012 Annual Radiological Effluent Release Report
Ground Water Well Data

Well Name	Location	Tritium Concentration (pCi/l) 1/30/12	4/17/12	7/9/12	# of Samples
MW-3	Landfill	<MDA		<MDA	2
MW-11	Landfill	<MDA		<MDA	2
MW-11D	Landfill	<MDA		<MDA	2
MW-13	Landfill	<MDA		<MDA	2
MW-16	Landfill	<MDA		<MDA	2
MW-RP01	Landfarm/Burial		<MDA		1
MW-RP02	Landfarm/Burial		<MDA		1
MW-RP03	Landfarm/Burial		<MDA		1

Well Name	Location	Tritium Concentration (pCi/l) Minimum	Average	Maximum	# of Samples
**RW-1	525 kv Sw. Yard	1950	2605	3110	47

NS - Not sampled due to insufficient volume in well or well inaccessible due to construction in area.

*These are irrigation wells and may not meet current requirements for ground water monitoring well construction.

**This is a recovery well not intended for long term monitoring.

pCi/l - pico curies per liter

< - less than minimum detectable activity, typically 250 pCi/liter

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

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

Attachment 10

Oconee Nuclear Site

Inoperable Equipment

1RIA-40 and 2RIA-40, Condenser Steam Air Ejector Off Gas Monitors, were declared out-of-service on August 5, 2010, due to moisture (water) carryover into the detector chamber. Selected Licensee Commitment (SLC) 16.11.3, Condition C, required action to return 1RIA-40 and 2RIA-40 to service within 30 days was not successful. This condition continued through 2011 and 2012 with grab samples being taken to detect any primary to secondary leakage on Units 1 and 2.

Modifications to add moisture separators and drains are being installed on 1RIA-40 and 2RIA-40. The Unit 2 modification installation is complete as of April 16, 2013 with post modification testing waiting on warmer ambient temperatures to ensure the modification is effective. Unit 1 modification is in progress as of April 16, 2013.

The inoperability of 1RIA-40 and 2RIA-40 could not be corrected in a timely manner (less than 30 days) due to the need for a station modification to effectively resolve the moisture carryover issue.

Reference Corrective Action Program documents PIP O-11-08364, O-11-08365 and O-12-01873.

Attachment 11

Oconee Nuclear Site

Radioactive Waste Systems Changes

This attachment documents the changes made to the radioactive waste systems at the Oconee Nuclear Station during the period January 1, 2012 to December 31, 2012.

There were no changes made to the radioactive waste systems during 2012 at the Oconee Nuclear Station.

Enclosure
2012 Offsite Dose Calculation Manual
Compact Disc