MAY 1 1 2015

L-2015-102
10 CFR 50.36b

FPL.

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555-00001

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
2014 Annual Radiological
Environmental Operating Report

Enclosed is the 2014 Annual Radiological Environmental Operating Report for Turkey Point Units 3 and 4, as required by Technical Specification 6.9.1.3.

Should there be any questions or comments regarding this information, please contact Mr. Mitch Guth, Licensing Manager at (305) 246-6698.

Sincerely,

Michael Kiley
Vice President
Turkey Point Nuclear Plant

SM
Enclosure

cc: Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant

IE25
NRR

Florida Power & Light Company
9760 S.W. 344th Street Homestead, FL 33035

2014

ANNUAL

RADIOLOGICAL ENVIRONMENTAL

OPERATING REPORT

TURKEY POINT PLANT

UNITS 3 & 4

LICENSE NO. DPR-31, DPR-41

DOCKET NOS. 50-250, 50-251

Data Submitted by: Florida DOH

Prepared by: _____

Reviewed by: _____

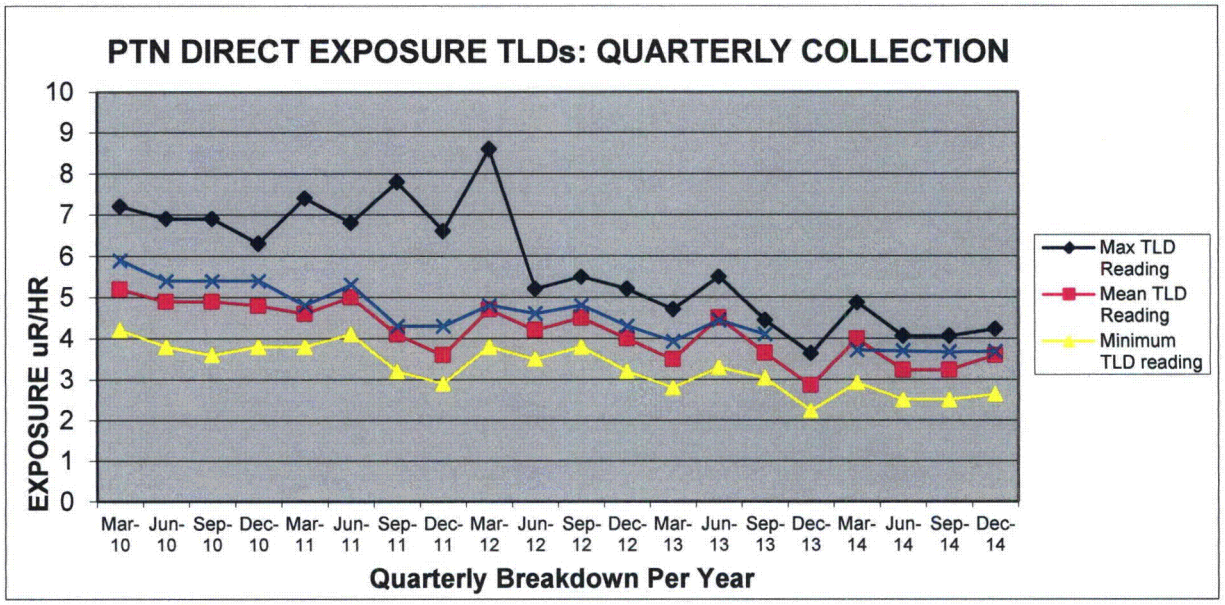
2014
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
TURKEY POINT PLANT- UNITS 3 & 4

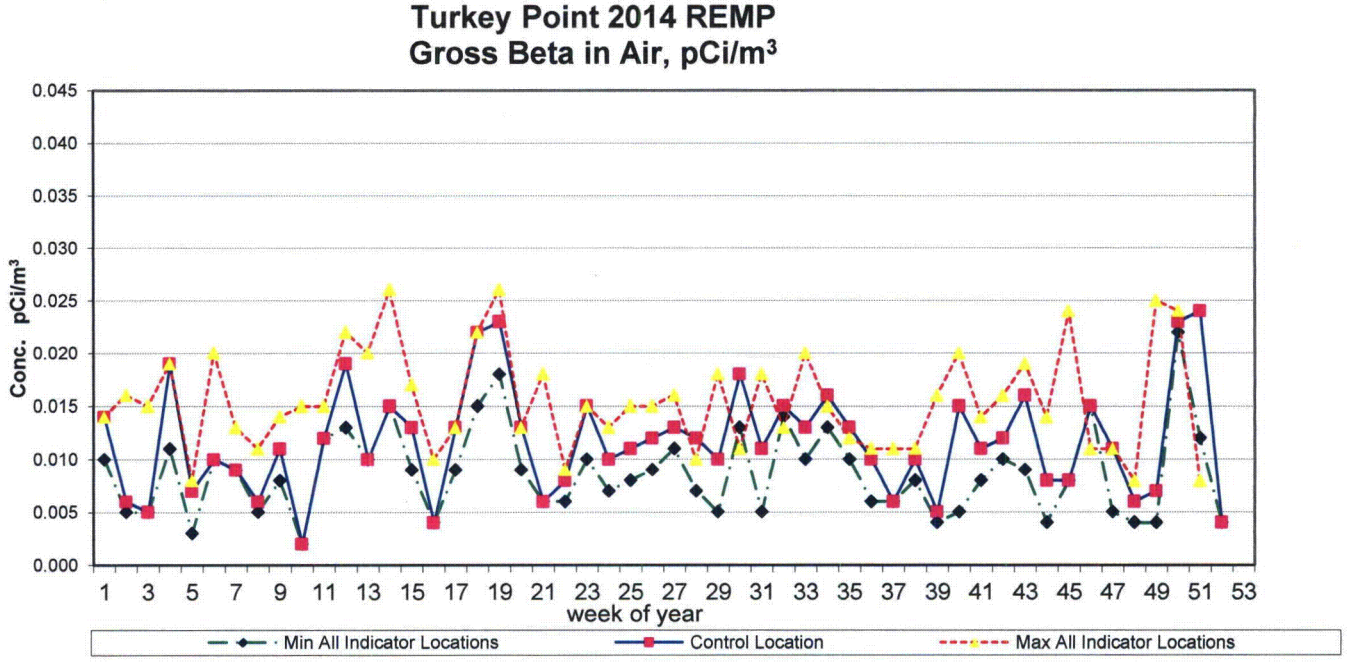
TABLE OF CONTENTS

2014
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
TURKEY POINT PLANT- UNITS 3 & 4

EXECUTIVE SUMMARY

The data obtained through the Turkey Point Radiological Environmental Monitoring Program verifies that the levels of radiation and concentrations of radioactive materials in environmental samples are not increasing. These measurements verify that the dose or dose commitment to members of the public, due to operation of Turkey Point Units 3 & 4, during the surveillance year, is well within the limits established by 10 CFR 50, Appendix I. The sampling period was from January 1, 2014 to December 31, 2014. Additionally, supplemental samples collected by the State of Florida, DOH, do not indicate adverse trends in the radiological environment.





2014
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
TURKEY POINT PLANT- UNITS 3 & 4

I. INTRODUCTION

This report is submitted pursuant to Specification 6.9 of Turkey Point Units 3 & 4 Technical Specifications. The Annual Radiological Environmental Operating Report provides information, summaries and analytical results pertaining to the Radiological Environmental Monitoring Program for the calendar year indicated. This report covers surveillance activities described in the Offsite Dose Calculation Manual (ODCM) meeting the requirements of Unit 3 and Unit 4 Technical Specifications.

II. RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

A. Purpose

The purpose of the Radiological Environmental Monitoring Program is to provide representative measurements of radiation and of radioactive materials in those exposure pathways and for those radionuclides which lead to the highest potential radiation exposures of members of the public resulting from station operation. The Radiological Environmental Monitoring Program also 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 the modeling of the environmental exposure pathways.

B. Program Description

The Radiological Environmental Monitoring Program (REMP) for the Turkey Point Plant is conducted pursuant to Control 5.1 of Turkey Point Unit 3 & 4 ODCM.

1. Sample Locations, Types and Frequencies:

   a. Direct radiation gamma exposure rate is monitored continuously at 23 locations by thermoluminescent dosimeters (TLDs). TLDs are collected and analyzed quarterly.

   b. Airborne radioiodine and particulate samplers are operated continuously at six locations. Samples are collected and analyzed weekly. Analyses include Iodine-131, gross beta, and gamma isotopic measurements.

   c. Surface water samples are collected from three locations. Samples are collected and analyzed monthly. Analyses include gamma isotopic and tritium measurements.

   d. Shoreline sediment samples are collected from three locations coinciding with the locations for surface water samples. Samples are collected and analyzed semi-annually. Sediment samples are analyzed by gamma isotopic measurements.

e. Fish and invertebrate samples are collected from two locations coinciding with two of the locations for surface water samples. Samples are collected and analyzed semi-annually. Fish and invertebrate samples are analyzed by gamma isotopic measurements.

f. Broad leaf vegetation samples are collected from three locations. Samples are collected and analyzed monthly. Broad leaf vegetation samples are analyzed by gamma isotopic measurements.

Attachment A provides specific information pertaining to sample locations, types and frequencies.

Note: Ground Water Protection, NEI Initiative: The program and results are described in Attachment D.

2. Analytical Responsibility:

Radiological environmental monitoring for the Turkey Point Plant is conducted by the State of Florida, Department of Health (DOH). Samples are collected and analyzed by DOH personnel.

Samples are analyzed at the DOH Environmental Radiation Control Laboratory in Orlando, Florida.

Note: The State is not involved in the (Industry Initiative) ground water monitoring program.

C. Analytical Results

Table 1, Environmental Radiological Monitoring Program Annual Summary provides a summary for all specified samples collected during the referenced surveillance period. Deviations from the sample schedule, missing data and/or samples not meeting the specified "A PRIORI" LLD, if any, are noted and explained in Tables 1A and 1B respectively. Analysis data for all specified samples analyzed during the surveillance period is provided in Attachment B.

D. Land Use Census

A land use census out to a distance of 5 miles radius from the Turkey Point Plant is conducted annually to determine the location of the nearest milk animal, residence, and garden producing broad leaf vegetation, in each of the sixteen meteorological sectors. A summary of the land use census for the surveillance year is provided in Table 2, Land Use Census Summary.

E. Interlaboratory Comparison Program

The Interlaboratory Comparison Program consists of participating in the DOE Mixed Analyte Performance Evaluation Program (MAPEP).

This program provides similar testing (matrices, nuclides, and levels) as the former EPA Interlaboratory Comparison Program and is referred to as the Mixed Analyte Performance Evaluation Program (MAPEP).

The samples are analyzed using the methods applicable to the REMP (gamma spectroscopy, Gross Beta, and Tritium for water).

From the MAPEP handbook:
Acceptance criteria were developed from a review of precision and accuracy data compiled by other performance evaluation programs (PEPs), the analytical methods literature, from several MAPEP pilot studies, and from what is considered reasonable, acceptable, and achievable for routine analyses among the more experienced laboratories.

The results for nuclides associated with the REMP are listed in ATTACHMENT C, RESULTS FROM THE INTERLABORATORY COMPARISON PROGRAM.

III. DISCUSSION AND INTERPRETATION OF RESULTS

A. Reporting of Results

The Annual Radiological Environmental Operating Report contains the summaries, interpretations and information required by Control 1.4 of ODCM. Table 1 provides a summary of the measurements made for the nuclides required by ODCM Table 5.1-2, for all samples specified by Table 5.1-1. In addition, summaries are provided for other nuclides identified in the specified samples, including those not related to station operation. These include nuclides such as K-40, Th-232, Ra-226, and Be-7 which are common in the Florida environment.

B. Interpretation of Results

1. Direct Radiation:

   The results of direct radiation monitoring are consistent with past measurements for the specified locations. The exposure rate data shows no indication of any trends attributed to effluents from the plant. The measured exposure rates are consistent with past historical exposure rates.

2. Air Particulates/Radioiodine:

   For results attributed to plant effluents:
   The results for radioactive air particulate and radioiodine monitoring are consistent with past measurements and indicate no trends attributed to plant effluents. All samples for radioiodine yielded no detectable I-131. Gamma isotopic measurements yielded no indication of any nuclides attributed to station operation. The results for air particulate/radioiodine samples are consistent with measurements that were made during the pre-operational surveillance program. Air particulate and radioiodine monitoring results are summarized in Table 1.

3. Waterborne, Surface Water:

   The results of radioactivity measurements in surface water samples are consistent with past measurements. Tritium was reported as present in 2 of 24 indicator location and 0 of the 12 control locations. These results are consistent with the known subsurface interchange that occurs between the closed cooling canal and its surrounding waters, and the pressure gradients caused by the flow of aquifer subsurface waters in South Florida. The highest reported tritium is 5.1% of the required detection level specified by ODCM Table 5.1-3.

4. Waterborne, Sediment:
   Gamma isotopic measurements yielded no indication of any nuclides attributed to station operation.

5. Waterborne, Food Products:

The results are consistent with past measurements. Gamma isotopic measurements yielded no indication of any nuclides attributed to station operation.

6. Broad Leaf Vegetation

For results attributed to plant effluents:
The results of radioactivity measurements are consistent with past measurements. Cs-137 was detected in samples collected from the indicator locations. The maximum concentration reported was 14.4% of the reporting level specified by ODCM Table 5.1-2. No other fission products were detected.

7. Land Use Census

A land use census out to a distance of a five mile radius from the Turkey Point Plant is conducted annually to determine the location of the nearest milk animal, residence, and garden producing broad leaf vegetation, in each of the 16 meteorological sectors. A summary of the land use census for the surveillance year is provided in Table 2, Land Use Census Summary.

8. Interlaboratory Comparison Program

The State laboratory participated in MAPEP 30 and 31. These satisfied the requirement of Control 5.3 of the ODCM for the Interlaboratory Comparison Program.

The results are listed in Attachment C.

C. Conclusions

The data obtained through the Turkey Point Plant Radiological Environmental Monitoring Program verifies that the levels of radiation and concentrations of radioactive materials in environmental samples, representing the highest potential exposure pathways to members of the public, are not being increased. The measured exposure rates are consistent with exposure rates that were observed during the pre-operational surveillance program. The results for air particulate/radioiodine samples are consistent with measurements that were made during the pre-operational surveillance program. The highest value of tritium in surface water was 5.1% of the required LLD listed in ODCM Table 5.1-3.

There were no indications of any other nuclides that could be attributed to plant effluents.

There were no indications of any nuclides in waterborne sediment or food products attributed to plant effluents. The results of radioactivity measurements for broad leaf vegetation are consistent with past measurements.

Additionally, supplemental to the ODCM program, sampling of the direct exposure, inhalation, and ingestion pathways, performed by DOH, does not show adverse trends in levels of radiation and radioactive materials in unrestricted areas.

The measurements verify that the dose or dose commitment to members of the public, due to operation of Turkey Point Units 3 & 4, during the surveillance year, are well within "as low as reasonably achievable (ALARA)" criteria established by 10 CFR 50, Appendix I.

TABLE 1

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
Name of Facility Turkey Point Units 3 & 4, Docket No(s). 50-250 & 50-251
Location of Facility Miami-Dade, Florida , Reporting Period January 1 - December 31, 2014
(County, State)

PATHWAY: DIRECT RADIATION
SAMPLES COLLECTED: TLD
UNITS: micro-R/hr

Type and Total Number of Analyses Performed	Lower Limit of Detection[a] (LLD)	All Indicator Locations Mean (f)[b] Range	Location with Highest Annual Mean		Control Locations Mean (f)[b] Range
			Name[c] Distance & Direction	Mean (f)[b] Range	
Exposure Rate, 91d	---	3.4 (91/90) 2.5. - 4.87	N-2 2 mi., N	3.99 (4/4) 3.8 - 4.87	3.7 (3/4) 3.7 - 3.72

Number of Non-routine Reported Measurements = 0

TABLE 1

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
Name of Facility Turkey Point Units 3 & 4, Docket No(s). 50-250 & 50-251
Location of Facility Miami-Dade, Florida , Reporting Period January 1 - December 31, 2014
(County, State)

PATHWAY: AIRBORNE
SAMPLES COLLECTED: RADIOIODINE AND PARTICULATES
UNITS: pCi/m^3

Type and Total Number of Analyses Performed	Lower Limit of Detection[a] (LLD)	All Indicator Locations Mean (f)b Range	Location with Highest Annual Mean		Control Locations Mean (f)b Range
			Name[c] Distance & Direction	Mean (f)[b] Range	
^{131}I, 311	0.012	<MDA	---	---	< MDA
Gross Beta, 255	0.0064	0.012 (258/261) 0.002 - 0.026	T-51 2.2 mi, NNW	0.012 (52/52) 0.004 - 0.026	0.012 (52/52) 0.002 - 0.024
Composite Gamma Isotopic, 27					
^{7}Be	0.006	0.1078 (27/28) 0.0590 - 0.1668	T-51 2.2 ml,NNW	0.1153 (4/4) 0.0773 - 0.1469	0.1058 (4/4) 0.0746 - 0.1245
^{40}K	0.018	< MDA	---	---	< MDA
^{134}Cs	0.0008	< MDA	---	---	< MDA
^{137}Cs	0.0008	< MDA	---	---	< MDA
^{210}Pb	---	0.0111 (17/28) 0.0047 - 0.0242	T-41 1.6 mi.,WNW	0.0137 (344) <MDA – 0.0242	0.0087 (4/4) <MDA – 0.0131

Be-7, K-40 & Pb-210 are naturally occurring.
Number of Non-routine Reported Measurements = 0

TABLE 1

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
Name of Facility Turkey Point Units 3 & 4, Docket No(s). 50-250 & 50-251
Location of Facility Miami-Dade, Florida , Reporting Period January 1 - December 31, 2014
(County, State)

PATHWAY: WATERBORNE
SAMPLES COLLECTED: SURFACE WATER
UNITS: pCi/L

Type and Total Number of Analyses Performed	Lower Limit of Detection[a] (LLD)	All Indicator Locations Mean (f)[b] Range	Location with Highest Annual Mean		Control Locations Mean (f)[b] Range
			Name[c] Distance & Direction	Mean (f)[b] Range	
Tritium, 36	172	142 (24/24) 91 - 155	T-81 6 mi., S	142 (12/12) 91 - 155	148 (1/12) 139 -155
Gamma Isotopic, 36					
^{40}K	58	312 (24/24) 153 - 422	T-81 6 mi., S	337 (12/12) 273 - 422	222 (12/12) 50 - 325
^{54}Mn	3	< MDA	---	---	< MDA
^{59}Fe	6	< MDA	---	---	< MDA
^{58}Co	3	< MDA	---	---	< MDA
^{60}Co	4	< MDA	---	---	< MDA
^{65}Zn	7	< MDA	---	---	< MDA
^{95}Zr-Nb	6	< MDA	---	---	< MDA
^{131}I	4	< MDA	---	---	< MDA
^{134}Cs	4	< MDA	---	---	< MDA
^{137}Cs	4	< MDA	---	---	< MDA
^{140}Ba-La	9	< MDA	---	---	< MDA

K-40 is naturally occurring.
Number of Non-routine Reported Measurements = 0

TABLE 1

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
Name of Facility Turkey Point Units 3 & 4, Docket No(s). 50-250 & 50-251
Location of Facility Miami-Dade, Florida , Reporting Period January 1 - December 31, 2014
(County, State)

PATHWAY: WATERBORNE
SAMPLES COLLECTED: SHORELINE SEDIMENT
UNITS: pCi/kg, DRY

Type and Total Number of Analyses Performed	Lower Limit of Detection[a] (LLD)	All Indicator Locations Mean (f)[b] Range	Location with Highest Annual Mean Name[c] Distance & Direction	Location with Highest Annual Mean Mean (f)[b] Range	Control Locations Mean (f)[b] Range
Gamma Isotopic, 6					
^{7}Be	56	91 (3/4) 79 - 102	T-42 <1 mi., ENE	96.5 (2/2) 91-102	147 (2/2) 116-178
^{40}K	100	159 (4/4) 89 - 204	T-81 6 mi., S	186 (2/2) 168 – 204	251 (2/2) 178 - 324
^{58}Co	6	<MDA	---	---	< MDA
^{60}Co	7	<MDA	---	---	< MDA
^{134}Cs	7	<MDA	---	---	< MDA
^{137}Cs	7	<MDA	---	---	5.5 (2/2) 5 - 6
^{210}Pb	---	754 (4/4) 623 - 863	T-81 6 mi., S	765.5 (2/2) 702 -829	794 (2/2) 671 - 917
^{226}Ra	15	738 (4/4) 342 - 1311	T-81 6 mi., S	1101 (2/2) 891 - 1311	461.5 (2/2) 334 - 589
^{235}U	---	24 (4/4) 15 - 40	T-42 <1 mi., ENE	29 (2/2) 18 -40	19 (2/2) 16 - 22
^{238}U	---	682 (3/4) 410 - 800	T-81 6 mi., S	790.5 (2/2) 781 - 800	421 (2/2) 270 - 572

Be-7, K-40, Pb-210, Ra-226, U-235 & U-238 are naturally occurring.
Number of Non-routine Reported Measurements = 0

TABLE 1

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
Name of Facility Turkey Point Units 3 & 4, Docket No(s). 50-250 & 50-251
Location of Facility Miami-Dade, Florida , Reporting Period January 1 - December 31, 2014
(County, State)

PATHWAY: INGESTION
SAMPLES COLLECTED: CRUSTACEA
UNITS: pCi/kg, WET

Type and Total Number of Analyses Performed	Lower Limit of Detection[a] (LLD)	All Indicator Locations Mean (f) Range	Location with Highest Annual Mean		Control Locations Mean (f)[b] Range
			Name[c] Distance & Direction	Mean (f)[b] Range	
Gamma Isotopic, 2					
^{40}K	270	1804.5 (2) 1709 - 1900	T-81 6 mi., S	1804.5 (2) 1709 - 1900	---
^{226}Ra	300	---	---	---	---
^{54}Mn	16	---	---	---	---
^{59}Fe	28	---	---	---	---
^{58}Co	15	---	---	---	---
^{60}Co	16	---	---	---	---
^{65}Zn	32	---	---	---	---
^{134}Cs	16	---	---	---	---
^{137}Cs	18	---	---	---	---

Blue Crabs were collected in the location T-81. No crustacea was collected at the control location in 2014.

Number of Non-routine Reported Measurements = 0

TABLE 1

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
Name of Facility Turkey Point Units 3 & 4, Docket No(s). 50-250 & 50-251
Location of Facility Miami-Dade, Florida , Reporting Period January 1 - December 31, 2014
(County, State)

PATHWAY: INGESTION
SAMPLES COLLECTED: FISH
UNITS: pCi/kg, WET

Type and Total Number of Analyses Performed	Lower Limit of Detection[a] (LLD)	All Indicator Locations Mean (f) Range	Location with Highest Annual Mean		Control Locations Mean (f)[b] Range
			Name[c] Distance & Direction	Mean (f)[b] Range	
Gamma Isotopic, 4					
^{7}Be	---	<MDA	---	---	<MDA
^{40}K	270	2394 (2/2) 2220- 2568	T-81 6 mi., S	2394 (2/2) 2220-2568	2625 (2/2) 2504 - 2747
^{54}Mn	16	<MDA	---	---	<MDA
^{59}Fe	28	<MDA	---	---	<MDA
^{58}Co	15	<MDA	---	---	<MDA
^{60}Co	16	<MDA	---	---	<MDA
^{65}Zn	32	<MDA	---	---	<MDA
^{134}Cs	16	<MDA	---	---	<MDA
^{137}Cs	16	<MDA	---	---	<MDA
^{226}Ra	300	<MDA	---	---	<MDA
^{238}U	---	<MDA	---	---	<MDA

Be-7, K-40, Pb-210, Ra-226 & U-238 are naturally occurring.

Number of Non-routine Reported Measurements = 0

TABLE 1

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
Name of Facility Turkey Point Units 3 & 4, Docket No(s). 50-250 & 50-251
Location of Facility Miami-Dade, Florida , Reporting Period January 1 - December 31, 2014
(County, State)

PATHWAY: INGESTION
SAMPLES COLLECTED: BROAD LEAF VEGETATION
UNITS: pCi/kg, WET

Type and Total Number of Analyses Performed	Lower Limit of Detection[a] (LLD)	All Indicator Locations Mean (f)Range	Location with Highest Annual Mean		Control Locations Mean (f)[b] Range
			Name[c] Distance & Direction	Mean (f)[b] Range	
Gamma Isotopic, 24					
^{7}Be	64	1434(24/24) 254 - 3289	T-40 3 mi., W	1466 (12/12) 254 - 3289	1048 (12/12) 306 - 2240
^{40}K	120	4355 (24/24) 2132 - 6048	T-41 1.6 mi.,WNW	4533 (12/12) 3329 - 6408	4213 (12/12) 2287 - 6034
^{58}Co	6	<MDA	---	---	<MDA
^{60}Co	8	<MDA	---	---	<MDA
^{131}I	8	<MDA	---	---	<MDA
^{134}Cs	8	<MDA	---	---	<MDA
^{137}Cs	8	47.5 (24/24) 16 - 167	T-41 1.6 mi., W/NW	52 (12/12) 16 - 167	91 (12/12) 12- 288
^{210}Pb	---	837 (2/24) 447 – 1227	T-41 2 mi., W/NW	837 (2/12) 447 - 1227	<MDA
^{226}Ra	189	<MDA	---	<MDA	<MDA

Be-7, K-40, Pb-210 & Ra-226 are naturally occurring.
Number of Non routine Reported Measurements = 0

TABLE 1

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
Name of Facility Turkey Point Units 3 & 4, Docket No(s). 50-250 & 50-251
Location of Facility Miami-Dade, Florida , Reporting Period January 1 - December 31, 2014
(County, State)

NOTES

a. The LLD is an "a priori" lower limit of detection which establishes the smallest concentration of radioactive material in a sample that will yield a net count above system background that will be detected with 95% probability with only 5% probability of falsely concluding that a blank observation represents a real signal.LLDs in this column are at time of measurement. The MDAs reported in Attachment B for the individual samples have been corrected to the time of sample collection.

b. Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parentheses (f).

c. Specific identifying information for each sample location is provided in Attachment A.

d. Results were based upon the average net response of three elements in a TLD. (Thermoluminescent Dosimeter).

TABLE 1A

(Page 1 of 2)

DEVIATIONS / MISSING DATA

A)	Pathway:	Airborne – Particulates and Iodine
	Location:	T-58, Turkey Point Entrance Road 1.3 miles Northwest
	Dates:	5/23/14 – 6/9/14
	Deviation:	Power was disconnected
	Description of Problem:	FPL terminated the account and the power was disconnected.
	Corrective action:	Account and Power was restored.
B)	Pathway	Aquatic Vegetation (Supplemental)
	Location:	T-84, 0.5 miles WSW
	Dates:	4-1-14 to 12-31-14
	Deviation:	Seaweed not collected.
	Description of Problem:	Cooling Canal System degraded through 2014 and did not support plant life.
	Corrective Action:	Continue efforts to collect. Considering removal of supplemental sample from ODCM.
C)	Pathway	Horseshoe Crab (Supplemental)
	Location:	T-84, 0.5 miles WSW
	Dates:	1-1-14 to 12-31-14
	Deviation:	No horseshoe crab available.
	Description of Problem:	Cooling Canal System degraded through 2014 and did not support plant life.
	Corrective Action:	Continue efforts to collect. Considering removal of supplemental sample from ODCM.
D)	Pathway	Crustacea
	Location:	T-67 Biscayne Bay, vicinity of Cutler Plant north to Matheson Hammock Park. N, NNE 13-18 miles from the plant.
	Dates:	1/1/14 to 12/31/14
	Deviation:	No crustacea collected in the control site for 2014.
	Description of Problem:	No comparison to blue crab collected in T81 could be made.
	Corrective Action:	State of FL continues to set traps with proper bait.

TABLE 1A

(Page 2 of 2)

DEVIATIONS / MISSING DATA

E)	Pathway	Direct Radiation TLD NNE-22
	Location:	NNE-22 Natoma Substation, 22.6 Miles
	Dates:	1/1/14 to 3/31/14
	Deviation:	Software indicated error on readout, and the data was lost.
	Description of Problem:	TLD readout error/software issues
	Corrective Action:	State of FL had vendor investigate problem. Changes were made and there have been no further TLD reading errors
F)	Pathway:	Airborne – Particulates and iodine
	Location:	T-57 Siren Pole27, intersection of SW 112 Ave. and SW 304th St., 4 miles NW
	Dates:	10-14-14. Found out of service with 72 hours of run time
	Deviation:	72 out of 145.6 hours collected
	Description of Problem:	Pump failed and was replaced that day.
	Corrective action	Replaced pump and restored continuous sampling.

TABLE 2

TURKEY POINT 2014 ANNUAL LAND-USE CENSUS SUMMARY

The annual land-use census identifies the nearest residences, vegetable gardens, and potential milk producing animals within a five-mile radius from the Turkey Point nuclear plant. The range (miles) and the bearing (degrees) from the plant are summarized for each receptor type in the table below.

SECTOR	NEAREST RESIDENCE	NEAREST GARDEN (A)	NEAREST MILK ANIMAL
N	1.9 mi@ 349° 2.0 mi@ 354°	*	*
NNE	*	*	*
NE	*	*	*
ENE	*	*	*
E	*	*	*
ESE	*	*	*
SE	*	*	*
SSE	*	*	*
S	*	*	*
SSW	*	*	*
SW	*	*	*
WSW	*	*	*
W	*	*	*
WNW	1.7 mi@ 302° 3.7 mi@ 302°	4.5 mi@ 303°	*
NW	3.7 mi@ 311° 3.8 mi@ 316°	*	*
NNW	4.4 mi@ 333° 4.7 mi@ 328°	4.7 mi@ 328°	*

(A)- Only gardens with an estimated total area of 500 square feet, or more, and producing green leafy vegetables are considered.

* -No suitable sites were located within a five-mile range.

TABLE 2

TURKEY POINT RESIDENCE SURVEY RESULTS

August 2014

Sector	Range Bearing	Nearest Residence Location
N(A)	1.9 miles 349°	This is the Homestead Bayfront Park complex. Contact is Jim White. Office hours are 8am- 5pm 7 days a week. There is occasional overnight recreational occupancy (up to 4 nights) on boats at the marina. There are approximately 30 workers at the park working various hours 7 days a week; number of daily workers sometimes varies. There is always someone here 24 hours with more workers in the summer than the rest of the year (February thru September have the highest peak of workers). LaPlaya restaurant is open at the park with 6 to 8 employees from Tues-Sun from 11am - 8pm. N25° 27.683' W80° 20.200'.
N (B)	2.0 miles 354°	Biscayne National Park at Convoy Point. Contact is George McHugh, Administrative Officer. There are 3 trailer pads with full utility hookups for volunteers who provide their own RV's or trailers staying for up to 6 months. There are 2 residences: one is for up to 4 occupants, volunteers and/or interns and the other for a law enforcement officer and family. From Monday to Friday up to 50 daytime workers may be present. N25° 27.817' W80° 20.067'.
NNE	No residences were located within a five-mile range.	
NE	No residences were located within a five-mile range.	
ENE	No residences were located within a five-mile range.	
E	No residences were located within a five-mile range.	
ESE	No residences were located within a five-mile range.	
SE	No residences were located within a five-mile range.	
SSE	No residences were located within a five-mile range.	
S	No residences were located within a five-mile range.	
SSW	No residences were located within a five-mile range.	
SW	No residences were located within a five-mile range.	
WSW	No residences were located within a five-mile range.	
W	No residences were located within a five-mile range.	
WNW(A)	1.7 miles 302°	FP&L daycare center and shooting range near the entrance to the Turkey Point Plant. Daycare Center contact is Anita Johnson, Director. There are 9 employees with 52 children currently enrolled, ages 6 months to 5 years. The center is open from 6am – 6pm Monday thru Friday. The number of people and the times at the shooting range varies. N25° 26.817' W80° 21.217'.

TABLE 2
TURKEY POINT RESIDENCE SURVEY RESULTS
August 2014 (cont.)

Sector	Range Bearing	Nearest Residence Location
WNW(B)	3.7 miles 302°	Two people (a couple) live at 11790 Canal Drive on the south side of Canal Drive (SW 328 St) west of SW 117th Ave (no gardens). N25° 27.767' W80° 22.867'.
NW(A)	3.6 miles 304°	The Waste Management Homestead Landfill is located north of Canal Drive (SW 328th St) and east of SW 117th Ave. There are 9 full time workers onsite Monday thru Friday usually from 7 a.m. to 4 p.m., although the schedules can sometimes vary. N25° 27.833' W80° 22.767'.
NW(B)	3.7miles 311°	11000 SW 320th St. Per property records, this house is on land zoned agriculture and the owners live in Texas. Unable to verify if anyone lives there because the gate is locked and too far from residence to see anything. N25° 28.217' W80° 22.567'.
NW(C)	3.8 miles 316°	High Hope Nursery at 11400 SW 316 St. Contact is George Sprinkle, General Manager. This nursery currently has 30 employees. Hours of operations are 7am-5pm Monday to Friday. One person lives here who is also the security person. N25° 28.441' W80° 22.430'.
NW(D)	3.9 miles 314°	Snapper Creek Nursery at 11600 SW 316th Street. There is one man who lives in a trailer on the premises and 14 workers that work Monday thru Saturday 7 am to 5 pm. 24-hour security is also provided by another person onsite. N25° 28.444' W80° 22.560'.
NNW(A)	4.4 miles 333°	29800 SW 107th Ave. Per property records, this is a small one bedroom residence on land zoned as mixed use agricultural. Gate locked but can see the residence which appears to be occupied. Unknown number of occupants. N25° 29.450' W80° 21.817'.
NNW (B)	4.7 miles 328°	SFM Tree Farm. Entrance at SW 107th Ave & SW 296th St. One person lives and works on property. Owner lives off property in Miami. N25° 29.564' W80° 22.264'.

TABLE 2
TURKEY POINT GARDEN SURVEY RESULTS
August 2014

Sector	Range Bearing	Nearest Garden Location (with estimated total area of 500 square feet, or more, and producing green leafy vegetables).
N		No suitable gardens were located within a five-mile range.
NNE		No suitable gardens were located within a five-mile range.
NE		No suitable gardens were located within a five-mile range.
ENE		No suitable gardens were located within a five-mile range.
E		No suitable gardens were located within a five-mile range.
ESE		No suitable gardens were located within a five-mile range.
SE		No suitable gardens were located within a five-mile range.
SSE		No suitable gardens were located within a five-mile range.
S		No suitable gardens were located within a five-mile range.
SSW		No suitable gardens were located within a five-mile range.
SW		No suitable gardens were located within a five-mile range.
WSW		No suitable gardens were located within a five-mile range.
W		No suitable gardens were located within a five-mile range.
WNW(A)	4.5 miles 303°	Thai Farms. Guava (mostly), bananas and dragon fruit are grown at this small farm run by an Asian family south of Mowry Drive (SW 320th St) and about 0.6 miles west of Allapattah Rd (SW 117th Ave). Two or three workers Monday-Friday. N25° 28.217' W80° 23.467'.
WNW(B)	4.8 miles 302°	Located at the northeast corner of the intersection of SW 127th Ave and SW 320thStreet. This is an inaccessible grove with coconut palms, some banana trees and a few avocado trees which appears to be unattended. N25° 28.250' W80° 23.750'.

TABLE 2

TURKEY POINT GARDEN SURVEY RESULTS

August 2014

Sector	Range Bearing	Nearest Garden Location (with estimated total area of 500 square feet, or more, and producing green leafy vegetables).
WNW (C)	6.0 miles 295°	Farm Share, Inc at 14125 SW 320th St, where farmers donate locally grown produce to be given to charitable organizations. Produce donations usually start in November and run through April. There are usually 15 workers present from 8 am to 4:30pm Monday thru Friday. The produce usually donated is tomatoes, squash and green beans. N25° 28.255' W80° 25.111'.
NW	No suitable gardens were located within a five-mile range.	
NNW	4.7 miles 328°	SFM Tree Farm. Entrance at SW 107th Ave & SW 296th St. Noticed bananas and plantain tress growing in various areas on the farm. One person lives and works on property. Owner lives off property in Miami. N25° 29.564' W80° 22.264'.

Note: At the time of our survey, many fields in the area surveyed were bare soil or cover crops. Other than the sites already described above, the only non-ornamental crops known to have been grown in the survey area were: bananas, beans, corn, guava, malanga, papaya, eggplant, sorghum, squash, sugar cane, tambis, okra and melon.

TABLE 2

'TURKEY POINT MILK ANIMAL SURVEY RESULTS

August 2014

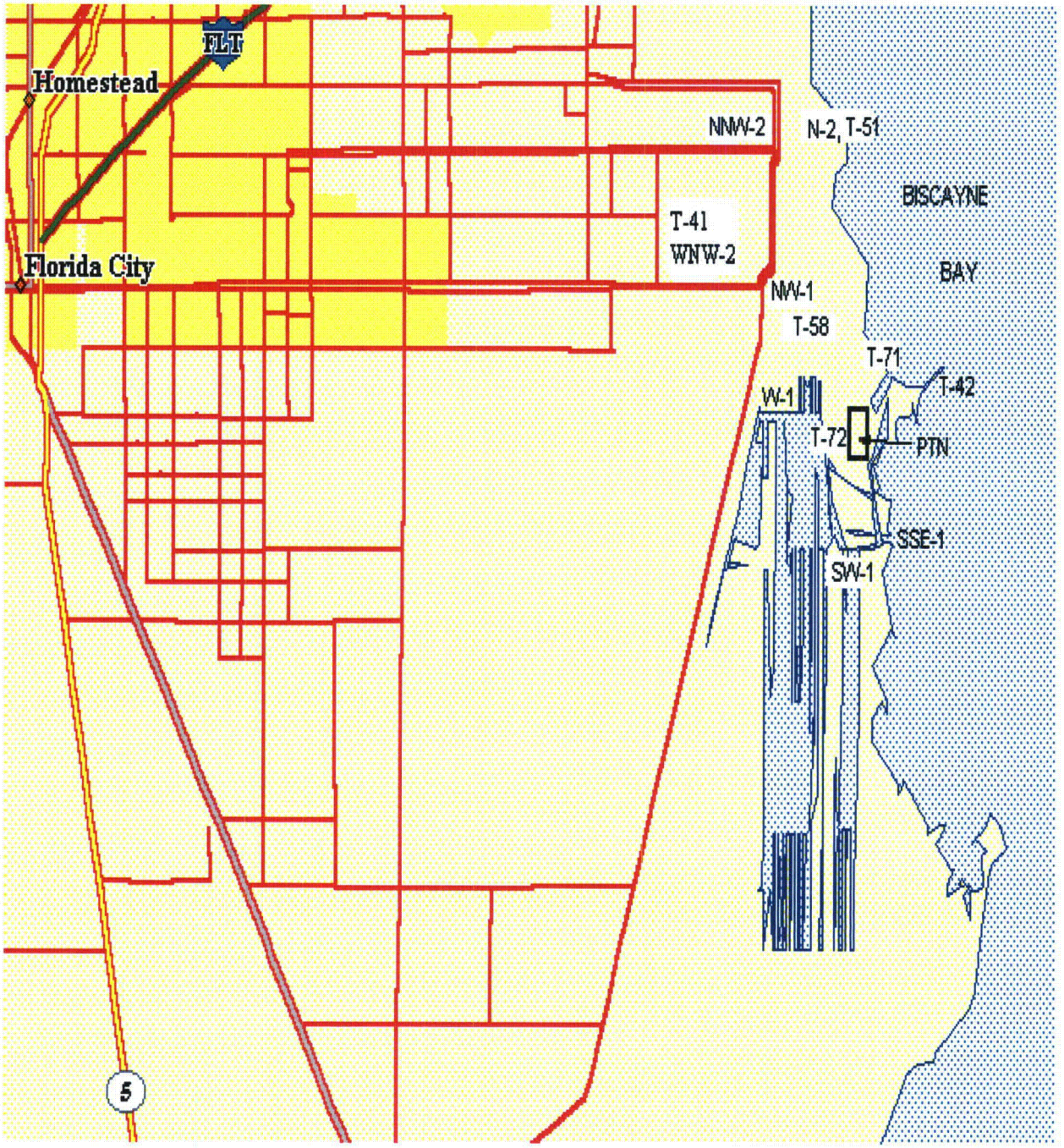
Sector	Nearest Milk Animals (cows or goats).
N	No potential milk animals were located within five miles.
NNE	No potential milk animals were located within five miles.
NE	No potential milk animals were located within five miles.
ENE	No potential milk animals were located within five miles.
E	No potential milk animals were located within five miles.
ESE	No potential milk animals were located within five miles.
SE	No potential milk animals were located within five miles.
SSE	No potential milk animals were located within five miles.
S	No potential milk animals were located within five miles.
SSW	No potential milk animals were located within five miles.
SW	No potential milk animals were located within five miles.
WSW	No potential milk animals were located within five miles.
W	No potential milk animals were located within five miles.
WNW	No potential milk animals were located within five miles.
NW	No potential milk animals were located within five miles.
NNW	No potential milk animals were located within five miles.

ATTACHMENT A

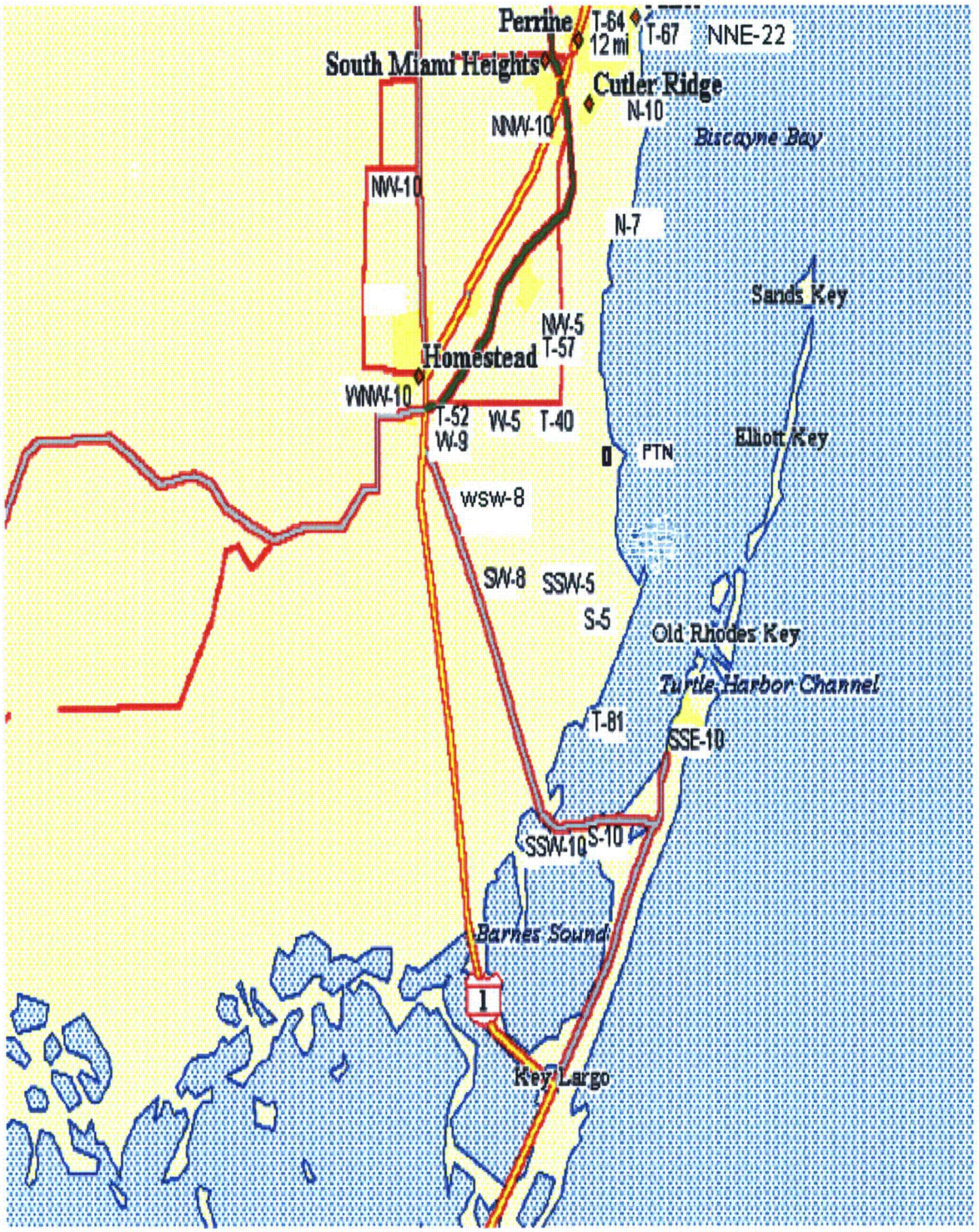
KEY TO REMP SAMPLE LOCATIONS

NEAR SITE SAMPLING LOCATIONS

(Page 1 of 6)



DISTANT REMP SAMPLING LOCATIONS



ATTACHMENT A

PATHWAY: DIRECT RADIATION
SAMPLES COLLECTED: TLD
SAMPLE COLLECTION FREQUENCY: QUARTERLY

Location [a] Name	Description
N-2	Convey Point, Parking Area
N-7	Black Point Marina Parking Lot
N-10	Old Cutler Rd. approx. 196th Street
NNW-2	East End North Canal Road
NNW-10	Bailes Road & U.S. #1
NW-1	Turkey Point Entrance Road
NW-5	Mowry Drive & 117th Avenue
NW-10	Newton Road, North of Coconut Palm Drive
WNW-2	Satellite School
WNW-10	Homestead Middle School
W-1	On-Site, North Side of Discharge Canal
W-5	Palm Drive & Tallahassee Road
W-9	Card Sound Road, 0.6 mile from U.S. #1
WSW-8	Card Sound Road, 3.4 miles from U.S. #1
SW-1	On-Site near Land Utilization Offices
SW-8	Card Sound Road, 5 miles from U.S. #1
SSW-5	On-Site, Southwest Corner of Cooling Canals
SSW-10	Card Sound Road, west side of Toll Plaza
S-5	On-Site, South East Corner of Cooling Canals
S-10	Card Sound Road at Steamboat Creek
SSE-1	Turtle Point
SSE-10	Ocean Reef
Control	
NNE-22	Natoma Substation, 2475 SW 16 Ct.

[a]The location name is the direction sector - approximate distance (miles)

ATTACHMENT A

PATHWAY: AIRBORNE
SAMPLES COLLECTED: RADIOIODINE AND PARTICULATES
SAMPLE COLLECTION FREQUENCY: WEEKLY

Location Name	Direction Sector	Approximate Distance (miles)	Description
T-51	NNW	2	Entrance Area to Biscayne National Park
T-57	NW	4	SW 107th Avenue at Mowry Canal
T-58	NW	1	Turkey Point Entrance Road
T-72	WSW	<1	Just before entrance to Land Utilization's access gate.
Control:			
T-64	NNE	22	Natoma Substation , 2475 SW 16 Ct.

ATTACHMENT A

PATHWAY: WATERBORNE
SAMPLES COLLECTED: SURFACE WATER (OCEAN)
SAMPLE COLLECTION FREQUENCY: MONTHLY

Location Name	Direction Sector	Approximate Distance (miles)	Description
T-42	ENE	<1	Biscayne Bay at Turkey Point
T-81	S	6	Card Sound, near Mouth of Old Discharge Canal
Control:			
T-67	N, NNE	13-18	Near Biscayne Bay, Vicinity of Cutler Plant, North to Matheson Hammock Park

SAMPLES COLLECTED: SHORELINE SEDIMENT
SAMPLE COLLECTION FREQUENCY: SEMI-ANNUALLY

Location Name	Direction Sector	Approximate Distance (miles)	Description
T-42	ENE	<1	Biscayne Bay at Turkey Point
T-81	S	6	Card Sound, near Mouth of Old Discharge Canal
Control:			
T-67	N, NNE	13-18	Near Biscayne Bay, Vicinity of Cutler Plant, North to Matheson Hammock Park

ATTACHMENT A

PATHWAY: INGESTION
SAMPLES COLLECTED: CRUSTACEA AND FISH
SAMPLE COLLECTION FREQUENCY: SEMI-ANNUALLY

Location Name	Direction Sector	Approximate Distance (miles)	Description
T-81	S	6	Card Sound Vicinity of Turkey Point Facility
Control:			
T-67	N, NNE	13-18	Near Biscayne Bay, Vicinity of Cutler Plant, North to Matheson Hammock Park

SAMPLES COLLECTED: BROAD LEAF VEGETATION
SAMPLE COLLECTION FREQUENCY: MONTHLY

Location Name	Direction Sector	Approximate Distance (miles)	Description
T-40	W	3	South of Palm Dr. on S.W. 117th Street Extension
T-41	WNW	2	Palm Dr., West of Old Missile Site near Plant Site Boundary
Control:			
T-67	N, NNE	13-18	Near Biscayne Bay, Vicinity of Cutler Plant, North to Matheson Hammock Park

2014
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
TURKEY POINT PLANT- UNITS 3 & 4

ATTACHMENT B

RADIOLOGICAL SURVEILLANCE OF

FLORIDA POWER AND LIGHT COMPANY'S

TURKEY POINT SITE

2014

First Quarter, 2014

Second Quarter, 2014

Third Quarter, 2014

Fourth Quarter, 2014

ATTACHMENT B

Florida HEALTH

RADIOLOGICAL SURVEILLANCE

OF

FLORIDA POWER AND LIGHT COMPANY

TURKEY POINT SITE

FIRST QUARTER 2014

BUREAU OF RADIATION CONTROL

TURKEY POINT SITE

Offsite Dose Calculation Manual Sampling

First Quarter, 2014

Sample Type	Collection Frequency	Number of Sample Locations	Number of Samples
1. Direct Radiation	Quarterly	22	22
2. Airborne			
2.a. Air Iodines	Weekly	6	72
2.b. Air Particulates	Weekly	6	72
3. Waterborne			
3.a. Surface Water	Monthly	3	9
3.b. Shoreline Sediment	Semiannually	3	3
4. Ingestion			
4.a. Fish and Invertebrates			
4.a.1. Crustacea	Semiannually	2	0
4.a.2. Fish	Semiannually	2	0
4.b. Broadleaf Vegetation	Monthly	3	9
			Total: 187

NOTE: Measurement results having magnitudes that are significantly above the background of the measurement system are reported as net values plus or minus a one-standard-deviation error term. Measurement results that are not significantly above background are reported as less than a Lower Limit of Detection (<LLD), which is an estimated upper limit (with at least 95% confidence) for the true activity in the sample.

The marine fauna listed in this report were collected in part, under Florida FWC SAL030.

1. DIRECT RADIATION - TLD's - (μR/hour)

Sample Site	Deployment Collection 18-Dec-13 19-Mar-14
N-2	4.87 ± 0.37
N-7	3.86 ± 0.12
N-10	4.64 ± 0.48
NNW-2	4.13 ± 0.37
NNW-10	4.02 ± 0.48
NW-1	4.44 ± 0.46
NW-5	4.08 ± 0.41
NW-10	4.59 ± 0.52
WNW-10	4.32 ± 0.44
W-1	3.54 ± 0.51
W-5	3.53 ± 0.10
W-9	3.39 ± 0.32
WSW-8	4.40 ± 0.51
SW-1	3.20 ± 0.12
SW-8	2.92 ± 0.20
SSW-5	3.26 ± 0.41
SSW-10	3.50 ± 0.44
S-5	3.34 ± 0.43
S-10	4.24 ± 0.12
SSE-1	3.56 ± 0.17
SSE-10	3.24 ± 0.36
NNE-22	(A)

(A) TLD data lost due to software error

2.a. IODINE-131 IN WEEKLY AIR CARTRIDGES - (pCi/m^3)

Collection Date	T41	T51	T57	T58	T64	T72
07-Jan-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
14-Jan-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
22-Jan-14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
28-Jan-14	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
03-Feb-14	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
11-Feb-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
18-Feb-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
25-Feb-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
04-Mar-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
11-Mar-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
19-Mar-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
25-Mar-14	<0.03	<0.03	<0.03	<0.03	<0.04	<0.03

2.b.1. AIR PARTICULATES - GROSS BETA - (pCi/m³)

Collection Date	T41	T51	T57	T58	T64	T72
07-Jan-14	<0.005(A)	0.011 ± 0.002	0.014 ± 0.002	0.011 ± 0.002	0.014 ± 0.002	0.011 ± 0.002
14-Jan-14	0.008 ± 0.002	0.008 ± 0.001	0.016 ± 0.002	0.007 ± 0.002	0.006 ± 0.001	0.005 ± 0.001
22-Jan-14	0.011 ± 0.002	0.015 ± 0.002	0.013 ± 0.002	0.009 ± 0.002	0.005 ± 0.001	0.011 ± 0.002
28-Jan-14	0.012 ± 0.002	0.015 ± 0.002	0.013 ± 0.002	0.011 ± 0.002	0.019 ± 0.002	0.016 ± 0.002
03-Feb-14	0.007 ± 0.002	0.004 ± 0.002	0.008 ± 0.002	0.006 ± 0.002	0.007 ± 0.002	0.007 ± 0.002
11-Feb-14	0.013 ± 0.002	0.013 ± 0.002	0.020 ± 0.002	0.013 ± 0.002	0.010 ± 0.002	0.010 ± 0.002
18-Feb-14	0.013 ± 0.002	0.011 ± 0.002	0.013 ± 0.002	0.009 ± 0.002	0.009 ± 0.002	0.013 ± 0.002
25-Feb-14	0.008 ± 0.002	0.005 ± 0.001	0.011 ± 0.002	0.007 ± 0.002	0.006 ± 0.002	0.006 ± 0.002
04-Mar-14	0.010 ± 0.002	0.014 ± 0.002	0.013 ± 0.002	0.011 ± 0.002	0.011 ± 0.002	0.013 ± 0.002
11-Mar-14	0.008 ± 0.002	0.009 ± 0.002	0.008 ± 0.002	<0.007	0.007 ± 0.002	0.012 ± 0.002
19-Mar-14	0.014 ± 0.002	0.015 ± 0.002	0.015 ± 0.002	0.014 ± 0.002	0.012 ± 0.002	0.013 ± 0.002
25-Mar-14	0.021 ± 0.003	0.013 ± 0.002	0.018 ± 0.003	0.019 ± 0.003	0.019 ± 0.003	0.016 ± 0.003
Average:	<0.011	0.011 ± 0.001	0.013 ± 0.001	<0.010	0.010 ± 0.001	0.011 ± 0.001

(A) Particulate filter had no deposition; section of tubing replaced that appeared to have an obstruction.

2.b.2. AIR PARTICULATES - GAMMA ANALYSIS OF QUARTERLY COMPOSITES - (pCi/m³)

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
T41	0.1166 ± 0.0085	<0.0178	<0.0011	<0.0010	0.0080 ± 0.0019
T51	0.1176 ± 0.0096	<0.0237	<0.0015	<0.0012	0.0090 ± 0.0018
T57	0.1073 ± 0.0082	<0.0161	<0.0010	<0.0009	0.0047 ± 0.0017
T58	0.0907 ± 0.0075	<0.0150	<0.0012	<0.0011	0.0073 ± 0.0019
T64	0.1051 ± 0.0082	<0.0174	<0.0011	<0.0009	0.0053 ± 0.0017
T72	0.1018 ± 0.0089	<0.0225	<0.0014	<0.0014	0.0080 ± 0.0017

3.a. SURFACE WATER - (pCi/L)

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
T42	22-Jan-14	<147	153 ± 17	<3	<3	<6	<3	<6	<5	<5	<3	<3	<4
	18-Feb-14	<133	216 ± 20	<3	<3	<5	<3	<7	<5	<4	<3	<3	<6
	19-Mar-14	<149	334 ± 17	<2	<2	<4	<2	<4	<3	<2	<2	<2	<4
T67	22-Jan-14	<147	227 ± 20	<3	<4	<7	<3	<7	<5	<5	<3	<3	<5
	17-Feb-14	<150	211 ± 19	<3	<3	<6	<3	<6	<5	<4	<3	<3	<5
	20-Mar-14	<149	322 ± 15	<2	<2	<3	<3	<4	<3	<2	<2	<2	<7
T81	21-Jan-14	<147	334 ± 32	<5	<5	<10	<7	<11	<8	<11	<5	<5	<9
	17-Feb-14	<133	285 ± 20	<3	<3	<6	<5	<6	<5	<4	<3	<3	<5
	18-Mar-14	<149	422 ± 35	<5	<5	<8	<7	<12	<9	<6	<5	<6	<8

(A) - These tabulated LLD values for Zr/Nb-95 are the higher of the individual parent or daughter LLD's.

(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity for a given sample.

3.b. SHORELINE SEDIMENT - (pCi/kg, dry weight)

Sample Site	Collection Date	Be-7	K-40	Co-58	Co-60	Cs-134	Cs-137	Pb-210	Ra-226	Th-232	U-235	U-238
T42	22-Jan-14	<102	89 ± 28	<10	<12	<9	<11	623 ± 146	342 ± 211	<50	40 ± 13	410 ± 42
T67	22-Jan-14	178 ± 23	324 ± 41	<10	<13	<9	9 ± 2	917 ± 175	589 ± 59	56 ± 8	<22	270 ± 40
T81	21-Jan-14	91 ± 21	168 ± 33	<11	<13	<10	<12	702 ± 164	891 ± 192	<41	<15	781 ± 131

4.a.1. CRUSTACEA - Mixed Species - (pCi/kg, wet weight)

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226	Ra-228
T67	This sample to be collected.										
T81	This sample to be collected.										

4.a.2. FISH - Mixed Species - (pCi/kg, wet weight)

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226	Ra-228
T67	This sample to be collected.										
T81	This sample to be collected.										

4.b. BROADLEAF VEGETATION - Brazilian Pepper - (pCi/kg, wet weight)

Sample Site	Collection Date	Be-7	K-40	I-131	Cs-134	Cs-137	Pb-210	Ra-226	Ra-228
T40	21-Jan-14	2608 ± 64	5104 ± 154	<12	<6	36 ± 2	639 ± 92	<160	<28
	18-Feb-14	1228 ± 51	2797 ± 129	<10	<7	18 ± 2	<215	<184	<35
	19-Mar-14	1544 ± 75	5307 ± 232	<19	<15	16 ± 4	<1318	<398	<64
T41	21-Jan-14	2375 ± 93	3329 ± 159	<27	<12	116 ± 7	1227 ± 211	<303	<52
	17-Feb-14	1513 ± 63	3580 ± 160	<15	<10	167 ± 7	447 ± 67	<226	<40
	19-Mar-14	1221 ± 68	5697 ± 247	<18	<15	40 ± 5	<1497	<403	<66
T67	22-Jan-14	1009 ± 47	4723 ± 193	<15	<8	<11	288 ± 52	<216	<39
	17-Feb-14	658 ± 38	3691 ± 161	<12	<9	<8	194 ± 51	<190	<35
	20-Mar-14	306 ± 28	6034 ± 245	<12	<11	<11	<349	<226	<42

TURKEY POINT SITE

Supplemental Sampling

First Quarter, 2014

Sample Type	Collection Frequency	Number of Sample Locations	Number of Samples
1. Direct Radiation	Quarterly	10	10
2. Airborne			
2.a. Air Iodines	Weekly	2	24
2.b. Air Particulates	Weekly	2	24
3. Waterborne			
3.a. Surface Water	Monthly	4	12
3.b. Shoreline Sediment	Semiannually	10	10
3.c. Aquatic Vegetation	Quarterly	1	1
4. Ingestion			
4.a. Milk	Semiannually	1	0
4.b. Marine Life	Semiannually	1	0
4.c. Food Crops	At Harvest	3	1
			Total: 82

NOTE: Measurement results having magnitudes that are significantly above the background of the measurement system are reported as net values plus or minus a one-standard-deviation error term. Measurement results that are not significantly above background are reported as less than a Lower Limit of Detection (<LLD), which is an estimated upper limit (with at least 95% confidence) for the true activity in the sample.

1. DIRECT RADIATION - TLD's - (μR/hour)

Sample Site	Deployment 18-Dec-13 Collection 19-Mar-14
NNW-6	3.56 ± 0.24
NW-7	4.31 ± 0.61
NW-8	4.18 ± 0.26
WNW-2	3.87 ± 0.35
WNW-3	3.82 ± 0.31
WNW-6	3.65 ± 0.67
W-8	3.91 ± 0.08
ENE-1	3.15 ± 0.21
T72	3.86 ± 0.43
PTN-1	4.42 ± 0.32

2.a. IODINE-131 IN WEEKLY AIR CARTRIDGES - (pCi/m³)

Collection Date	T52	T56
07-Jan-14	<0.03	<0.03
14-Jan-14	<0.03	<0.03
22-Jan-14	<0.02	<0.02
28-Jan-14	<0.04	<0.04
03-Feb-14	<0.03	<0.04
11-Feb-14	<0.03	<0.03
18-Feb-14	<0.03	<0.03
25-Feb-14	<0.03	<0.03
04-Mar-14	<0.03	<0.03
11-Mar-14	<0.00	<0.03
19-Mar-14	<0.03	<0.03
25-Mar-14	<0.03	<0.03

2.b.1. AIR PARTICULATES - GROSS BETA - (pCi/m³)

Collection Date	T52	T56
07-Jan-14	0.012 ± 0.002	0.010 ± 0.002
14-Jan-14	0.011 ± 0.002	0.006 ± 0.001
22-Jan-14	0.010 ± 0.002	0.013 ± 0.002
28-Jan-14	0.014 ± 0.002	0.014 ± 0.002
03-Feb-14	0.005 ± 0.001	0.003 ± 0.001
11-Feb-14	0.013 ± 0.002	0.011 ± 0.002
18-Feb-14	0.011 ± 0.002	0.010 ± 0.002
25-Feb-14	0.006 ± 0.001	0.006 ± 0.002
04-Mar-14	0.008 ± 0.002	0.012 ± 0.002
11-Mar-14	0.008 ± 0.002	0.015 ± 0.002
19-Mar-14	0.014 ± 0.002	0.014 ± 0.002
25-Mar-14	0.022 ± 0.003	0.016 ± 0.003
Average:	0.011 ± 0.001	0.011 ± 0.001

2.b.2. AIR PARTICULATES GAMMA ANALYSIS OF QUARTERLY COMPOSITES - (pCi/m³)

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
T52	0.1041 ± 0.0090	0.0193 ± 0.0063	<0.0018	<0.0012	0.0098 ± 0.0018
T56	0.0890 ± 0.0084	<0.0218	<0.0013	<0.0014	0.0098 ± 0.0021

3.a. SURFACE WATER - (pCi/L)

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
T08	21-Jan-14	3418 ± 100	763 ± 49	<5	<5	<13	<8	<12	<9	<10	<5	<6	<9
	17-Feb-14	13542 ± 182	742 ± 48	<5	<5	<12	<7	<13	<10	<7	<5	<6	<7
	18-Mar-14	15981 ± 200	755 ± 49	<6	<6	<11	<8	<12	<9	<7	<5	<6	<10
T75	21-Jan-14	<147	<65	<4	<5	<11	<7	<10	<9	<8	<5	<6	<8
	17-Feb-14	<150	<66	<4	<5	<9	<7	<9	<9	<7	<5	<6	<7
	19-Mar-14	<149	<31	<3	<3	<6	<3	<6	<5	<3	<3	<3	<9
T84	21-Jan-14	3157 ± 97	701 ± 47	<6	<6	<13	<8	<11	<10	<11	<6	<7	<8
	17-Feb-14	9695 ± 156	405 ± 28	<3	<3	<6	<5	<7	<5	<5	2	<4	<4
	18-Mar-14	20894 ± 227	815 ± 51	<6	<5	<11	<8	<12	<8	<7	<6	<5	<10
T97	22-Jan-14	3856 ± 105	694 ± 37	<3	<3	<7	<4	<7	<6	<5	<3	<3	<4
	18-Feb-14	11918 ± 171	721 ± 38	<3	<3	<7	<3	<8	<5	<4	<3	<4	<6
	19-Mar-14	16453 ± 202	808 ± 40	<3	<4	<6	<4	<7	<5	<4	<3	<4	<6

(A) - These tabulated LLD values for Zr/Nb-95 are the higher of the individual parent or daughter LLD's.

(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity for a given sample.

3.b. SHORELINE SEDIMENT - (pCi/kg, dry weight)

Sample Site	Collection Date	Be-7	K-40	Co-58	Co-60	Cs-134	Cs-137	Pb-210	Ra-226	Th-232	U-235	U-238
T01	22-Jan-14	89 ± 16	206 ± 28	<8	<9	<8	<9	1163 ± 163	588 ± 121	<36	<10	417 ± 38
T02	21-Jan-14	86 ± 19	176 ± 33	<11	<13	<9	<12	826 ± 173	713 ± 90	<47	41 ± 15	382 ± 45
T03	21-Jan-14	114 ± 18	290 ± 32	<8	<9	<8	8 ± 2	937 ± 134	1308 ± 77	49 ± 7	<11	351 ± 26
T04	21-Jan-14	54 ± 19	496 ± 52	<12	<15	<11	10 ± 3	2067 ± 297	780 ± 190	<55	47 ± 16	518 ± 55
T07	21-Jan-14	57 ± 18	616 ± 52	<11	<12	<11	30 ± 4	1088 ± 158	1386 ± 88	60 ± 8	<13	175 ± 24
T08	21-Jan-14	101 ± 23	392 ± 45	<13	<16	<12	<14	1038 ± 205	<284	<60	<18	508 ± 140
T09	21-Jan-14	83 ± 15	225 ± 28	<8	<8	<8	<9	916 ± 132	788 ± 191	<34	33 ± 11	499 ± 28
T10	21-Jan-14	60 ± 17	1056 ± 71	<10	<10	<9	11 ± 2	651 ± 103	777 ± 130	65 ± 9	38 ± 12	118 ± 22
T84*	21-Jan-14	330 ± 30	1122 ± 67	<14	36 ± 3	<11	<14	1534 ± 213	2232 ± 144	76 ± 9	44 ± 16	518 ± 66
T85*	21-Jan-14	385 ± 32	232 ± 33	<13	16 ± 2	<10	<12	811 ± 180	671 ± 100	<56	<17	444 ± 49

*Note that site T84 is the same location as site T05, and site T85 is the same location as site T06.

3.c. AQUATIC VEGETATION - Non-Specific - (pCi/kg, wet weight)

Sample Site	Collection Date	Be-7	K-40	Mn-54	Co-58	Co-60	Ag-110m	I-131	Cs-134	Cs-137	Ra-226	Ra-228
T84	18-Feb-14	973 ± 51	1315 ± 84	<14	<16	8 ± 2	<15	<18	<14	<15	3746 ± 170	249 ± 16

4.a. GOAT'S MILK - (pCi/L)

Sample Site	Collection Date	K-40	I-131	Cs-134	Cs-137	Ba-140 La-140 (A)
T99	This sample to be collected.					

(A) - This tabulated LLD value is for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity.

4.b. MARINE LIFE - Horseshoe Crab - (pCi/kg, wet weight)

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Ag-110m	Cs-134	Cs-137	Ra-226	Ra-228
T84	This sample to be collected.											

4.c. FOOD CROPS - Corn - (pCi/kg, wet weight)

Sample Site	Collection Date	Be-7	K-40	Mn-54	Co-58	Co-60	Ag-110m	I-131	Cs-134	Cs-137	Ra-226	Ra-228
T43	03-Feb-14	<130	2781 ± 152	<14	<16	<19	<12	<54	<14	<15	<312	<54
T44	This sample to be collected.											
T45	This sample to be collected.											

ATTACHMENT B

Florida HEALTH

RADIOLOGICAL SURVEILLANCE

OF

FLORIDA POWER AND LIGHT COMPANY

TURKEY POINT SITE

SECOND QUARTER 2014
BUREAU OF RADIATION CONTROL

2014
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
TURKEY POINT PLANT- UNITS 3 & 4

TURKEY POINT SITE

Offsite Dose Calculation Manual Sampling

Second Quarter, 2014

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
1. Direct Radiation	Quarterly	23	23
2. Airborne			
2.a. Air Iodines	Weekly	6	75
2.b. Air Particulates	Weekly	6	75
3. Waterborne			
3.a. Surface Water	Monthly	3	9
3.b. Shoreline Sediment	Semiannually	3	0
4. Ingestion			
4.a. Fish and Invertebrates			
4.a.1. Crustacea	Semiannually	2	1
4.a.2. Fish	Semiannually	2	2
4.b. Broadleaf Vegetation	Monthly	3	9
			Total: 194

NOTE: Measurement results having magnitudes that are significantly above the background of the measurement system are reported as net values plus or minus a one-standard-deviation error term. Measurement results that are not significantly above background are reported as less than a Lower Limit of Detection (<LLD), which is an estimated upper limit (with at least 95% confidence) for the true activity in the sample.

The marine fauna listed in this report were collected in part, under Florida FWC SAL030.

1. DIRECT RADIATION - TLD's - (μR/hour)

Sample Site	Deployment Collection 19-Mar-14 10-June-14
N-2	3.60 ± 0.23
N-7	3.16 ± 0.49
N-10	3.62 ± 0.36
NNW-2	3.11 ± 0.41
NNW-10	3.73 ± 0.56
NW-1	4.20 ± 0.05
NW-5	3.13 ± 0.29
NW-10	4.77 ± 0.46
WNW-2	3.43 ± 0.40
WNW-10	4.02 ± 0.43
W-1	3.52 ± 0.22
W-5	3.15 ± 0.11
W-9	3.17 ± 0.18
WSW-8	3.46 ± 0.23
SW-1	3.05 ± 0.19
SW-8	2.92 ± 0.15
SSW-5	2.98 ± 0.15
SSW-10	3.24 ± 0.46
S-5	2.79 ± 0.21
S-10	3.53 ± 0.41
SSE-1	2.58 ± 0.32
SSE-10	3.02 ± 0.15
NNE-22	3.72 ± 0.18

2.a. IODINE-131 IN WEEKLY AIR CARTRIDGES - (pCi/m³)

Collection Date	T41	T51	T57	T58	T64	T72
02-Apr-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
08-Apr-14	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
16-Apr-14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
22-Apr-14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
30-Apr-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
07-May-14	<0.03	<0.03	<0.03	<0.03	<0.04	<0.03
13-May-14	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
21-May-14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
27-May-14	<0.04	<0.04	<0.04	(A)	<0.03	<0.04
02-Jun-14	<0.04	<0.04	<0.04	(B)	<0.04	<0.04
09-Jun-14	<0.03	<0.03	<0.03	(C)	<0.04	<0.03
18-Jun-14	<0.03	<0.02	<0.03	<0.03	<0.03	<0.02
24-Jun-14	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

(A) No power to building; no sample collected.
(B) No power to building; no sample collected.
(C) Power restored but switch to system was off; no sample collected.

2.b. AIR PARTICULATES - GROSS BETA - (pCi/m³)

Collection Date	T41	T51	T57	T58	T64	T72
02-Apr-14	0.018 ± 0.002	0.018 ± 0.002	0.020 ± 0.002	0.013 ± 0.002	0.010 ± 0.002	0.013 ± 0.002
08-Apr-14	0.022 ± 0.002	0.026 ± 0.002	0.024 ± 0.002	0.024 ± 0.002	0.015 ± 0.002	0.022 ± 0.002
16-Apr-14	0.011 ± 0.002	0.012 ± 0.002	0.017 ± 0.002	0.012 ± 0.002	0.013 ± 0.002	0.011 ± 0.002
22-Apr-14	0.007 ± 0.002	0.007 ± 0.002	0.009 ± 0.002	0.009 ± 0.002	0.004 ± 0.001	0.005 ± 0.002
30-Apr-14	0.006 ± 0.001	0.011 ± 0.002	0.013 ± 0.002	0.012 ± 0.002	0.013 ± 0.002	0.009 ± 0.002
07-May-14	0.016 ± 0.002	0.020 ± 0.002	0.017 ± 0.002	0.015 ± 0.002	0.022 ± 0.002	0.015 ± 0.002
13-May-14	0.019 ± 0.002	0.022 ± 0.002	0.025 ± 0.003	0.024 ± 0.003	0.023 ± 0.002	0.018 ± 0.002
21-May-14	0.009 ± 0.002	0.013 ± 0.002	0.012 ± 0.002	0.010 ± 0.002	0.013 ± 0.002	0.010 ± 0.002
27-May-14	0.014 ± 0.002	0.018 ± 0.002	0.014 ± 0.002	(A)	0.006 ± 0.002	0.016 ± 0.002
02-Jun-14	0.009 ± 0.002	0.006 ± 0.002	0.009 ± 0.002	(B)	0.008 ± 0.002	0.007 ± 0.002
09-Jun-14	0.012 ± 0.002	0.010 ± 0.002	0.015 ± 0.002	(C)	0.015 ± 0.002	0.014 ± 0.002
18-Jun-14	0.011 ± 0.002	0.013 ± 0.002	0.011 ± 0.002	0.012 ± 0.002	0.010 ± 0.002	0.012 ± 0.002
24-Jun-14	0.011 ± 0.002	0.012 ± 0.002	0.011 ± 0.002	0.011 ± 0.002	0.011 ± 0.002	0.013 ± 0.002
Average:	0.013 ± 0.001	0.014 ± 0.001	0.015 ± 0.001	0.014 ± 0.001	0.012 ± 0.001	0.013 ± 0.001

(A) No power to building; no sample collected.
(B) No power to building; no sample collected.
(C) Power restored but switch to system was off; no sample collected.

2.b. AIR PARTICULATES - GAMMA ANALYSIS OF QUARTERLY COMPOSITES - (pCi/m³)

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
T41	0.1668 ± 0.0110	<0.0216	<0.0012	<0.0010	0.0242 ± 0.0028
T51	0.1469 ± 0.0052	<0.0092	<0.0006	<0.0006	0.0161 ± 0.0030
T57	0.1215 ± 0.0146	<0.0177	<0.0011	<0.0009	0.0104 ± 0.0021
T58	0.1357 ± 0.0097	<0.0072	<0.0007	<0.0006	0.0133 ± 0.0032
T64	0.1245 ± 0.0077	<0.0142	<0.0010	<0.0010	0.0131 ± 0.0023
T72	<0.0430	<0.0210	<0.0014	<0.0012	0.0159 ± 0.0063

3.a. SURFACE WATER - (pCi/L)

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
T42	17-Apr-14	<143	388 ± 34	<4	<6	<10	<7	<10	<8	<9	<5	<6	<8
	13-May-14	<141	351 ± 33	<5	<5	<11	<7	<13	<9	<6	<5	<6	<7
	11-Jun-14	<142	351 ± 25	<3	<3	<6	<3	<7	<5	<4	<3	<3	<7
T67	17-Apr-14	<143	318 ± 31	<4	<4	<10	<7	<11	<10	<8	<4	<5	<7
	14-May-14	<141	300 ± 23	<3	<3	<6	<3	<7	<5	<4	<3	<4	<7
	11-Jun-14	<142	264 ± 19	<3	<3	<5	<2	<5	<4	<3	<2	<3	<5
T81	16-Apr-14	<143	327 ± 24	<3	<3	<6	<3	<6	<5	<4	<3	<3	<4
	13-May-14	<137	355 ± 24	<3	<3	<6	<3	<6	<5	<4	<3	<3	<5
	10-Jun-14	<142	364 ± 29	<4	<4	<7	<6	<9	<7	<5	<4	<5	<7

(A) - These tabulated LLD values for Zr/Nb-95 are the higher of the individual parent or daughter LLD's.

(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity for a given sample.

3.b. SHORELINE SEDIMENT - (pCi/kg, dry weight)

Sample Site	Collection Date	Be-7	K-40	Co-58	Co-60	Cs-134	Cs-137	Pb-210	Ra-226	Th-232
These samples were previously collected.										

4.a.1. CRUSTACEA - Blue Crab - (pCi/kg, wet weight)

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226	Ra-228
T67	There was no sample available during the quarter.										
T81	11-Jun-14	1900 ± 188	<28	<30	<57	<36	<64	<31	<30	<568	<111

4.a.2. FISH - Mixed Species - (pCi/kg, wet weight)

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226	Ra-228
T67	11-Jun-14	2747 ± 226	<21	<28	<49	<42	<56	<26	<31	<452	<117
T81	17-Apr-14	2220 ± 218	<27	<28	<65	<41	<68	<27	<30	<441	<114

4.b. BROADLEAF VEGETATION - Brazilian Pepper - (pCi/kg, wet weight)

Sample Site	Collection Date	Be-7	K-40	I-131	Cs-134	Cs-137	Pb-210	Pb-212	Ra-226	Ra-228
T40	16-Apr-14	254 ± 33	4346 ± 201	<26	<14	48 ± 5	<1224	<27	<323	<67
	13-May-14	313 ± 31	4793 ± 210	<17	<15	46 ± 5	<1055	<27	<318	<56
	10-Jun-14	1053 ± 56	2132 ± 121	<15	<11	105 ± 7	<1239	<26	<278	<46
T41	16-Apr-14	749 ± 38	3853 ± 160	<14	<8	76 ± 4	<282	<15	<188	<34
	13-May-14	378 ± 35	5108 ± 215	<17	<13	32 ± 4	<1140	<29	<308	<57
	10-Jun-14	612 ± 37	3571 ± 154	<14	<9	31 ± 4	<943	<20	<236	<40
T67	17-Apr-14	617 ± 46	4638 ± 207	<22	<14	<16	<1282	<28	<317	<62
	14-May-14	616 ± 41	3355 ± 156	<13	<10	<14	<1070	<25	<265	<49
	11-Jun-14	606 ± 34	3968 ± 166	<9	<8	<10	<278	<16	<174	<37

2014
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
TURKEY POINT PLANT- UNITS 3 & 4

TURKEY POINT SITE

Supplemental Sampling

Second Quarter, 2014

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
1. Direct Radiation	Quarterly	9	9
2. Airborne			
2.a. Air Iodines	Weekly	2	26
2.b. Air Particulates	Weekly	2	26
3. Waterborne			
3.a. Surface Water	Monthly	4	12
3.b. Shoreline Sediment	Semiannually	10	0
3.c. Aquatic Vegetation	Quarterly	1	0
4. Ingestion			
4.a. Milk	Semiannually	1	0
4.b. Marine Life	Semiannually	1	0
4.c. Food Crops	At Harvest	3	3
			Total: 76

NOTE: Measurement results having magnitudes that are significantly above the background of the measurement system are reported as net values plus or minus a one-standard-deviation error term. Measurement results that are not significantly above background are reported as less than a Lower Limit of Detection (<LLD), which is an estimated upper limit (with at least 95% confidence) for the true activity in the sample.

1. DIRECT RADIATION - TLD's - (μR/hour)

Sample Site	Deployment 19-Mar-14 Collection 10-June-14
NNW-6	3.19 ± 0.15
NW-7	3.92 ± 0.60
NW-8	3.91 ± 0.19
WNW-3	3.68 ± 0.44
WNW-6	3.46 ± 0.15
W-8	3.52 ± 0.28
ENE-1	2.98 ± 0.44
T72	3.51 ± 0.32
PTN-1	4.55 ± 0.79

2.a. IODINE-131 IN WEEKLY AIR CARTRIDGES - (pCi/m³)

Collection Date	T52	T56
02-Apr-14	<0.03	<0.03
08-Apr-14	<0.04	<0.04
16-Apr-14	<0.02	<0.02
22-Apr-14	<0.02	<0.02
30-Apr-14	<0.03	<0.02
07-May-14	<0.03	<0.03
13-May-14	<0.04	<0.04
21-May-14	<0.02	<0.02
27-May-14	<0.03	<0.03
02-Jun-14	<0.04	<0.04
09-Jun-14	<0.03	<0.03
18-Jun-14	<0.02	<0.02
24-Jun-14	<0.02	<0.02

2.b. AIR PARTICULATES - GROSS BETA - (pCi/m³)

Collection Date	T52	T56
02-Apr-14	0.020 ± 0.002	0.013 ± 0.002
08-Apr-14	0.018 ± 0.002	0.018 ± 0.002
16-Apr-14	0.012 ± 0.002	0.009 ± 0.001
22-Apr-14	0.010 ± 0.002	0.005 ± 0.002
30-Apr-14	0.011 ± 0.002	0.011 ± 0.002
07-May-14	0.017 ± 0.002	0.015 ± 0.002
13-May-14	0.026 ± 0.003	0.021 ± 0.002
21-May-14	0.009 ± 0.002	0.012 ± 0.002
27-May-14	0.013 ± 0.002	0.014 ± 0.002
02-Jun-14	0.009 ± 0.002	0.007 ± 0.002
09-Jun-14	0.011 ± 0.002	0.010 ± 0.002
18-Jun-14	0.007 ± 0.001	0.010 ± 0.001
24-Jun-14	0.014 ± 0.002	0.008 ± 0.002
Average:	0.013 ± 0.001	0.012 ± 0.001

2.b. AIR PARTICULATES - GAMMA ANALYSIS OF QUARTERLY COMPOSITES - (pCi/m³)

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
T52	0.1330 ± 0.0085	<0.0183	<0.0011	<0.0010	<0.0111
T56	0.1203 ± 0.0092	<0.0203	<0.0013	<0.0013	0.0151 ± 0.0021

3.a. SURFACE WATER - (pCi/L)

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
T08	16-Apr-14	17551 ± 207	893 ± 44	<4	<3	<8	<4	<8	<6	<6	<3	<4	<5
	13-May-14	12786 ± 178	1019 ± 48	<4	<4	<8	<3	<7	<6	<4	<3	<4	<6
	10-Jun-14	10705 ± 165	990 ± 56	<5	<5	<12	<8	<14	<9	<7	<5	<7	<10
T75	16-Apr-14	<143	<35	<3	<3	<5	<3	<6	<5	<5	<3	<3	<5
	13-May-14	<137	<43	<3	<3	<6	<3	<7	<4	<3	<3	<3	<6
	10-Jun-14	<142	<80	<4	<5	<9	<7	<11	<8	<6	<5	<5	<10
T84	16-Apr-14	16931 ± 204	946 ± 45	<3	<4	<7	<3	<8	<6	<5	<3	<4	<4
	13-May-14	12011 ± 173	919 ± 54	<6	<6	<12	<8	<13	<10	<7	<5	<6	<9
	10-Jun-14	10450 ± 163	896 ± 38	<3	<3	<8	<5	<7	<6	<4	<3	<4	<5
T97	17-Apr-14	15547 ± 196	903 ± 53	<5	<6	<11	<7	<11	<10	<8	<5	<6	<8
	13-May-14	10230 ± 161	905 ± 39	<3	<3	<7	<5	<7	<6	<4	<3	<4	<6
	11-Jun-14	9404 ± 90	929 ± 46	<3	<3	<7	<4	<8	<5	<4	<3	<4	<6

(A) - These tabulated LLD values for Zr/Nb-95 are the higher of the individual parent or daughter LLD's.

(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity for a given sample.

3.b. SHORELINE SEDIMENT - (pCi/kg, dry weight)

Sample Site	Collection Date	Be-7	K-40	Co-58	Co-60	Cs-134	Cs-137	Pb-210	Ra-226	Th-232
	These samples were previously collected.									

3.c. AQUATIC VEGETATION - Non-Specific - (pCi/kg, wet weight)

Sample Site	Collection Date	Be-7	K-40	Mn-54	Co-58	Co-60	Ag-110m	I-131	Cs-134	Cs-137	Pb-212	Ra-226	Ra-228
T84	There was no sample available during the quarter.												

4.a. GOAT'S MILK - (pCi/L)

Sample Site	Collection Date	K-40	I-131	Cs-134	Cs-137	Ba-140 La-140 (A)
T99	There was no sample available during the quarter.					

(A) - This tabulated LLD value is for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity.

4.b. MARINE LIFE - Horseshoe Crab - (pCi/kg, wet weight)

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Ag-110m	Cs-134	Cs-137	Ra-226	Ra-228
T84	This sample was previously collected.											

4.c. FOOD CROPS - (pCi/kg, wet weight)

Sample Site	Collection Date	Be-7	K-40	Mn-54	Co-58	Co-60	Ag-110m	I-131	Cs-134	Cs-137	Ra-226	Ra-228
T43	This sample was previously collected.											
T44	16-Apr-14	<80	2929 ± 129	<9	<9	<13	<8	<16	<8	<9	<200	<31
T45[1]	13-May-14	<92	1765 ± 112	<11	<9	<16	<11	<12	<11	<15	<219	<44
T45[2]	13-May-14	<65	3241 ± 149	<10	<9	<10	<8	<8	<10	<10	<134	<32

T44: Green String Bean
T45[1]: Coconut milk
T45[2]: Coconut meat

ATTACHMENT B

Florida HEALTH

RADIOLOGICAL SURVEILLANCE

OF

FLORIDA POWER AND LIGHT COMPANY

TURKEY POINT SITE

THIRD QUARTER 2014

BUREAU OF RADIATION CONTROL

TURKEY POINT SITE

Offsite Dose Calculation Manual Sampling

Third Quarter, 2014

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
1. Direct Radiation	Quarterly	22	22
2. Airborne			
2.a. Air Iodines	Weekly	6	84
2.b. Air Particulates	Weekly	6	84
3. Waterborne			
3.a. Surface Water	Monthly	3	9
3.b. Shoreline Sediment	Semiannually	3	3
4. Ingestion			
4.a. Fish and Invertebrates			
4.a.1. Crustacea	Semiannually	2	0
4.a.2. Fish	Semiannually	2	2
4.b. Broadleaf Vegetation	Monthly	3	9
			Total: 213

NOTE: Measurement results having magnitudes that are significantly above the background of the measurement system are reported as net values plus or minus a one-standard-deviation error term. Measurement results that are not significantly above background are reported as less than a Lower Limit of Detection (<LLD), which is an estimated upper limit (with at least 95% confidence) for the true activity in the sample.

The marine fauna listed in this report were collected in part, under Florida FWC SAL030.

1. DIRECT RADIATION - TLD's - (μR/hour)

Sample Site	Deployment Collection 10-June-14 16-Sep-14
N-2	3.75 ± 0.31
N-7	3.14 ± 0.15
N-10	3.64 ± 0.12
NNW-2	3.30 ± 0.46
NNW-10	3.51 ± 0.11
NW-1	3.76 ± 0.32
NW-5	3.07 ± 0.21
NW-10	4.06 ± 0.51
WNW-10	3.74 ± 0.55
W-1	2.94 ± 0.31
W-5	3.02 ± 0.30
W-9	2.94 ± 0.32
WSW-8	3.11 ± 0.23
SW-1	2.83 ± 0.35
SW-8	2.62 ± 0.41
SSW-5	2.88 ± 0.14
SSW-10	2.79 ± 0.24
S-5	2.78 ± 0.20
S-10	3.25 ± 0.33
SSE-1	2.51 ± 0.32
SSE-10	2.99 ± 0.24
NNE-22	3.68 ± 0.22

2.a. IODINE-131 IN WEEKLY AIR CARTRIDGES - (pCi/m³)

Collection Date	T41	T51	T57	T58	T64	T72
01-Jul-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
08-Jul-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
15-Jul-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
21-Jul-14	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
29-Jul-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
06-Aug-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
12-Aug-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
19-Aug-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
26-Aug-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
02-Sep-14	<0.04	<0.03	<0.03	<0.03	<0.03	<0.03
09-Sep-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
16-Sep-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
23-Sep-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
29-Sep-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03

2.b. AIR PARTICULATES - GROSS BETA - (pCi/m³)

Collection Date	T41	T51	T57	T58	T64	T72
01-Jul-14	0.011 ± 0.002	0.012 ± 0.002	0.009 ± 0.002	0.012 ± 0.002	0.012 ± 0.002	0.010 ± 0.002
08-Jul-14	0.015 ± 0.002	0.011 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.013 ± 0.002	0.015 ± 0.002
15-Jul-14	0.010 ± 0.002	0.007 ± 0.001	0.016 ± 0.002	0.009 ± 0.002	0.012 ± 0.002	0.011 ± 0.002
21-Jul-14	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
29-Jul-14	0.014 ± 0.002	0.016 ± 0.002	0.016 ± 0.002	0.015 ± 0.002	0.018 ± 0.002	0.016 ± 0.002
06-Aug-14	0.008 ± 0.002	0.005 ± 0.001	0.009 ± 0.002	0.009 ± 0.002	0.011 ± 0.002	0.008 ± 0.002
12-Aug-14	0.015 ± 0.002	0.016 ± 0.002	0.014 ± 0.002	0.016 ± 0.002	0.015 ± 0.002	0.015 ± 0.002
19-Aug-14	0.009 ± 0.002	0.013 ± 0.002	0.013 ± 0.002	0.012 ± 0.002	0.013 ± 0.002	0.010 ± 0.002
26-Aug-14	0.016 ± 0.002	0.015 ± 0.002	0.019 ± 0.002	0.015 ± 0.002	0.016 ± 0.002	0.020 ± 0.002
02-Sep-14	0.012 ± 0.002	0.011 ± 0.002	0.013 ± 0.002	0.015 ± 0.002	0.013 ± 0.002	0.011 ± 0.002
09-Sep-14	0.008 ± 0.002	0.012 ± 0.002	0.008 ± 0.002	0.008 ± 0.002	0.010 ± 0.002	0.007 ± 0.002
16-Sep-14	0.006 ± 0.002	0.010 ± 0.002	0.009 ± 0.002	0.008 ± 0.002	0.006 ± 0.002	0.007 ± 0.002
23-Sep-14	0.013 ± 0.002	0.011 ± 0.002	0.010 ± 0.002	0.008 ± 0.002	0.010 ± 0.002	0.011 ± 0.002
29-Sep-14	0.005 ± 0.002	<0.007	0.005 ± 0.002	0.010 ± 0.002	0.005 ± 0.002	0.011 ± 0.002
Average:	<0.011	<0.011	<0.012	<0.012	<0.012	<0.012

2.b. AIR PARTICULATES - GAMMA ANALYSIS OF QUARTERLY COMPOSITES - (pCi/m³)

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
T41	0.0673 ± 0.0105	<0.0142	<0.0010	<0.0008	0.0088 ± 0.0077
T51	0.0773 ± 0.0111	<0.0129	<0.0009	<0.0009	0.0077 ± 0.0035
T57	0.0634 ± 0.0067	<0.0190	<0.0012	<0.0009	<0.0091
T58	0.0665 ± 0.0166	<0.0199	<0.0010	<0.0013	<0.0087
T64	0.0746 ± 0.0073	<0.0196	<0.0012	<0.0011	0.0076 ± 0.0016
T72	0.0590 ± 0.0059	<0.0124	<0.0012	<0.0008	<0.0093

3.a. SURFACE WATER - (pCi/L)

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
T42	30-Jul-14	94 ± 27	323 ± 20	<3	<3	<5	<4	<6	<5	<3	<3	<3	<6
	19-Aug-14	<155	357 ± 25	<3	<3	<7	<3	<7	<5	<3	<3	<3	<6
	18-Sep-14	<146	294 ± 24	<3	<2	<6	<3	<7	<5	<3	<3	<3	<7
T67	29-Jul-14	<139	325 ± 32	<5	<5	<9	<7	<11	<9	<7	<4	<5	<10
	19-Aug-14	<155	200 ± 19	<3	<3	<6	<3	<7	<5	<4	<3	<3	<8
	16-Sep-14	<146	251 ± 28	<5	<5	<9	<7	<10	<9	<6	<5	<6	<9
T81	30-Jul-14	<139	309 ± 24	<3	<3	<6	<3	<7	<5	<3	<3	<3	<6
	18-Aug-14	<155	320 ± 31	<5	<5	<11	<7	<11	<9	<6	<5	<6	<9
	16-Sep-14	91 ± 26	373 ± 33	<6	<5	<9	<6	<11	<8	<6	<5	<5	<7

(A) - These tabulated LLD values for Zr/Nb-95 are the higher of the individual parent or daughter LLD's.

(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity for a given sample.

3.b. SHORELINE SEDIMENT - (pCi/kg, dry weight)

Sample Site	Collection Date	Be-7	K-40	Co-58	Co-60	Cs-134	Cs-137	Pb-210	Ra-226	Th-232	U-235	U-238
T42	30-Jul-14	<91	173 ± 32	<9	<13	<9	<11	<863	409 ± 177	<41	<18	<738
T67	29-Jul-14	116 ± 18	178 ± 32	<7	<11	<8	<9	<671	334 ± 44	75 ± 8	<16	<572
T81	30-Jul-14	79 ± 17	204 ± 36	<11	<12	<10	<11	829 ± 167	1311 ± 82	<50	<24	800 ± 132

4.a.1. CRUSTACEA - Blue Crab - (pCi/kg, wet weight)

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226	Ra-228
T67	This sample not yet collected.										
T81	This sample not yet collected.										

4.a.2. FISH - Drums - (pCi/kg, wet weight)

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226	Ra-228
T67	19-Aug-14	2504 ± 164	<21	<18	<46	<20	<46	<22	<20	<373	<83
T81	17-Sep-14	2568 ± 214	<29	<23	<64	<36	<63	<26	<33	<531	<121

4.b. BROADLEAF VEGETATION - Brazilian Pepper - (pCi/kg, wet weight)

Sample Site	Collection Date	Be-7	K-40	I-131	Cs-134	Cs-137	Pb-210	Pb-212	Ra-226	Ra-228
T40	29-Jul-14	1336 ± 66	4156 ± 187	<18	<13	91 ± 7	<1150	<27	<311	<49
	18-Aug-14	1832 ± 78	4580 ± 198	<18	<12	47 ± 5	<1337	<27	<320	<53
	17-Sep-14	1519 ± 59	4601 ± 191	<17	<9	43 ± 3	<333	11 ± 2	<204	<38
T41	29-Jul-14	3014 ± 112	6048 ± 252	<20	<15	34 ± 5	<1588	<32	<381	<61
	18-Aug-14	1488 ± 66	4469 ± 186	<16	<11	29 ± 4	<1177	<24	121 ± 44	<48
	17-Sep-14	1154 ± 61	5034 ± 210	<21	<13	37 ± 4	<1210	<25	<313	<54
T67	29-Jul-14	796 ± 53	5775 ± 242	<18	<15	<15	<1246	<29	<364	<61
	19-Aug-14	1107 ± 63	4261 ± 198	<18	<15	59 ± 6	<1328	<30	<343	<64
	16-Sep-14	1685 ± 80	4336 ± 198	<25	<14	12 ± 3	<1377	<29	<337	<54

TURKEY POINT SITE

Supplemental Sampling

Third Quarter, 2014

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
1. Direct Radiation	Quarterly	10	10
2. Airborne			
2.a. Air Iodines	Weekly	2	26
2.b. Air Particulates	Weekly	2	26
3. Waterborne			
3.a. Surface Water	Monthly	4	12
3.b. Shoreline Sediment	Semiannually	2	2
3.c. Aquatic Vegetation	Quarterly	1	1
4. Ingestion			
4.a. Milk	Semiannually	1	1
4.b. Marine Life	Semiannually	1	0
4.c. Food Crops	At Harvest	3	0
			Total: 79

NOTE: Measurement results having magnitudes that are significantly above the background of the measurement system are reported as net values plus or minus a one-standard-deviation error term. Measurement results that are not significantly above background are reported as less than a Lower Limit of Detection (<LLD), which is an estimated upper limit (with at least 95% confidence) for the true activity in the sample.

The marine fauna listed in this report were collected in part, under Florida FWC SAL030.

1. DIRECT RADIATION - TLD's - (μR/hour)

Sample Site	Deployment 10-Jun-14 Collection 16-Sep-14
NNW-6	3.17 ± 0.33
NW-7	3.63 ± 0.45
NW-8	3.61 ± 0.09
WNW-2	3.33 ± 0.11
WNW-3	3.43 ± 0.22
WNW-6	3.31 ± 0.09
W-8	3.39 ± 0.48
ENE-1	2.60 ± 0.16
T72	3.31 ± 0.24
PTN-1	3.61 ± 0.73

2.a. IODINE-131 IN WEEKLY AIR CARTRIDGES - (pCi/m³)

Collection Date	T52	T56
01-Jul-14	<0.03	<0.03
08-Jul-14	<0.03	<0.03
15-Jul-14	<0.03	<0.03
21-Jul-14	<0.04	<0.04
29-Jul-14	<0.03	<0.03
06-Aug-14	<0.03	<0.03
12-Aug-14	<0.03	<0.03
19-Aug-14	<0.03	<0.03
26-Aug-14	<0.03	<0.03
02-Sep-14	<0.03	<0.03
09-Sep-14	<0.03	<0.03
16-Sep-14	<0.03	<0.03
23-Sep-14	<0.03	<0.03
29-Sep-14	<0.03	<0.03

2.b. AIR PARTICULATES - GROSS BETA - (pCi/m³)

Collection Date	T52	T56
01-Jul-14	0.015 ± 0.002	0.013 ± 0.002
08-Jul-14	0.013 ± 0.002	0.011 ± 0.002
15-Jul-14	0.009 ± 0.002	0.012 ± 0.002
21-Jul-14	0.005 ± 0.002	0.007 ± 0.002
29-Jul-14	0.014 ± 0.002	0.013 ± 0.002
06-Aug-14	0.009 ± 0.002	0.008 ± 0.002
12-Aug-14	0.018 ± 0.002	0.016 ± 0.002
19-Aug-14	0.013 ± 0.002	0.010 ± 0.002
26-Aug-14	0.013 ± 0.002	0.019 ± 0.002
02-Sep-14	0.010 ± 0.002	0.015 ± 0.002
09-Sep-14	0.012 ± 0.002	0.006 ± 0.002
16-Sep-14	0.011 ± 0.002	0.011 ± 0.002
23-Sep-14	0.008 ± 0.002	0.009 ± 0.002
29-Sep-14	0.007 ± 0.002	0.004 ± 0.002
Average:	0.011 ± 0.001	0.011 ± 0.001

2.b. AIR PARTICULATES - GAMMA ANALYSIS OF QUARTERLY COMPOSITES - (pCi/m³)

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
T52	0.0623 ± 0.0049	<0.0141	<0.0008	<0.0007	0.0116 ± 0.0032
T56	0.0829 ± 0.0175	<0.0187	<0.0012	<0.0011	0.0100 ± 0.0018

3.a. SURFACE WATER - (pCi/L)

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
T08	30-Jul-14	10416 ± 164	894 ± 44	<3	<3	<7	<4	<8	<6	<4	<3	<4	<7
	18-Aug-14	14759 ± 194	881 ± 52	<5	<5	<11	<7	<12	<9	<7	<5	<6	<7
	17-Sep-14	13131 ± 183	861 ± 43	<3	<3	<8	<4	<8	<5	<4	<3	<4	<7
T75	30-Jul-14	81 ± 27	<41	<3	<3	<5	<3	<6	<5	<3	<3	<3	<9
	18-Aug-14	<155	<38	<2	<3	<6	<3	<5	<4	<3	<3	<3	<4
	17-Sep-14	<146	<38	<3	<3	<5	<3	<6	<5	<3	<3	<3	<7
T84	30-Jul-14	12626 ± 179	947 ± 45	<3	<3	<7	<3	<8	<6	<3	<3	<4	<10
	18-Aug-14	14862 ± 195	894 ± 53	<6	<5	<11	<7	<12	<9	<8	<5	<7	<9
	17-Sep-14	13624 ± 186	856 ± 43	<3	<3	<6	<4	<9	<6	<4	<3	<4	<6
T97	30-Jul-14	11535 ± 172	803 ± 50	<6	<5	<13	<7	<12	<10	<6	<5	<6	<11
	19-Aug-14	15181 ± 197	817 ± 50	<5	<5	<10	<8	<11	<10	<7	<5	<6	<10
	18-Sep-14	13737 ± 187	818 ± 42	<3	<3	<7	<4	<7	<6	<5	<3	<4	<5

(A) - These tabulated LLD values for Zr/Nb-95 are the higher of the individual parent or daughter LLD's.

(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity for a given sample.

3.b. SHORELINE SEDIMENT - (pCi/kg, dry weight)

Sample Site	Collection Date	Be-7	K-40	Co-58	Co-60	Cs-134	Cs-137	Pb-210	Ra-226	Th-232	U-235	U-238
T84	29-Jul-14	<163	793 ± 69	<16	30 ± 3	<16	<19	2193 ± 333	2920 ± 147	<82	<41	<1225
T85	29-Jul-14	<182	903 ± 85	<17	43 ± 4	<20	28 ± 5	1703 ± 187	2258 ± 139	<99	<43	<835

3.c. AQUATIC VEGETATION - Non-Specific - (pCi/kg, wet weight)

Sample Site	Collection Date	Be-7	K-40	Mn-54	Co-58	Co-60	Ag-110m	I-131	Cs-134	Cs-137	Pb-210	Pb-212	Ra-226	Ra-228
T84	No sample available for collection.													

4.a. GOAT'S MILK - (pCi/L)

Sample Site	Collection Date	K-40	I-131	Cs-134	Cs-137	Ba-140 La-140 (A)
T99	This sample not yet collected.					

(A) - This tabulated LLD value is for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity.

4.b. MARINE LIFE - Horseshoe Crab - (pCi/kg, wet weight)

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Ag-110m	Cs-134	Cs-137	Ra-226	Ra-228
T84	This sample not yet collected.											

4.c. FOOD CROPS - (pCi/kg, wet weight)

Sample Site	Collection Date	Be-7	K-40	Mn-54	Co-58	Co-60	Ag-110m	I-131	Cs-134	Cs-137	Ra-226	Ra-228
T43	This sample was previously collected.											
T44	This sample was previously collected.											
T45	This sample was previously collected.											

ATTACHMENT B

Florida HEALTH

RADIOLOGICAL SURVEILLANCE

OF

FLORIDA POWER AND LIGHT COMPANY

TURKEY POINT SITE

FOURTH QUARTER 2014

BUREAU OF RADIATION CONTROL

TURKEY POINT SITE

Offsite Dose Calculation Manual Sampling

Fourth Quarter, 2014

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
1. Direct Radiation	Quarterly	23	23
2. Airborne			
2.a. Air Iodines	Weekly	6	78
2.b. Air Particulates	Weekly	6	78
3. Waterborne			
3.a. Surface Water	Monthly	3	9
3.b. Shoreline Sediment	Semiannually	3	0
4. Ingestion			
4.a. Fish and Invertebrates			
4.a.1. Crustacea	Semiannually	2	1
4.a.2. Fish	Semiannually	2	0
4.b. Broadleaf Vegetation	Monthly	3	9
			Total: 198

NOTE: Measurement results having magnitudes that are significantly above the background of the measurement system are reported as net values plus or minus a one-standard-deviation error term. Measurement results that are not significantly above background are reported as less than a Lower Limit of Detection (<LLD), which is an estimated upper limit (with at least 95% confidence) for the true activity in the sample.

The marine fauna listed in this report were collected in part, under Florida FWC SAL030.

1. DIRECT RADIATION - TLD's - (μR/hour)

Sample Site	Deployment 16-Sep-14 Collection 16-Dec-14
N-2	3.75 ± 0.21
N-7	3.25 ± 0.11
N-10	3.57 ± 0.27
NNW-2	3.45 ± 0.37
NNW-10	3.62 ± 0.16
NW-1	4.01 ± 0.11
NW-5	3.12 ± 0.18
NW-10	4.23 ± 0.37
WNW-2	3.55 ± 0.22
WNW-10	4.10 ± 0.30
W-1	3.31 ± 0.12
W-5	3.30 ± 0.36
W-9	3.23 ± 0.26
WSW-8	3.22 ± 0.13
SW-1	2.94 ± 0.06
SW-8	2.76 ± 0.22
SSW-5	2.95 ± 0.30
SSW-10	3.09 ± 0.02
S-5	2.64 ± 0.27
S-10	3.31 ± 0.23
SSE-1	2.71 ± 0.08
SSE-10	2.89 ± 0.30
NNE-22	3.69 ± 0.24

2.a. IODINE-131 IN WEEKLY AIR CARTRIDGES - (pCi/m³)

Collection Date	T41	T51	T57	T58	T64	T72
08-Oct-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
14-Oct-14	<0.03	<0.03	<0.03(A)	<0.03	<0.03	<0.03
20-Oct-14	<0.04	<0.03	<0.03	<0.03	<0.03	<0.03
27-Oct-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
03-Nov-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
10-Nov-14	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
18-Nov-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
25-Nov-14	<0.02	<0.02	<0.02	<0.02	<0.03	<0.02
01-Dec-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
08-Dec-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
16-Dec-14	<0.03	<0.03	<0.03	<0.03	<0.04	<0.03
22-Dec-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
29-Dec-14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03

(A) Vacuum pump failed and was replaced. Estimated run time 72 out of 145.6 hours.

2.b. AIR PARTICULATES - GROSS BETA - (pCi/m³)

Collection Date	T41	T51	T57	T58	T64	T72
08-Oct-14	0.009 ± 0.001	0.013 ± 0.002	0.016 ± 0.002	0.016 ± 0.002	0.015 ± 0.002	0.012 ± 0.001
14-Oct-14	0.008 ± 0.002	0.010 ± 0.002	<0.020(A)	0.010 ± 0.002	0.011 ± 0.002	0.013 ± 0.002
20-Oct-14	0.014 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.012 ± 0.002	0.012 ± 0.002	0.013 ± 0.002
27-Oct-14	0.007 ± 0.002	0.012 ± 0.002	0.009 ± 0.002	0.012 ± 0.002	0.016 ± 0.002	0.014 ± 0.002
03-Nov-14	0.008 ± 0.002	0.017 ± 0.002	0.009 ± 0.002	0.014 ± 0.002	0.008 ± 0.002	0.019 ± 0.002
10-Nov-14	0.008 ± 0.002	0.013 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.008 ± 0.002	0.012 ± 0.002
18-Nov-14	0.020 ± 0.002	0.015 ± 0.002	0.024 ± 0.002	0.018 ± 0.002	0.015 ± 0.002	0.015 ± 0.002
25-Nov-14	0.012 ± 0.002	0.005 ± 0.002	0.007 ± 0.002	<0.008	0.011 ± 0.003	0.008 ± 0.002
01-Dec-14	0.007 ± 0.002	0.007 ± 0.002	0.009 ± 0.002	0.007 ± 0.002	0.006 ± 0.002	0.011 ± 0.002
08-Dec-14	<0.007	<0.008	<0.008	<0.008	<0.007	0.004 ± 0.002
16-Dec-14	0.022 ± 0.002	0.023 ± 0.002	0.023 ± 0.002	0.023 ± 0.002	0.023 ± 0.002	0.022 ± 0.002
22-Dec-14	0.014 ± 0.002	0.012 ± 0.002	0.013 ± 0.002	0.012 ± 0.002	0.024 ± 0.003	0.015 ± 0.003
29-Dec-14	<0.007	0.005 ± 0.002	0.008 ± 0.002	0.004 ± 0.002	0.004 ± 0.002	0.006 ± 0.002
Average:	<0.011	<0.012	<0.013	<0.012	<0.012	0.013 ± 0.001

(A) Vacuum pump failed and was replaced. Estimated run time 72 out of 145.6 hours.

2.b. AIR PARTICULATES - GAMMA ANALYSIS OF QUARTERLY COMPOSITES - (pCi/m³)

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
T41	0.0919 ± 0.0070	<0.0142	<0.0010	<0.0009	0.0109 ± 0.0020
T51	0.1193 ± 0.0094	<0.0199	<0.0012	<0.0015	0.0114 ± 0.0019
T57	0.1055 ± 0.0078	<0.0141	<0.0010	<0.0009	0.0154 ± 0.0023
T58	0.1386 ± 0.0100	<0.0231	<0.0012	<0.0011	0.0142 ± 0.0020
T64	0.1191 ± 0.0077	<0.0157	<0.0011	<0.0010	0.0107 ± 0.0020
T72	0.1538 ± 0.0106	<0.0201	<0.0012	<0.0015	0.0174 ± 0.0022

3.a. SURFACE WATER - (pCi/L)

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
T42	22-Oct-14	<154	263 ± 29	<4	<4	<10	<6	<11	<9	<8	<5	<6	<5
	18-Nov-14	<151	221 ± 27	<5	<5	<11	<7	<11	<8	<5	<4	<6	<10
	16-Dec-14	<153	194 ± 19	<3	<3	<6	<3	<6	<5	<4	<3	<3	<6
T67	21-Oct-14	<154	<89	<5	<5	<10	<6	<11	<8	<9	<5	<6	<5
	19-Nov-14	<151	50 ± 16	<5	<5	<8	<7	<12	<9	<6	<5	<6	<10
	15-Dec-14	<153	107 ± 21	<5	<5	<10	<7	<7	<9	<6	<5	<6	<9
T81	21-Oct-14	<154	366 ± 34	<4	<5	<11	<7	<11	<9	<10	<5	<6	<7
	18-Nov-14	<151	273 ± 22	<3	<3	<7	<3	<7	<5	<4	<3	<3	<5
	15-Dec-14	<149	320 ± 32	<4	<5	<10	<7	<10	<7	<7	<5	<6	<9

(A) - These tabulated LLD values for Zr/Nb-95 are the higher of the individual parent or daughter LLD's.

(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity for a given sample.

3.b. SHORELINE SEDIMENT - (pCi/kg, dry weight)

Sample Site	Collection Date	Be-7	K-40	Co-58	Co-60	Cs-134	Cs-137	Pb-210	Ra-226	Th-232	Others:
T42	This sample was previously collected.										
T67	This sample was previously collected.										
T81	This sample was previously collected.										

4.a.1. CRUSTACEA - Blue Crab - (pCi/kg, wet weight)

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226	Ra-228
T67	There was no sample available during the quarter.										
T81	21-Nov-14	1709 ± 173	<28	<26	<62	<40	<66	<29	<30	<497	<121

4.a.2. FISH - Mixed Species - (pCi/kg, wet weight)

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226	Ra-228
T67	This sample was previously collected.										
T81	This sample was previously collected.										

4.b. BROADLEAF VEGETATION - Brazilian Pepper - (pCi/kg, wet weight)

Sample Site	Collection Date	Be-7	K-40	I-131	Cs-134	Cs-137	Pb-210	Pb-212	Ra-226	Ra-228
T40	21-Oct-14	1472 ± 74	3131 ± 161	<27	<14	25 ± 4	<1331	<28	<321	<58
	18-Nov-14	1144 ± 60	4096 ± 188	<17	<15	19 ± 4	<1374	<32	<333	<56
	15-Dec-14	3289 ± 115	5072 ± 216	<20	<14	24 ± 4	<1516	<31	<364	<61
T41	21-Oct-14	1738 ± 82	4532 ± 203	<28	<15	20 ± 4	<1372	<27	<340	<63
	18-Nov-14	1294 ± 65	4528 ± 199	<16	<13	25 ± 4	<1513	<31	<341	<59
	15-Dec-14	1282 ± 63	4648 ± 196	<17	<13	16 ± 3	<1229	<25	<297	<50
T67	21-Oct-14	2240 ± 96	4014 ± 191	<29	<13	18 ± 4	<1452	<28	<346	<63
	19-Nov-14	992 ± 59	2287 ± 137	<16	<15	20 ± 4	<1326	<31	<351	<56
	15-Dec-14	1949 ± 84	3472 ± 169	<20	<13	47 ± 5	<1458	<27	<341	<60

TURKEY POINT SITE

Supplemental Sampling

Fourth Quarter, 2014

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
1. Direct Radiation	Quarterly	9	9
2. Airborne			
2.a. Air Iodines	Weekly	2	26
2.b. Air Particulates	Weekly	2	26
3. Waterborne			
3.a. Surface Water	Monthly	4	12
3.b. Shoreline Sediment	Semiannually	2	0
3.c. Aquatic Vegetation	Quarterly	1	0
4. Ingestion			
4.a. Milk	Semiannually	1	1
4.b. Marine Life	Semiannually	1	0
4.c. Food Crops	At Harvest	3	0
			Total: 74

NOTE: Measurement results having magnitudes that are significantly above the background of the measurement system are reported as net values plus or minus a one-standard-deviation error term. Measurement results that are not significantly above background are reported as less than a Lower Limit of Detection (<LLD), which is an estimated upper limit (with at least 95% confidence) for the true activity in the sample.

The marine fauna listed in this report were collected in part, under Florida FWC SAL030.

1. DIRECT RADIATION - TLD's - (μR/hour)

Sample Site	Deployment 16-Sep-14 Collection 16-Dec-14
NNW-6	3.31 ± 0.21
NW-7	3.88 ± 0.28
NW-8	3.81 ± 0.06
WNW-3	10.45 ± 2.71
WNW-6	3.49 ± 0.13
W-8	3.81 ± 0.29
ENE-1	2.85 ± 0.24
T72	3.29 ± 0.19
PTN-1	3.26 ± 0.18

2.a. IODINE-131 IN WEEKLY AIR CARTRIDGES - (pCi/m³)

Collection Date	T52	T56
08-Oct-14	<0.03	<0.03
14-Oct-14	<0.03	<0.03
20-Oct-14	<0.03	<0.04
27-Oct-14	<0.03	<0.03
03-Nov-14	<0.03	<0.03
10-Nov-14	<0.04	<0.04
18-Nov-14	<0.03	<0.03
25-Nov-14	<0.02	<0.02
01-Dec-14	<0.03	<0.03
08-Dec-14	<0.04	<0.04
16-Dec-14	<0.03	<0.03
22-Dec-14	<0.03	<0.03
29-Dec-14	<0.03	<0.03

2.b. AIR PARTICULATES - GROSS BETA - (pCi/m³)

Collection Date	T52	T56
08-Oct-14	0.012 ± 0.002	0.005 ± 0.001
14-Oct-14	0.008 ± 0.002	0.010 ± 0.002
20-Oct-14	0.011 ± 0.002	0.010 ± 0.002
27-Oct-14	0.014 ± 0.002	0.013 ± 0.002
03-Nov-14	0.004 ± 0.002	0.006 ± 0.002
10-Nov-14	0.011 ± 0.002	0.009 ± 0.002
18-Nov-14	0.019 ± 0.002	0.015 ± 0.002
25-Nov-14	0.005 ± 0.002	0.008 ± 0.002
01-Dec-14	0.004 ± 0.002	0.006 ± 0.002
08-Dec-14	<0.007	<0.008
16-Dec-14	0.025 ± 0.002	0.024 ± 0.002
22-Dec-14	0.015 ± 0.002	0.013 ± 0.002
29-Dec-14	<0.008	<0.008
Average:	<0.011	<0.010

2.b. AIR PARTICULATES - GAMMA ANALYSIS OF QUARTERLY COMPOSITES - (pCi/m³)

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
T52	0.1215 ± 0.0095	<0.0138	<0.0013	<0.0016	0.0085 ± 0.0018
T56	0.1223 ± 0.0095	<0.0180	<0.0012	<0.0014	0.0130 ± 0.0020

3.a. SURFACE WATER - (pCi/L)

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
T08	22-Oct-14	10143 ± 162	530 ± 27	<3	<3	<7	<5	<7	<6	<6	<3	<4	<4
	18-Nov-14	8556 ± 151	655 ± 36	<3	<3	<7	<3	<7	<5	<4	<3	<3	<4
	15-Dec-14	6967 ± 138	694 ± 38	<3	<3	<7	<3	<7	<6	<4	<3	<3	<5
T75	22-Oct-14	<154	<39	<3	<3	<5	<3	<6	<5	<5	<3	<3	<4
	18-Nov-14	<151	26 ± 7	<3	<3	<6	<3	<6	<5	<4	<2	<3	<5
	15-Dec-14	<149	<35	<3	2	<7	<3	<6	<5	<4	<3	<3	<6
T84	22-Oct-14	13048 ± 183	619 ± 43	<5	<6	<11	<7	<11	<10	<10	<5	<7	<6
	18-Nov-14	9613 ± 159	637 ± 45	<5	<5	<12	<8	<13	<10	<7	<5	<6	<9
	15-Dec-14	7212 ± 140	756 ± 40	<3	<3	<7	<4	<8	<5	<4	<3	<3	<6
T97	22-Oct-14	13229 ± 185	803 ± 50	<4	<6	<13	<7	<11	<10	<10	<5	<6	<8
	18-Nov-14	8882 ± 153	653 ± 37	<3	<3	<7	<3	<8	<5	<4	<3	<3	<6
	16-Dec-14	6978 ± 138	697 ± 38	<3	<3	<8	<4	<8	<6	<4	<3	<4	<6

(A) - These tabulated LLD values for Zr/Nb-95 are the higher of the individual parent or daughter LLD's.

(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity for a given sample.

3.b. SHORELINE SEDIMENT - (pCi/kg, dry weight)

Sample Site	Collection Date	Be-7	K-40	Co-58	Co-60	Cs-134	Cs-137	Pb-210	Ra-226	Th-232	Others:
T84	This sample was previously collected.										
T85	This sample was previously collected.										

3.c. AQUATIC VEGETATION - Non-Specific - (pCi/kg, wet weight)

Sample Site	Collection Date	Be-7	K-40	Mn-54	Co-58	Co-60	Ag-110m	I-131	Cs-134	Cs-137	Pb-212	Ra-226	Ra-228
T84	There was no sample available during the quarter.												

4.a. GOAT'S MILK - (pCi/L)

Sample Site	Collection Date	K-40	I-131	Cs-134	Cs-137	Ba-140 La-140 (A)
T99	29-Dec-14	1249 ± 58	<14	<4	5 ± 1	<8

(A) - This tabulated LLD value is for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity.

4.b. MARINE LIFE - Horseshoe Crab - (pCi/kg, wet weight)

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Ag-110m	Cs-134	Cs-137	Ra-226	Ra-228
T84	There was no sample available during the quarter.											

4.c. FOOD CROPS - (pCi/kg, wet weight)

Sample Site	Collection Date	Be-7	K-40	Mn-54	Co-58	Co-60	Ag-110m	I-131	Cs-134	Cs-137	Ra-226	Ra-228
T43	This sample was previously collected.											
T44	This sample was previously collected.											
T45	This sample was previously collected.											

ATTACHMENT C

RESULTS FROM THE 2014

INTERLABORATORY COMPARISON PROGRAM

CONDUCTED BY

DEPARTMENT OF ENERGY

2014
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
TURKEY POINT PLANT – UNITS 3 & 4

DOE-MAPEP 30 RESULTS

Program status	Radionuclide	Result	Ref. Value	Flag (Evaluation)	Acceptance Range
Matrix: RdF Air Filter Bq/filter					
Required	MN54	0		A	False Positive Test
Required	CO57	0		A	False Positive Test
Required	CO60	1.38	1.39	A	0.97 – 1.81
	ZN65	0		A	False Positive Test
Required	CS134	1.897	1.91	A	1.34 – 2.48
Required	CS137	1.93	1.76	A	1.23 – 2.29
Matrix: GrF Air Filter Bq/filter					
Required	Gross Beta	0.943	0.77	A	0.39 - 1.16
Matrix: MaS Soil Bq/kg					
Required	K40	674.8	622	A	435 - 809
	MN54	1516.8	1430	A	1001 - 1859
	CO57	1014.5	966	A	676 - 1256
	CO60	1.18	1.22	A	Sensitivity Eval.
	ZN65	774	695	A	487 - 904
	CS134	1.18		A	False Positive Test
Required	CS137	1301.3	1238	A	867 - 1609
Matrix: MaW Water Bq/L					
Required	H3	346	321	A	225 - 417
	MN54	15.53	13.9	A	9.7 – 18.1
	CO57	28.94	27.5	A	19.3 – 35.8
Required	CO60	17.2	16	A	11.2 – 20.8
	ZN65	0		A	False Positive Test
Required	CS134	25.3	23.1	A	16.2 – 30.0
Required	CS137	32.2	28.9	A	20.2 – 37.6
	SR90	9.91	8.51	A	5.96 – 11.06
Matrix: RdV Vegetation, Bq/sample :					
	MN54	7.7	8.62	A	6.03 – 11.21
	CO57	9.39	10.1	A	7.1 - 13.1
Required	CO60	6.0	6.9	A	4.85 – 9.01
	ZN65	7.2	7.86	A	5.50 – 10.22
	CS134	4.83	6.04	W	4.23 – 7.85
Required	CS137	4.23	4.74	A	3.32 – 6.16

Evaluation : A = Acceptable, W = Acceptable with Warning, N = Not Acceptable
* Acceptable Uncertainty Value for False Positive.

In MAPEP 30, the results for gamma on air filters, water, soil, and vegetation matrices for those nuclides associated with nuclear power plant operation and using analytical methods used in the REMP are acceptable.

There was one relevant data flag:

*1) Cs-134 for RdV Vegetation showed a "Warning" Flag for a result which met the MAPEP acceptance criteria but with a bias -20.1%. The previous Interlaboratory crosscheck, MAPEP 29 did not show a "Warning" flag for this isotope nuclide-matrix combination and this is the first "Warning" flag for this isotope. The State of Florida Bureau of Radiation Control explained that the MAPEP vegetation nuclear analyses unknown is counted in a different geometry than used for normal nuclear REMP program vegetation isotopic analyses. The MAPEP unknown is analyzed using a smaller container, considerably smaller sample mass, and different density than is used for normal, routine power plant vegetation sample counts.

DOE-MAPEP 31 RESULTS

Program status	Radionuclide	Result	Ref. Value	Flag (Evaluation)	Acceptance Range
Matrix: RdF Air Filter Bq/filter					
Required	MN54	0.852	0.75	A	0.53 – 0.98
Required	CO57	1.41	1.43	A	1.00 – 1.86
Required	CO60	1.143	1.10	A	0.77 – 1.43
	ZN65	0.86	0.76	A	0.53 – 0.99
Required	CS134	0.93	0.96	A	0.67 – 1.25
Required	CS137	1.27	1.20	A	0.84 – 1.56
Matrix: GrF Air Filter Bq/filter					
Required	Gross Beta	1.07	1.06	A	0.53 – 1.59
Matrix: MaS Soil Bq/kg					
Required	K40	783.3	824	A	577 - 1071
	MN54	1010	1009	A	706 - 1312
	CO57	1120	1116	A	781 - 1451
	CO60	736.7	779	A	545 - 1013
	ZN65	559	541	A	379 - 703
	CS134	629	622	A	435 - 809
Required	CS137	1.15		A	False Positive Test
Matrix: MaW Water Bq/L					
Required	H3	226	208	A	146 - 270
	MN54	15.23	14.0	A	9.8 – 18.2
	CO57	25.48	24.7	A	17.3 – 32.1
Required	CO60	13.2	12.4	A	8.7 – 16.1
	ZN65	12.6	10.9	A	379 - 703
Required	CS134	0		A	False Positive Test
Required	CS137	19.9	18.4	A	12.9 – 23.9
	SR90	0		A	False Positive Test
Matrix: RdV Vegetation, Bq/sample :					
	MN54	7.9	7.1	A	4.97 – 9.23
	CO57	9.5	9.2	A	6.4- 12.0
Required	CO60	6.3	6.11	A	4.28 – 7.94
	ZN65	7.0	9.1	A	4.49 – 8.35
	CS134	8.98	7.38	W	5.17 – 9.59
Required	CS137	9.42	8.14	A	5.7 – 10.6

Evaluation : A = Acceptable, W = Acceptable with Warning, N = Not Acceptable

In MAPEP 31, the results for gamma on air filters, water, soil, and vegetation matrices for those nuclides associated with nuclear power plant operation and using analytical methods used in the REMP are acceptable.

There was one relevant data flag for MAPEP 31:

*1) Cs-134 for RdV Vegetation showed a "Warning" Flag for a result within the MAPEP acceptance criteria but with a bias +21.8%. The previous Interlaboratory crosscheck, MAPEP 30 also showed a "Warning" point within the acceptance criteria but with a bias of -20.1%. There have been two in a row "Warning" flags for this isotope nuclide-matrix combination. The State of Florida Bureau of Radiation Control explained that the MAPEP vegetation nuclear analyses unknown is counted in a different geometry than used for normal nuclear REMP program vegetation isotopic analyses. The MAPEP unknown is analyzed using a smaller container, considerably smaller sample mass and different density than is used for normal, routine power plant vegetation sample counts.

ATTACHMENT D

Industry Initiative

Ground Water Protection Program

Tritium in Ground Water Monitoring

2014

A. Description of Program:

Turkey Point maintains a sampling and analysis program to meet the requirements of NEI 07-07, Industry Ground Water Protection Initiative. The procedures that govern the performance are EV-AA-100-1001, Fleet Ground Water Protection Program Implementing Guideline and 0-ADM-654, Ground Water Protection Program.

The sampling frequency is quarterly; more often if conditions warrant.

Sample assay is performed by a private contractor for the first two quarters. The last two quarters were sampled by trained in house Technicians in accordance with procedure 0-NCAP-103.

B. Discussion

The Turkey Point Nuclear site is surrounded on three sides by the closed cooling canal system. This canal system, in addition to being the source of tertiary cooling, is the body of water receiving permitted liquid radiological waste; the canal system tritium level (measured by supplemental sampling) averaged 11,658 pCi/L in 2014. This supports the expectation to see tritium in subsurface water collected either on-site or off-site close to the (within the Owner Controlled Area) cooling canal system.

Twenty eight (28) wells were involved in the 2014 monitoring program; some locations have multiple (two or three) depths.

Samples are analyzed for Tritium & Gamma emitters. As conditions warrant, analysis included Fe-55, Ni-63, Sr-89/90 and alpha.

C. Results

The Turkey Point Tritium Well Sampling results were from <MDA to 6670 pCi/L. All results were less than the limits of the Offsite Dose Calculation Manual, Table 5.1-2, Reporting Levels for Radioactivity Concentrations in Environmental Samples.

Tabular results follow:

Turkey Point Well Sampling Results

Well number	First Quarter 2014 (January)			Second Quarter 2014 (April)			Third Quarter 2014 (July)			Fourth Quarter 2014 (October)		
	H-3	K-40	Cs-137	H-3	K-40	Cs-137	H-3	K-40	Cs-137	H-3	K-40	Cs-137
PTPED-1	328	---	---	547	---	13.1	247	---	---	450	---	---
CD-1	281	---	---	554	---	---	427	---	---	77	---	---
P-94-2	922	231.4	---	N/A	N/A	N/A	885	204	---	N/A	N/A	N/A
P-94-4	555	---	---	681	---	---	953	---	---	279	---	---
STP-1	---	---	---	N/A	N/A	N/A	---	---	---	N/A	N/A	N/A
PTN-MW-1s	---	---	---	N/A	N/A	N/A	80.5	---	---	N/A	N/A	N/A
PTN-MW-1i	535	376	---	N/A	N/A	N/A	638	---	---	N/A	N/A	N/A
PTN-MW-1d	828	312	---	N/A	N/A	N/A	1630	485	---	N/A	N/A	N/A
PTN-MW-2s	---	---	---	N/A	N/A	N/A	89.4	---	---	N/A	N/A	N/A
PTN-MW-3s	---	---	---	N/A	N/A	N/A	102	---	---	N/A	N/A	N/A
PTN-MW-4s	---	---	---	1930	---	---	175	---	---	154	---	---
PTN-MW-4i	---	---	---	521	---	---	3100	648	---	3260	624	---
PTN-MW-4d	---	---	---	1740	---	---	3100	601	---	3050	596	---
PTN-MW-5s	559	252	---	312	200	---	<245	---	---	107	---	---
PTN-MW-5i	---	376	---	335	377	---	206	393	---	883	550	---
PTN-MW-5d	2420	539	---	2480	579	---	2460	664	---	262	525	---
PTN-MW-6s	---	---	---	N/A	N/A	N/A	<182	---	---	N/A	N/A	N/A
PTN-MW-6d	2100			N/A	N/A	N/A	2000	490	---	N/A	N/A	N/A
PTN-MW-7s	567	---	---	294	---	---	<245	---	---	7.7	---	---
PTN-MW-7i	1050	---	---	954	244	---	1220	384	---	2040	252	---
PTN-MW-7d	2370	333	---	---	---	---	1930	573	---	451	---	---
PTN-MW-8s	6670	---	9.09	833	---	---	2390	---	---	2000	---	---
PTN-MW-9s	583	---	---	699	---	---	600	---	---	637	---	---
PTN-MW-10s	---	580	---	N/A	N/A	N/A	178	---	---	N/A	N/A	N/A
PTN-MW-10i	669	---	---	N/A	N/A	N/A	1610	443	---	N/A	N/A	N/A
PTN-MW-10d	2750	580	---	N/A	N/A	N/A	3110	569	---	N/A	N/A	N/A
PTN-MW-11s	---	---	---	123	---	---	804	---	---	182	53.92	---
PTN-MW-12s	446	---	---	744	---	---	402	---	---	504	96.79	---

Note: --- denotes less than detectable,
Typical MDAs H_3:300 pCi/L K-40: 90 pCi/L Cs-137: 7 pCi/L
N/A boxes indicate not sampled this period.

Additionally, the frequency of samples was increased to monthly to monitor the wells, listed below, which are the closest to the Unit 4 refueling water storage tank, due to a casing leak that occurred in August of 2014.

The monthly sample monitoring is ongoing.

Well number	November 2014			December 2014		
	H-3	K-40	Cs-137	H-3	K-40	Cs-137
PTN-MW-8s	5570	---	---	1900	---	---
PTN-MW-9s	592	---	---	667	---	---
P-94-4	2950	---	---	2940	N/A	N/A

D. List of wells and their locations

Well Name	Location
PTN-MW-1s PTN-MW-1i PTN-MW-1d	Northeast of Switch Yard, South of entrance road to Fossil Plant
PTN-MW-2s	South Switch Yard by parking lot
PTN-MW-3s	Northeast of new Issues Warehouse
PTN-MW-4s PTN-MW-4i PTN-MW-4d	SW corner of parking lot South of Training Bldg
PTN-MW-5s PTN-MW-5i PTN-MW-5d	SW of CRF, by canal
PTN-MW-6s PTN-MW-6d	NE of site in the berm for fossil oil tanks
PTN-MW-7s PTN-MW-7i PTN-MW-7d	NE of RCA, by Neutralization Tank
PTN-MW-8s	Near U3 RWST
PTN-MW-9s	Near U4 RWST
PTN-MW-10s PTN-MW-10i PTN-MW-10d	SE of Radwaste Bldg by S/G Bldg
PTN-MW-11s	South of truck entrance to Rad Waste Bldg
PTN-MW-12s	West of Condenser Polisher road
STP-1	West of Maintenance Bldg on corner or road into parking lot
P-94-4	East of Dressout Building, under delay fence
P-94-2	By Neutralization Basin, East of the RCA
CD-1	By Neutralization Basin, East of the RCA
PTPED-1	By Neutralization Basin, East of the RCA

Note: s, i and d refer to well depth: shallow - 20 ft., intermediate - 40 ft. and deep - 60 ft
Maps depicting the well locations follow.

Onsite Tritium Monitoring Wells

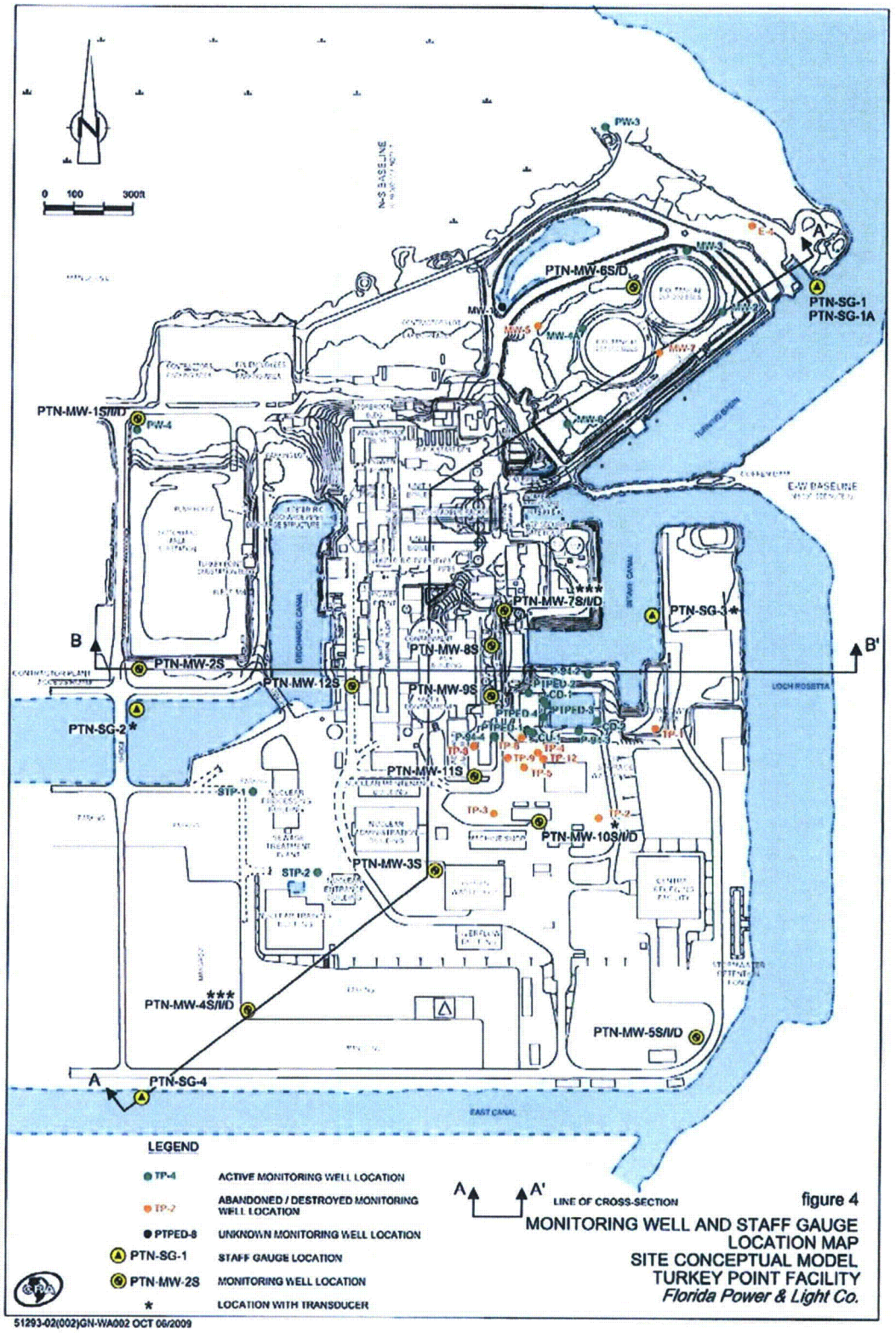


figure 4
MONITORING WELL AND STAFF GAUGE LOCATION MAP
SITE CONCEPTUAL MODEL
TURKEY POINT FACILITY
Florida Power & Light Co.