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JUL 25 2008

L-2008-170
10 CFR 50.36b

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
Re-submittal of the 2007 Annual Radiological
Environmental Operating Report

The purpose of this letter is to re-submit the 2007 Annual Radiological Environmental Operating Report for Turkey Point Units 3 and 4, as required by Technical Specification 6.9.1.3.

Florida Power and Light Company (FPL) submitted the annual report in FPL letter L-2008-115, dated May 14, 2008, with an incomplete attachment due to the delay of the results from the Department of Energy (DOE) Interlaboratory Comparison Program regarding the second performance assessment results (MAPEP-18, December 2007).

The enclosed report is complete and supersedes in its entirety the previously submitted 2007 Annual Radiological Environmental Operating Report.

Should there be any questions regarding this information, please contact Olga Hanek at (305) 246-6607.

Sincerely,

William Jefferson, Jr.
Vice President
Turkey Point Nuclear Plant

SM

Enclosure

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

JE25
NRR

2007
AMENDED
ANNUAL
RADIOLOGICAL ENVIRONMENTAL
OPERATING REPORT

TURKEY POINT PLANT
UNITS 3 & 4
LICENSE NOS. DPR-31, DPR-41
DOCKET NOS. 50-250, 50-251

Data Submitted by: Florida DOH

Prepared by: 

Reviewed by: 

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TURKEY POINT PLANT – UNITS 3 & 4**

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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, 2007 to December 31, 2007.

Additionally, supplemental samples collected by the State of Florida, DOH, do not indicate adverse trends in the radiological environment.

This report supersedes in its entirety the previous report submitted to NRC by FPL letter L-2008-115, dated May 14, 2008. This report provides the complete results of the Department of Energy Interlaboratory Comparison Program, including the second assessment results (MAPEP-18, December 2007).

**2007 AMENDED
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 22 locations by thermoluminescent dosimeters (TLDs). TLDs are collected and analyzed quarterly.
- b. Airborne radioiodine and particulate samplers are operated continuously at five 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.

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- 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.

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E. Interlaboratory Comparison Program

The intercomparison 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.

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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 exposure rates that were observed during the pre-operational surveillance program. Direct radiation monitoring results are summarized in Table 1.

2. Air Particulates/Radioiodine:

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 4 of the 36 surface water samples collected. 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 less than 7% of the required detection level specified by ODCM Table 5.1-3.

4. Waterborne, Sediment:

The results are consistent with past measurements. Only naturally occurring isotopes were identified.

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5. Waterborne, Food Products:

The results are consistent with past measurements; only naturally occurring radionuclides were detected.

6. Broad Leaf Vegetation

The results of radioactivity measurements are consistent with past measurements. Cs-137 was detected, as in the past, in samples collected from the indicator and control locations. The maximum concentration reported was less than 5% of the reporting level specified by ODCM Table 5.1-2. No other fission products were detected.

7. Land Use Census

There were no additions to the land use relative to last year's report; a garden that was in the NW sector did not appear in this year's census.

No locations yielding a calculated dose or dose commitment greater than the values currently being calculated were identified by the land use census.

No locations yielding a calculated dose or dose commitment (via the same exposure pathway) 20% greater than locations currently being sampled in the radiological environmental monitoring program were identified by the land use census.

8. Interlaboratory Comparison Program

The State laboratory participated in MAPEP 17 and 18.

In MAPEP 17, the results for Water, Soil and Vegetation matrices for those nuclides associated with nuclear power plant operation and using analytical methods used in the REMP are Acceptable. The Air Filter matrix had a not acceptable for Co-57; the lab result was high. Co-57 is not a nuclide seen in the history of air sampling around the nuclear power plants in Florida. Review of assay methods did not reveal a definitive cause; repeat counting of the sample yielded what would be acceptable results. The Co-57 calibration standard is being replaced.

For MAPEP 18, the State Laboratory received, analyzed & reported their results; however, DOE reported a delay for issuance of the report that would contain the performance grade. The report was published later.

The results for Water, Air Filter and Vegetation matrices for those nuclides associated with nuclear power plant operation and using analytical methods used in the REMP are Acceptable with a warning for Am-241 in vegetation. The Soil matrix had a not acceptable for Co-60. An evaluation was performed; the conservative result was due to interference from the presence of Cs-134 in a sample that has very little Co-60.

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The assay algorithm has been corrected to account for this in the future. The history of soil sampling was reviewed; as expected, there has not been a case of positive Cs-134 in a sample.

Note in the Acceptance Range the entry "Sensitivity Eval.". These special evaluations are used by DOE to determine the range of LLDs, afforded by the participants.

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.

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.

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, 2007
 (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	Mean (f) ^b	
			Distance & Direction	Range	
Exposure Rate, 88 ^d	---	5.7 (84/84) 4.2 - 8.4	NW-10 10 mi., NW	8.1 (4/4) 7.5 - 8.4	6.4 (4/4) 6.2 - 6.6

Number of Non-routine Reported Measurements = 0

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 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, 2007
 (County, State)

PATHWAY: AIRBORNE

SAMPLES COLLECTED: RADIOIODINE AND PARTICULATES

UNITS: pCi/m³

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, 260	0.024	< MDA	---	---	< MDA
Gross Beta, 260	0.0025	0.014 (208/208) 0.003 - 0.024	T-72 < 1 mi., WSW	0.014 (52/52) 0.005 - 0.023	0.014 (52/52) 0.004 - 0.023
Composite Gamma Isotopic, 20					
⁷ Be	0.0052	0.1645 (14/16) 0.1045 - 0.2143	T-58 1 mi., NW	0.1806 (3/4) 0.1318 - 0.2143	0.1907 (3/4) 0.1429 - 0.2178
¹³⁴ Cs	0.00069	< MDA	---	---	< MDA
¹³⁷ Cs	0.00066	< MDA	---	---	< MDA
²¹⁰ Pb	---	0.0231 (6/16) 0.0137 - 0.0327	T-72 < 1 mi., WSW	0.0327 (1/4)	< MDA

Number of Non-routine Reported Measurements = 0

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 Name of Facility Turkey Point Units 3 & 4, Docket No(s). 50-250 & 50-251
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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	Mean (f) ^b	
			Distance & Direction	Range	
Tritium, 36	172	122 (4/24) 50 - 204	T-81 6 mi., S	122 (4/12) 50 - 204	<MDA
Gamma Isotopic, 36					
⁴⁰ K	60	300 (24/24) 173 - 389	T-81 6 mi., S	308 (12/12) 216 - 387	182 (11/12) 57 - 340
⁵⁴ Mn	4	< MDA	---	---	< MDA
⁵⁹ Fe	8	< MDA	---	---	< MDA
⁵⁸ Co	4	< MDA	---	---	< MDA
⁶⁰ Co	4	< MDA	---	---	< MDA
⁶⁵ Zn	8	< MDA	---	---	< MDA
⁹⁵ Zr-Nb	7	< MDA	---	---	< MDA
¹³¹ I	5	< MDA	---	---	< MDA
¹³⁴ Cs	5	< MDA	---	---	< MDA
¹³⁷ Cs	5	< MDA	---	---	< MDA
¹⁴⁰ Ba-La	11	< MDA	---	---	< MDA

Number of Non-routine Reported Measurements = 0

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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		Control Locations Mean (f) ^b Range
			Name ^c	Mean (f) ^b	
			Distance & Direction	Range	
Gamma Isotopic, 6					
⁷ Be	100	<MDA	---	---	< MDA
⁴⁰ K	140	230 (2/4) 225 - 235	T-81 6 mi., S	235 (1/2)	90 (1/2)
²¹⁰ Pb	---	873 (1/4)	T-81 6 mi., S	873 (1/2)	< MDA
²²⁶ Ra	49	880 (4/4) 734 - 1123	T-81 6 mi., S	976 (2/2) 830 - 1123	328 (2/2) 146 - 511
²³² Th	---	<MDA	---	---	35 (1/2)
²³⁸ U	---	961 (3/4) 623 - 1273	T-81 6 mi., S	948 (2/2) 623 - 1273	690 (1/2)
⁵⁸ Co	9	<MDA	---	---	< MDA
⁶⁰ Co	12	<MDA	---	---	< MDA
¹³⁴ Cs	14	<MDA	---	---	< MDA
¹³⁷ Cs	12	<MDA	---	---	< MDA

Number of Non-routine Reported Measurements = 0

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 (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	Mean (f) ^b	
			Distance & Direction	Range	
Gamma Isotopic, 4					
⁴⁰ K	130	1548 (2/2) 1135 - 1960	T-81 6 mi., S	1548 (2/2) 1135 - 1960	1532 (2/2) 1520 - 1545
²²⁶ Ra	20	1038 (2/2) 909 - 1166	T-81 6 mi., S	1038 (2/2) 909 - 1166	1075 (1/2)
²²⁸ Ra	---	192 (2/2) 137 - 248	T-81 6 mi., S	192 (2/2) 137 - 248	< MDA
⁵⁴ Mn	9	< MDA	---	---	< MDA
⁵⁹ Fe	16	< MDA	---	---	< MDA
⁵⁸ Co	9	< MDA	---	---	< MDA
⁶⁰ Co	19	< MDA	---	---	< MDA
⁶⁵ Zn	17	< MDA	---	---	< MDA
¹³⁴ Cs	9	< MDA	---	---	< MDA
¹³⁷ Cs	9	< MDA	---	---	< MDA

Number of Non-routine Reported Measurements = 0

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 (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	Mean (f) ^b	
			Distance & Direction	Range	
Gamma Isotopic, 4					
⁷ Be	---	<MDA	---	---	<MDA
⁴⁰ K	130	2578 (2/2) 2134- 3022	T-81 6 mi., S	2578 (2/2) 2134- 3022	2532 (2/2) 2380 - 2684
⁵⁴ Mn	9	<MDA	---	---	<MDA
⁵⁹ Fe	16	<MDA	---	---	<MDA
⁵⁸ Co	9	<MDA	---	---	<MDA
⁶⁰ Co	10	<MDA	---	---	<MDA
⁶⁵ Zn	17	<MDA	---	---	<MDA
¹³⁴ Cs	9	<MDA	---	---	<MDA
¹³⁷ Cs	9	<MDA	---	---	<MDA
²²⁶ Ra	20	<MDA	---	---	<MDA
²³⁸ U	---	<MDA	---	---	756 (1/2)

Number of Non-routine Reported Measurements = 0

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 (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, 36					
⁷ Be	71	2230 (24/24) 1177 - 3378	T-40 3 mi., W	2415 (12/12) 1805 - 3378	1981 (12/12) 1006 - 3543
⁴⁰ K	100	4267 (24/24) 2789 - 7841	T-41 2 mi., W/NW	4862 (12/12) 2976 - 7841	3514 (12/12) 2749 - 4556
⁵⁸ Co	9	<MDA	---	---	<MDA
⁶⁰ Co	10	<MDA	---	---	<MDA
¹³¹ I	9	<MDA	---	---	<MDA
¹³⁴ Cs	8	<MDA	---	---	<MDA
¹³⁷ Cs	8	48 (20/24) 10 - 85	T-40 3 mi., W	56 (11/12) 28 - 85	35 (5/12) 13 - 69
²¹⁰ Pb	---	2256 (3/24) 926 - 4583	T-41 2 mi., W/NW	4583 (1/12)	1486 (5/12) 888 - 1818
²¹² Pb	---	42 (4/24) 19 - 64	T-40 3 mi., W	64 (1/12)	32 (1/2)
²²⁶ Ra	---	449 (2/24) 157 - 785	T-41 2 mi., W/NW	474 (1/12)	198 (2/12) 183 - 212

Number of Non routine Reported Measurements = 0

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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).

MDA refers to minimum detectable activity.

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TABLE 1A

DEVIATIONS / MISSING DATA

A)	Pathway:	Airborne, Particulates & Radioiodine
	Location:	T-57 , 4 miles NW
	Deviation:	Failure to provide continuous monitoring
	Description of Problem:	Attempt to implement electrical safety considerations lead to numerous, random, trips of the late 2006 installed Ground Fault Circuit Interrupter (GFCI) systems.
	Corrective Action	Replaced GCFI numerous times, upgraded electrical feed to sampling station. Reverted to standard, industrial grade, power outlets; no power interruptions since then.
	Dates:	Six of 13 weeks in 1 st quarter One of 13 weeks in 2 nd quarter Two of 13 weeks in 3 rd quarter
B)	Pathway:	Airborne, Particulates & Radioiodine
	Location:	T-51 , 2 miles NNW
	Deviation:	Failure to provide continuous monitoring
	Description of Problem:	Attempt to implement electrical safety considerations lead to numerous, random, trips of the late 2006 installed Ground Fault Circuit Interrupter (GFCI) systems.
	Corrective Action	Replaced GCFI. Reverted to standard, industrial grade, power outlets; no power interruptions since then.
	Dates:	One of 13 weeks in 2 nd quarter Two of 13 weeks in 3 rd quarter
C)	Pathway:	Airborne, Particulates & Radioiodine
	Location:	T-58 , 1 miles NW
	Dates:	31 JUL 07 to 7 AUG 07
	Deviation:	Failure to provide continuous monitoring
	Description of Problem:	Air sampling pump failure. Estimated run time of 145 hours of 166 hour sampling period
	Corrective Action:	Replaced air sampling pump; verified sampling equipment operation.

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TABLE 1B

ANALYSIS WITH LLDs ABOVE ODCM TABLE 5.1-3 DETECTION CAPABILITIES
1/1/2007 – 12/31/2007

The values specified in ODCM Table 5.1-3, Detection Capabilities, were achieved for all samples.

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TABLE 2

LAND USE CENSUS

Distance to Nearest (a, b)

Sector	7/07 Milk (c) Animal	7/07 Residence (g)	7/07 Garden (d)
N	L (e)	2.0 / 354	L
NNE	O (f)	O	O
NE	O	O	O
ENE	O	O	O
E	O	O	O
ESE	O	O	O
SE	O	O	O
SSE	O	O	O
S	L	L	L
SSW	L	L	L
SW	L	L	L
WSW	L	L	L
W	L	L	L
WNW	L	3.7 / 302	4.5 / 303
NW	L	3.7 / 311	L
NNW	L	4.4 / 333	4.6 / 327

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TABLE 2

LAND USE CENSUS

NOTES

a. All categories surveyed out to 5 miles radius from the Turkey Point Plant.

b. The following format is used to denote the location:

distance (miles)/bearing (degrees)

For example, a residence located in the north sector at a distance of 2.0 miles bearing 354 degrees is recorded as 2.0 / 354.

c. Potential milk animal locations.

d. Gardens with an estimated growing area of 500 square feet or more.

e. L denotes that the sector area is predominantly a land area unoccupied by the category type.

f. O denotes that the sector area is predominantly an ocean area.

g. Non-residential occupied buildings in these sectors include the following:

<u>Sector</u>	<u>Distance</u>	<u>Description</u>
N	1.9 / 349	24-hour Security Staff Building
NNW	1.9 / 349	Security booth at park entrance

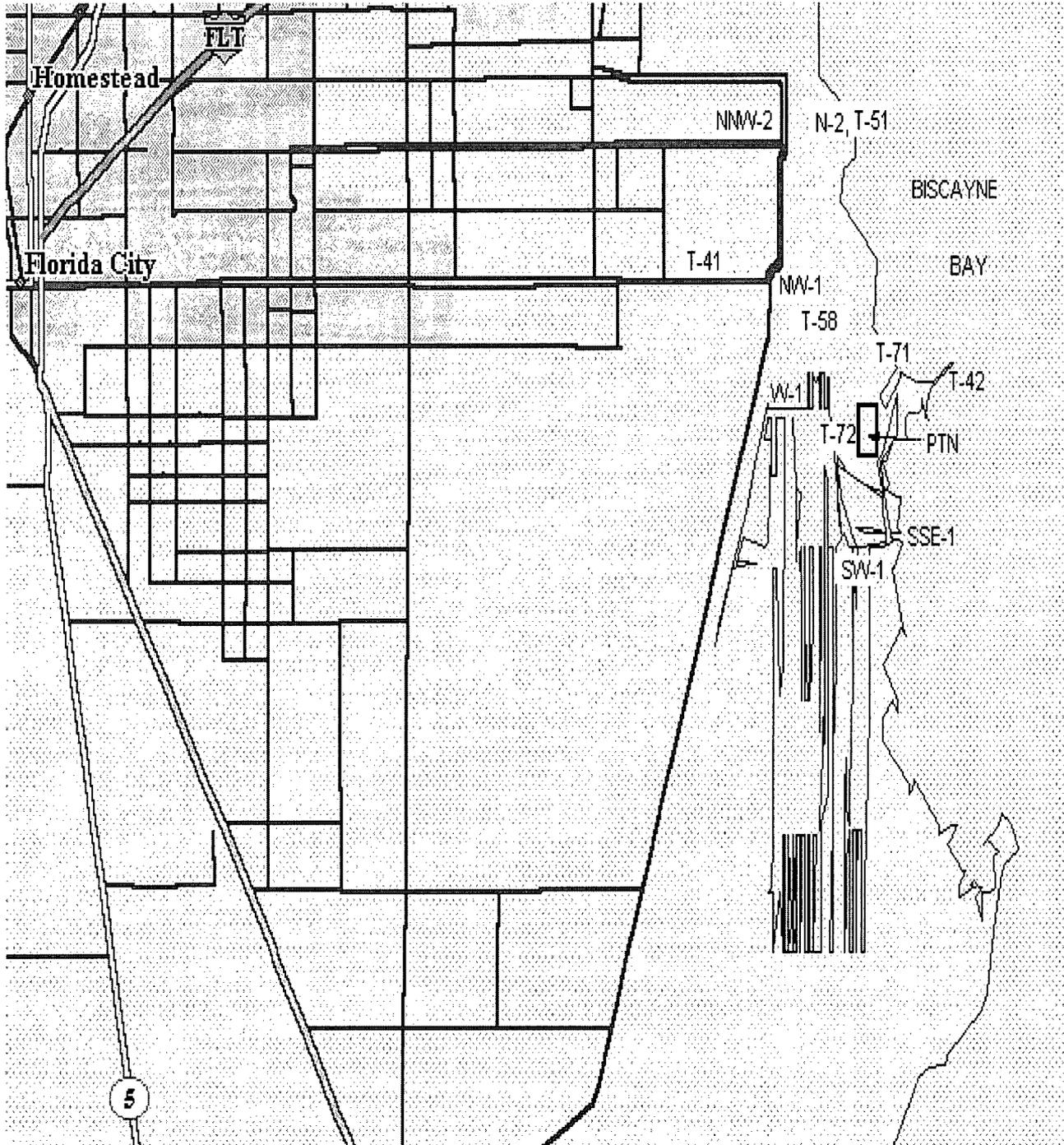
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ATTACHMENT A

KEY TO SAMPLE LOCATIONS

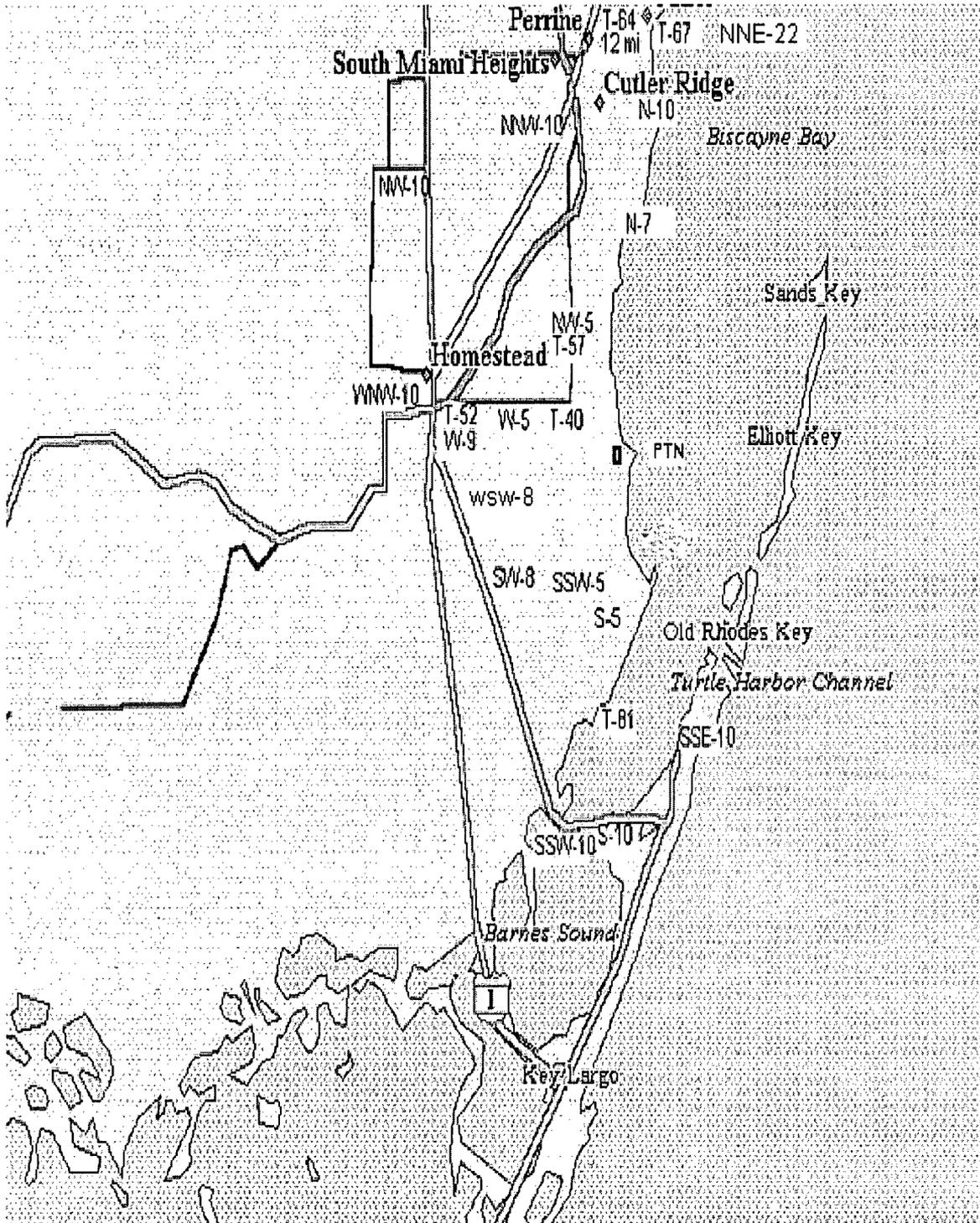
2007 AMENDED
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
TURKEY POINT PLANT – UNITS 3 & 4

NEAR SITE SAMPLING LOCATIONS



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DISTANT REMP SAMPLING LOCATIONS



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ATTACHMENT A

PAGE 1 OF 4

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

Location ^(a)

<u>Name</u>	<u>Description</u>
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-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
<u>Control</u>	
NNE-22	Natoma Substation , 2475 SW 16 Ct.

^aThe location name is the direction sector - approximate distance (miles)

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TURKEY POINT PLANT – UNITS 3 & 4**

ATTACHMENT A

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

<u>Location Name</u>	<u>Direction Sector</u>	<u>Approximate Distance (miles)</u>	<u>Description</u>
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-52	W	9	Supplemental location used to compensate, per ODCM, for temporary loss of T-57.
T-72	WSW	<1	Just before entrance to Land Utilization's access gate.

Control:

T-64	NNE	22	Natoma Substation , 2475 SW 16 Ct.
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Note

T-71	NNE	0.5	On site "Red Barn" picnic area. This sampling station may be used as an alternate to T-51.
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TURKEY POINT PLANT – UNITS 3 & 4**

ATTACHMENT A

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

<u>Location Name</u>	<u>Direction Sector</u>	<u>Approximate Distance (miles)</u>	<u>Description</u>
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
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SAMPLES COLLECTED: SHORELINE SEDIMENT
SAMPLE COLLECTION FREQUENCY: SEMI-ANNUALLY

<u>Location Name</u>	<u>Direction Sector</u>	<u>Approximate Distance (miles)</u>	<u>Description</u>
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
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ATTACHMENT A

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

<u>Location Name</u>	<u>Direction Sector</u>	<u>Approximate Distance (miles)</u>	<u>Description</u>
T-81	S	6	Card Sound Vicinity of Turkey Point Facility
<u>Control:</u>			
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

<u>Location Name</u>	<u>Direction Sector</u>	<u>Approximate Distance (miles)</u>	<u>Description</u>
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
<u>Control:</u>			
T-67	N, NNE	13-18	Near Biscayne Bay, Vicinity of Cutler Plant, North to Matheson Hammock Park

**2007 AMENDED
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TURKEY POINT PLANT – UNITS 3 & 4**

ATTACHMENT B

**RADIOLOGICAL SURVEILLANCE OF
FLORIDA POWER AND LIGHT COMPANY'S**

TURKEY POINT SITE

2007

First Quarter, 2007

Second Quarter, 2007

Third Quarter, 2007

Fourth Quarter, 2007

TURKEY POINT SITE

Offsite Dose Calculation Manual Sampling

First Quarter, 2007

<u>Sample Type</u>	<u>Collection Frequency</u>	<u>Locations Sampled</u>	<u>Number of Samples</u>
1. Direct Radiation	Quarterly	22	22
2. Airborne			
2.a. Air Iodines	Weekly	5	65
2.b. Air Particulates	Weekly	5	65
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	2
4.a.2. Fish	Semiannually	2	0
4.b. Broadleaf Vegetation	Monthly	3	9
			Total: 175

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 - TLDs - (μ R/hour)

<u>Sample Site</u>	<u>Deployment 06-Dec-06 Collection 14-Mar-07</u>	<u>Sample Site</u>	<u>Deployment 06-Dec-06 Collection 14-Mar-07</u>
N-2	6.1 \pm 0.5	WSW-8	5.0 \pm 0.4
N-7	4.7 \pm 0.5		
N-10	5.6 \pm 0.4	SW-1	5.6 \pm 0.3
		SW-8	5.4 \pm 0.5
NNW-2	4.7 \pm 0.4		
NNW-10	5.8 \pm 0.5	SSW-5	4.9 \pm 0.5
		SSW-10	5.2 \pm 0.5
NW-1	6.6 \pm 0.6		
NW-5	4.3 \pm 0.4	S-5	4.8 \pm 0.5
NW-10	7.5 \pm 0.7	S-10	5.7 \pm 0.5
WNW-10	6.6 \pm 0.6	SSE-1	4.9 \pm 0.3
		SSE-10	5.9 \pm 0.5
W-1	7.0 \pm 0.4		
W-5	5.4 \pm 0.5	NNE-22	6.2 \pm 0.6
W-9	4.6 \pm 0.5		

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

<u>Collection Date</u>	<u>T51</u>	<u>T57</u>	<u>T58</u>	<u>T64</u>	<u>T72</u>
03-Jan-07	<0.01	<0.01(A)	<0.01	<0.01	<0.01
09-Jan-07	<0.01	<0.01(B)	<0.01	<0.01	<0.01
16-Jan-07	<0.01	<0.01	<0.01	<0.01	<0.01
23-Jan-07	<0.02	<0.02	<0.02	<0.02	<0.02
30-Jan-07	<0.02	<0.04(C)	<0.02	<0.02	<0.02
06-Feb-07	<0.03	<0.03	<0.03	<0.03	<0.03
13-Feb-07	<0.03	<0.05(D)	<0.03	<0.03	<0.03
20-Feb-07	<0.01	<0.03(E)	<0.01	<0.01	<0.01
27-Feb-07	<0.02	<0.02	<0.02	<0.02	<0.02
06-Mar-07	<0.01	<0.01	<0.01	<0.01	<0.01
14-Mar-07	<0.02	<0.02	<0.02	<0.02	<0.02
20-Mar-07	<0.02	<0.02(F)	<0.02	<0.01	<0.01
27-Mar-07	<0.01	<0.01	<0.01	<0.01	<0.01

- (A) No power; GFI tripped and was reset. Estimated run time 47.4 hours out of 167.9 hours. Pump was replaced.
- (B) No power; GFI tripped and was reset. Estimated run time 39.5 hours out of 142.2 hours.
- (C) No power; GFI tripped and was reset. Estimated run time 107.7 hours out of 168 hours.
- (D) No power; GFI tripped and was reset. Estimated run time 87.3 hours out of 169.7 hours.
- (E) No power; GFI tripped and was reset. Estimated run time 9.5 hours out of 165.8 hours.
- (F) No power; GFI tripped and was reset. Estimated run time 92.9 hours out of 145.5 hours.

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

<u>Collection Date</u>	<u>T51</u>	<u>T57</u>	<u>T58</u>	<u>T64</u>	<u>T72</u>
03-Jan-07	0.009 ± 0.002	0.020 ± 0.006(A)	0.009 ± 0.002	0.009 ± 0.002	0.006 ± 0.002
09-Jan-07	0.008 ± 0.002	0.009 ± 0.002(B)	0.008 ± 0.002	0.004 ± 0.002	0.007 ± 0.002
16-Jan-07	0.008 ± 0.002	0.009 ± 0.002	0.013 ± 0.002	0.006 ± 0.002	0.010 ± 0.002
23-Jan-07	0.009 ± 0.002	0.011 ± 0.002	0.015 ± 0.002	0.009 ± 0.002	0.014 ± 0.002
30-Jan-07	0.014 ± 0.002	0.013 ± 0.003(C)	0.014 ± 0.002	0.013 ± 0.002	0.013 ± 0.002
06-Feb-07	0.016 ± 0.002	0.014 ± 0.002	0.022 ± 0.002	0.014 ± 0.002	0.018 ± 0.002
13-Feb-07	0.016 ± 0.002	0.012 ± 0.003(D)	0.021 ± 0.002	0.018 ± 0.002	0.018 ± 0.002
20-Feb-07	0.017 ± 0.002	0.007 ± 0.002(E)	0.023 ± 0.002	0.023 ± 0.002	0.020 ± 0.002
27-Feb-07	0.018 ± 0.002	0.013 ± 0.002	0.019 ± 0.002	0.017 ± 0.002	0.021 ± 0.002
06-Mar-07	0.013 ± 0.002	0.017 ± 0.002	0.015 ± 0.002	0.018 ± 0.002	0.016 ± 0.002
14-Mar-07	0.016 ± 0.002	0.016 ± 0.002	0.020 ± 0.002	0.021 ± 0.002	0.018 ± 0.002
20-Mar-07	0.020 ± 0.003	0.022 ± 0.004(F)	0.019 ± 0.003	0.018 ± 0.002	0.018 ± 0.002
27-Mar-07	0.008 ± 0.002	0.008 ± 0.002	0.008 ± 0.002	0.010 ± 0.002	0.012 ± 0.002
Average:	0.013 ± 0.001	0.013 ± 0.001	0.016 ± 0.001	0.014 ± 0.001	0.015 ± 0.001

(A) No power; GFI tripped and was reset. Estimated run time 47.4 hours out of 167.9 hours.
Pump was replaced.

(B) No power; GFI tripped and was reset. Estimated run time 39.5 hours out of 142.2 hours.

(C) No power; GFI tripped and was reset. Estimated run time 107.7 hours out of 168 hours.

(D) No power; GFI tripped and was reset. Estimated run time 87.3 hours out of 169.7 hours.

(E) No power; GFI tripped and was reset. Estimated run time 9.5 hours out of 165.8 hours.

(F) No power; GFI tripped and was reset. Estimated run time 92.9 hours out of 145.5 hours.

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

<u>Sample Site</u>	<u>Be-7</u>	<u>K-40</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>
T51	0.1937 ± 0.0123	<0.0165	<0.0011	<0.0011	<0.0488
T57	0.1600 ± 0.0121	<0.0092	<0.0015	<0.0013	<0.0481
T58	0.2143 ± 0.0121	<0.0173	<0.0013	<0.0007	0.0251 ± 0.0034
T64	0.2178 ± 0.0197	<0.0271	<0.0018	<0.0010	<0.0606
T72	0.2129 ± 0.0128	<0.0225	<0.0016	<0.0010	0.0327 ± 0.0137

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	I-131	Cs-134	Cs-137	Ba-140
									Nb-95 (A)				La-140 (B)
T42	17-Jan-07	<144	272 ± 31	<4	<3	<8	<4	<9	<6	<6	<4	<4	<6
	20-Feb-07	<146	273 ± 51	<7	<5	<11	<7	<15	<12	<8	<8	<5	<11
	14-Mar-07	<145	309 ± 30	<3	<4	<9	<3	<6	<6	<6	<4	<4	<6
T67	16-Jan-07	<144	<89	<4	<3	<6	<4	<9	<5	<6	<3	<4	<5
	20-Feb-07	<143	181 ± 23	<3	<3	<8	<4	<7	<7	<6	<3	<4	<6
	14-Mar-07	<145	125 ± 28	<3	<3	<7	<4	<8	<6	<6	<4	<3	<6
T81	16-Jan-07	50 ± 26	299 ± 34	<2	<2	<6	<3	<5	<4	<4	<3	<2	<3
	20-Feb-07	87 ± 26	296 ± 52	<5	<5	<11	<6	<10	<10	<9	<7	<6	<9
	14-Mar-07	<145	355 ± 45	<5	<5	<11	<6	<13	<8	<8	<6	<4	<9

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

(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)

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>	<u>Ra-226</u>	<u>Th-232</u>	<u>U-238</u>
T42	17-Jan-07	<140	225 ± 62	<13	<13	<14	<14	<1107	734 ± 142	<53	986 ± 264
T67	10-Jan-07	<108	<247	<9	<13	<11	<11	<869	511 ± 119	<64	690 ± 201
T81	11-Jan-07	<119	<199	<11	<9	<13	<10	873 ± 333	830 ± 142	<43	623 ± 233

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>K-40</u>	<u>Mn-54</u>	<u>Co-58</u>	<u>Fe-59</u>	<u>Co-60</u>	<u>Zn-65</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ra-226</u>	<u>Ra-228</u>
T67	09-Feb-07	1520 ± 183	<22	<27	<58	<30	<51	<26	<25	1075 ± 234	<124
T81	09-Feb-07	1135 ± 146	<22	<24	<44	<22	<56	<27	<22	1166 ± 190	137 ± 33

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

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

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>	<u>Ra-226</u>
T40	17-Jan-07	2109 ± 122	3550 ± 220	<27	<15	57 ± 8	<2657	<371
	20-Feb-07	2449 ± 122	3169 ± 190	<24	<20	44 ± 7	<2311	<339
	14-Mar-07	2175 ± 49	3606 ± 98	<10	<7	55 ± 3	926 ± 351	<145
T41	17-Jan-07	1748 ± 103	3444 ± 205	<24	<19	<24	<2381	<339
	20-Feb-07	2341 ± 120	2976 ± 188	<29	<14	36 ± 6	<2337	<318
	14-Mar-07	2019 ± 106	4103 ± 205	<24	<17	42 ± 7	4583 ± 869	<334
T67	16-Jan-07	1809 ± 79	4174 ± 157	<20	<12	24 ± 5	1395 ± 339	<259
	20-Feb-07	2043 ± 88	3443 ± 150	<22	<13	<8	<801	<282
	14-Mar-07	1562 ± 32	3096 ± 59	<7	<5	13 ± 2	1818 ± 179	183 ± 44

TURKEY POINT SITE

Offsite Dose Calculation Manual Sampling

Second Quarter, 2007

<u>Sample Type</u>	<u>Collection Frequency</u>	<u>Locations Sampled</u>	<u>Number of Samples</u>
1. Direct Radiation	Quarterly	22	22
2. Airborne			
2.a. Air Iodines	Weekly	5	65
2.b. Air Particulates	Weekly	5	65
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	0
4.a.2. Fish	Semiannually	2	2
4.b. Broadleaf Vegetation	Monthly	3	9
			Total: 172

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 and with greater than a 50% error term 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 - TLDs - ($\mu\text{R}/\text{hour}$)

Sample Site	Deployment 14-Mar-07 Collection 06-June-07	Sample Site	Deployment 14-Mar-07 Collection 06-June-07
N-2	5.4 ± 0.4	WSW-8	5.6 ± 0.4
N-7	4.6 ± 0.4		
N-10	5.6 ± 0.4	SW-1	5.3 ± 0.5
		SW-8	6.5 ± 0.7
NNW-2	4.2 ± 0.3		
NNW-10	5.6 ± 0.3	SSW-5	5.6 ± 0.4
		SSW-10	5.5 ± 0.5
NW-1	6.7 ± 0.5		
NW-5	4.9 ± 0.3	S-5	5.5 ± 0.5
NW-10	8.4 ± 0.6	S-10	6.4 ± 0.6
WNW-10	7.1 ± 0.6	SSE-1	5.4 ± 0.5
		SSE-10	6.4 ± 0.6
W-1	7.1 ± 0.7		
W-5	6.0 ± 0.6	NNE-22	6.6 ± 0.5
W-9	5.3 ± 0.5		

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

<u>Collection Date</u>	<u>T51</u>	<u>T57</u>	<u>T58</u>	<u>T64</u>	<u>T72</u>
05-Apr-07	<0.01	<0.01	<0.01	<0.01	<0.01
11-Apr-07	<0.02	<0.02	<0.02	<0.02	<0.02
17-Apr-07	<0.01	<0.01	<0.01	<0.01	<0.01
24-Apr-07	<0.02	<0.02	<0.02	<0.02	<0.02
01-May-07	<0.02	<0.02	<0.02	<0.02	<0.02
08-May-07	<0.02	<0.02	<0.02	<0.02	<0.02
15-May-07	<0.01	<0.01	<0.01	<0.01	<0.01
22-May-07	<0.01	<0.01	<0.01	<0.01	<0.01
29-May-07	<0.01	<0.01	<0.01	<0.01	<0.01
05-Jun-07	<0.01	<0.01	<0.01	<0.01	<0.01
12-Jun-07	<0.01	<0.01	<0.01	<0.01	<0.02
19-Jun-07	<0.02	<0.02	<0.02	<0.02	<0.02
26-Jun-07	<0.02(A)	<0.02(B)	<0.02	<0.02	<0.02

(A) GFI tripped and was reset. Estimated run time 125 out of 170.667 hours.

(B) GFI tripped and was reset. Estimated run time 127 out of 170.75 hours.

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

<u>Collection Date</u>	<u>T51</u>	<u>T57</u>	<u>T58</u>	<u>T64</u>	<u>T72</u>
05-Apr-07	0.012 ± 0.002	0.014 ± 0.002	0.016 ± 0.002	0.015 ± 0.002	0.015 ± 0.002
11-Apr-07	0.017 ± 0.002	0.019 ± 0.003	0.019 ± 0.002	0.020 ± 0.003	0.015 ± 0.002
17-Apr-07	0.013 ± 0.002	0.013 ± 0.002	0.015 ± 0.002	0.016 ± 0.002	0.016 ± 0.002
24-Apr-07	0.017 ± 0.002	0.014 ± 0.002	0.015 ± 0.002	0.023 ± 0.002	0.019 ± 0.002
01-May-07	0.013 ± 0.002	0.016 ± 0.002	0.018 ± 0.002	0.014 ± 0.002	0.015 ± 0.002
08-May-07	0.011 ± 0.002	0.010 ± 0.002	0.013 ± 0.002	0.011 ± 0.002	0.014 ± 0.002
15-May-07	0.009 ± 0.002	0.013 ± 0.002	0.012 ± 0.002	0.013 ± 0.002	0.016 ± 0.002
22-May-07	0.012 ± 0.002	0.017 ± 0.002	0.009 ± 0.002	0.014 ± 0.002	0.013 ± 0.002
29-May-07	0.012 ± 0.002	0.010 ± 0.002	0.019 ± 0.002	0.018 ± 0.002	0.014 ± 0.002
05-Jun-07	0.011 ± 0.002	0.011 ± 0.002	0.017 ± 0.002	0.016 ± 0.002	0.015 ± 0.002
12-Jun-07	0.012 ± 0.002	0.010 ± 0.002	0.014 ± 0.002	0.015 ± 0.002	0.018 ± 0.002
19-Jun-07	0.009 ± 0.002	0.006 ± 0.002	0.007 ± 0.002	0.011 ± 0.002	0.011 ± 0.002
26-Jun-07	0.023 ± 0.003(A)	0.024 ± 0.003(B)	0.024 ± 0.002	0.019 ± 0.002	0.021 ± 0.002
Average:	0.013 ± 0.001	0.014 ± 0.001	0.015 ± 0.001	0.016 ± 0.001	0.016 ± 0.001

(A) GFI tripped and was reset. Estimated run time 125 out of 170.667 hours.

(B) GFI tripped and was reset. Estimated run time 127 out of 170.75 hours.

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

2nd Quarter, 2007

<u>Sample Site</u>	<u>Be-7</u>	<u>K-40</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>
T51	0.1735 ± 0.0116	<0.0197	<0.0011	<0.0009	0.0137 ± 0.0038
T57	0.1680 ± 0.0133	<0.0164	<0.0012	<0.0009	0.0203 ± 0.0034
T58	0.1956 ± 0.0142	<0.0233	<0.0014	<0.0011	<0.0498
T64	0.2114 ± 0.0138	<0.0194	<0.0018	<0.0012	<0.0541
T72	0.1672 ± 0.0150	<0.0285	<0.0021	<0.0010	<0.0535

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	I-131	Cs-134	Cs-137	Ba-140
									Nb-95 (A)				La-140 (B)
T42	11-Apr-07	<141	389 ± 35	<3	<2	<7	<4	<5	<5	<4	<3	<3	<7
	08-May-07	<147	334 ± 51	<5	<4	<9	<6	<11	<9	<7	<5	<4	<7
	06-Jun-07	<136	339 ± 44	<5	<5	<10	<4	<8	<7	<6	<4	<5	<5
T67	11-Apr-07	<141	57 ± 16	<3	<3	<5	<3	<8	<6	<4	<4	<3	<7
	09-May-07	<147	185 ± 28	<3	<4	<8	<4	<7	<7	<6	<5	<4	<5
	06-Jun-07	<136	340 ± 14	<1	<1	<3	<1	<3	<2	<2	<2	<1	<2
T81	11-Apr-07	<141	387 ± 47	<4	<4	<10	<5	<11	<8	<6	<5	<5	<8
	08-May-07	<147	377 ± 29	<2	<2	<5	<3	<6	<5	<4	<3	<2	<4
	06-Jun-07	147 ± 26	357 ± 31	<2	<2	<4	<2	<4	<3	<3	<2	<2	<3

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

(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)

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>	<u>Ra-226</u>	<u>Th-232</u>	<u>U-238</u>
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These samples were previously collected.

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

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

T81 This sample was previously collected.

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>K-40</u>	<u>Mn-54</u>	<u>Co-58</u>	<u>Fe-59</u>	<u>Co-60</u>	<u>Zn-65</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ra-226</u>	<u>Ra-228</u>	<u>Others</u>
T67	02-May-07	2380 ± 203	<26	<22	<62	<30	<49	<27	<25	<507	<110	U-238: 756 ± 239
T81	03-May-07	2134 ± 162	<13	<16	<36	<17	<34	<16	<14	<261	<44	

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>	<u>Pb-212</u>	<u>Ra-226</u>	<u>Ra-228</u>
T40	11-Apr-07	2813 ± 49	3350 ± 90	<8	<6	54 ± 4	1259 ± 367	<33	<145	<23
	08-May-07	1985 ± 126	3498 ± 182	<26	<18	43 ± 7	<2183	64 ± 11	<325	<63
	06-Jun-07	2308 ± 135	3362 ± 209	<27	<17	<26	<2565	<79	381 ± 173	<55
T41	11-Apr-07	1789 ± 125	4384 ± 227	<26	<18	<21	<2704	<124	<386	<64
	08-May-07	1177 ± 41	5353 ± 125	<12	<8	26 ± 4	<1023	45 ± 6	<142	<27
	06-Jun-07	2121 ± 116	3559 ± 200	<26	<16	39 ± 6	<2275	<78	474 ± 190	<56
T67	11-Apr-07	2110 ± 35	3345 ± 60	<6	<5	<4	888 ± 123	<33	212 ± 39	<17
	09-May-07	1837 ± 77	3446 ± 135	<17	<10	<12	<682	<78	<233	<35
	06-Jun-07	1235 ± 69	3343 ± 133	<19	<11	<8	<682	<74	<214	<33

TURKEY POINT SITE

Offsite Dose Calculation Manual Sampling

Third Quarter, 2007

<u>Sample Type</u>	<u>Collection Frequency</u>	<u>Locations Sampled</u>	<u>Number of Samples</u>
1. Direct Radiation	Quarterly	22	22
2. Airborne			
2.a. Air Iodines	Weekly	5	65
2.b. Air Particulates	Weekly	5	65
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: 173

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 - TLDs - (μ R/hour)

Sample Site	Deployment 06-Jun-07 Collection 13-Sep-07	Sample Site	Deployment 06-Jun-07 Collection 13-Sep-07
N-2	5.9 \pm 0.6	WSW-8	5.0 \pm 0.6
N-7	5.0 \pm 0.4		
N-10	5.5 \pm 0.5	SW-1	4.8 \pm 0.6
		SW-8	5.7 \pm 0.6
NNW-2	4.7 \pm 0.4		
NNW-10	5.9 \pm 0.6	SSW-5	5.0 \pm 0.5
		SSW-10	5.4 \pm 0.6
NW-1	6.6 \pm 0.5		
NW-5	4.9 \pm 0.7	S-5	4.9 \pm 0.5
NW-10	8.2 \pm 0.7	S-10	5.8 \pm 0.7
WNW-10	6.7 \pm 0.6	SSE-1	4.9 \pm 0.5
		SSE-10	5.6 \pm 0.7
W-1	6.5 \pm 0.5		
W-5	5.6 \pm 0.6	NNE-22	6.4 \pm 0.6
W-9	5.0 \pm 0.6		

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

<u>Collection Date</u>	<u>T51</u>	<u>T57</u>	<u>T58</u>	<u>T64</u>	<u>T72</u>
03-Jul-07	<0.02	<0.02	<0.02	<0.02	<0.02
10-Jul-07	<0.02(A)	<0.02(B)	<0.02	<0.02	<0.02
17-Jul-07	<0.01	<0.01	<0.01	<0.01	<0.01
24-Jul-07	<0.05(C)	<0.01(D)	<0.01	<0.01	<0.01
31-Jul-07	<0.01	<0.01	<0.01	<0.01	<0.01
07-Aug-07	<0.01	<0.01	<0.02(E)	<0.01	<0.01
15-Aug-07	<0.01	<0.01	<0.01	<0.01	<0.01
21-Aug-07	<0.02	<0.02	<0.02	<0.02	<0.02
28-Aug-07	<0.01	<0.01	<0.01	<0.01	<0.01
04-Sep-07	<0.01	<0.01	<0.01	<0.01	<0.01
13-Sep-07	<0.01	<0.01	<0.01	<0.01	<0.01
18-Sep-07	<0.02	<0.02	<0.02	<0.02	<0.02
25-Sep-07	<0.01	<0.01	<0.01	<0.01	<0.01

(A) GFI tripped; no power. Estimated run time 50.2 out of 169 hours.

(B) GFI tripped; no power. Estimated run time 48.5 out of 169 hours.

(C) GFI tripped; no power. Estimated run time 9.8 out of 168 hours.

(D) GFI tripped; no power. Estimated run time 162.5 out of 168.1 hours.

(E) Pump failed and was replaced. Estimated run time 144.8 out of 166 hours.

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

<u>Collection Date</u>	<u>T51</u>	<u>T57</u>	<u>T58</u>	<u>T64</u>	<u>T72</u>
03-Jul-07	0.006 ± 0.002	0.006 ± 0.002	0.007 ± 0.002	0.005 ± 0.002	0.005 ± 0.002
10-Jul-07	0.012 ± 0.005(A)	0.013 ± 0.005(B)	0.012 ± 0.002	0.009 ± 0.002	0.009 ± 0.002
17-Jul-07	0.006 ± 0.002	0.007 ± 0.002	0.011 ± 0.002	0.012 ± 0.002	0.010 ± 0.002
24-Jul-07	0.015 ± 0.002(C)	0.010 ± 0.002(D)	0.013 ± 0.002	0.009 ± 0.002	0.010 ± 0.002
31-Jul-07	0.014 ± 0.002	0.015 ± 0.002	0.012 ± 0.002	0.014 ± 0.002	0.015 ± 0.002
07-Aug-07	0.013 ± 0.002	0.016 ± 0.002	0.015 ± 0.002(E)	0.016 ± 0.002	0.020 ± 0.002
15-Aug-07	0.015 ± 0.002	0.013 ± 0.002	0.013 ± 0.002	0.015 ± 0.002	0.018 ± 0.002
21-Aug-07	0.011 ± 0.002	0.015 ± 0.002	0.011 ± 0.002	0.013 ± 0.002	0.009 ± 0.002
28-Aug-07	0.014 ± 0.002	0.013 ± 0.002	0.016 ± 0.002	0.015 ± 0.002	0.015 ± 0.002
04-Sep-07	0.019 ± 0.002	0.016 ± 0.002	0.019 ± 0.002	0.023 ± 0.002	0.020 ± 0.002
13-Sep-07	0.011 ± 0.002	0.007 ± 0.001	0.012 ± 0.002	0.010 ± 0.001	0.009 ± 0.002
18-Sep-07	0.014 ± 0.002	0.008 ± 0.002	0.016 ± 0.003	0.015 ± 0.003	0.014 ± 0.002
25-Sep-07	0.007 ± 0.002	0.003 ± 0.001	0.003 ± 0.001	0.006 ± 0.002	0.009 ± 0.002
Average:	0.012 ± 0.001	0.011 ± 0.001	0.012 ± 0.001	0.013 ± 0.001	0.013 ± 0.001

(A) GFI tripped; no power. Estimated run time 50.2 out of 169 hours.

(B) GFI tripped; no power. Estimated run time 48.5 out of 169 hours.

(C) GFI tripped; no power. Estimated run time 9.8 out of 168 hours.

(D) GFI tripped; no power. Estimated run time 162.5 out of 168.1 hours.

(E) Pump failed and was replaced. Estimated run time 144.8 out of 166 hours.

2.b. AIR PARTICULATES - GAMMA ANALYSIS OF QUARTERLY COMPOSITES - (pCi/m³)Third Quarter, 2007

<u>Sample Site</u>	<u>Be-7</u>	<u>K-40</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>
T51	0.1292 ± 0.0150	<0.0227	<0.0016	<0.0008	0.0281 ± 0.0038
T57	0.1377 ± 0.0105	<0.0221	<0.0014	<0.0012	0.0188 ± 0.0042
T58	0.1318 ± 0.0120	<0.0188	<0.0016	<0.0008	<0.0097
T64	0.1429 ± 0.0130	<0.0274	<0.0013	<0.0015	<0.0529
T72	0.1438 ± 0.0136	<0.0215	<0.0015	<0.0016	<0.0488

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	I-131	Cs-134	Cs-137	Ba-140
									Nb-95 (A)				La-140 (B)
T42	26-Jul-07	<139	264 ± 33	<2	<2	<6	<3	<5	<4	<3	<3	<2	<3
	21-Aug-07	<138	356 ± 31	<4	<4	<7	<4	<7	<6	<4	<5	<3	<8
	13-Sep-07	<133	321 ± 45	<5	<5	<12	<6	<10	<8	<5	<5	<4	<7
T67	26-Jul-07	<139	233 ± 34	<3	<4	<7	<3	<6	<5	<5	<4	<3	<5
	21-Aug-07	<138	292 ± 32	<4	<4	<8	<4	<5	<6	<5	<4	<4	<6
	13-Sep-07	<133	161 ± 21	<3	<3	<7	<3	<6	<5	<4	<3	<3	<4
T81	26-Jul-07	204 ± 27	268 ± 45	<5	<4	<11	<5	<10	<9	<7	<5	<5	<7
	21-Aug-07	<138	333 ± 51	<5	<4	<10	<4	<10	<8	<5	<5	<5	<11
	13-Sep-07	<133	332 ± 37	<3	<3	<7	<3	<9	<6	<5	<4	<3	<3

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

(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	26-Jul-07	<139	<224	<12	<13	<14	<14	<1087	833 ± 144	<57	
T67	26-Jul-07	<67	90 ± 37	<7	<6	<9	<8	<303	146 ± 67	35 ± 7	
T81	26-Jul-07	<175	235 ± 77	<13	<15	<14	<14	<1262	1123 ± 160	<58	U-238: 1273 ± 336

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 - 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 not yet collected.										
T81	This sample not yet collected.										

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>	<u>Pb-212</u>	<u>Ra-226</u>	<u>Ra-228</u>
T40	26-Jul-07	1805 ± 112	3329 ± 192	<21	<17	71 ± 8	<2043	<72	<324	<46
	21-Aug-07	1868 ± 107	3868 ± 199	<20	<16	72 ± 10	<2405	48 ± 10	<332	<61
	13-Sep-07	2067 ± 87	4558 ± 157	<17	<12	70 ± 8	<714	<74	<229	<36
T41	26-Jul-07	1632 ± 50	6889 ± 134	<10	<9	10 ± 3	<1058	19 ± 5	<146	<29
	21-Aug-07	1576 ± 44	4745 ± 109	<9	<7	35 ± 3	<900	<31	<130	<23
	13-Sep-07	2049 ± 121	4944 ± 242	24	<16	74 ± 8	<2302	<82	<364	<69
T67	26-Jul-07	1810 ± 97	3600 ± 155	<17	<12	<10	<771	<79	<252	<40
	21-Aug-07	1193 ± 71	3296 ± 142	<13	<14	<11	<679	<80	<260	<36
	13-Sep-07	1006 ± 41	3232 ± 100	<9	<7	<7	<886	<32	<137	<24

TURKEY POINT SITE

Offsite Dose Calculation Manual Specifications Sampling

Fourth Quarter, 2007

<u>Sample Type</u>	<u>Collection Frequency</u>	<u>Locations Sampled</u>	<u>Number of Samples</u>
1. Direct Radiation	Quarterly	22	22
2. Airborne			
2.a. Air Iodines	Weekly	5	65
2.b. Air Particulates	Weekly	5	65
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	2
4.a.2. Fish	Semiannually	2	2
4.b. Broadleaf Vegetation	Monthly	3	9
			Total: 174

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 - TLDs - ($\mu\text{R}/\text{hour}$)

Sample Site	Deployment 13-Sep-07 Collection 06-Dec-07	Sample Site	Deployment 13-Sep-07 Collection 06-Dec-07
N-2	6.1 ± 0.6	WSW-8	5.4 ± 0.4
N-7	5.5 ± 0.4		
N-10	6.0 ± 0.6	SW-1	5.2 ± 0.3
		SW-8	5.9 ± 0.4
NNW-2	5.0 ± 0.5		
NNW-10	6.4 ± 0.6	SSW-5	5.0 ± 0.6
		SSW-10	5.6 ± 0.4
NW-1	7.3 ± 0.7		
NW-5	5.4 ± 0.4	S-5	5.9 ± 0.4
NW-10	8.2 ± 0.4	S-10	6.1 ± 0.5
WNW-10	6.8 ± 0.7	SSE-1	5.1 ± 0.4
		SSE-10	6.2 ± 0.7
W-1	$7.4 \pm 0.5(\text{A})$		
W-5	5.5 ± 0.4	NNE-22	6.5 ± 0.6
W-9	5.4 ± 0.5		

(A) TLD was collected on 11-Dec-07 due to restricted access from construction in the area and inability to get to sample site.

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

<u>Collection Date</u>	<u>T51</u>	<u>T57</u>	<u>T58</u>	<u>T64</u>	<u>T72</u>
03-Oct-07	<0.02	<0.02	<0.02	<0.02	<0.02
10-Oct-07	<0.02	<0.02	<0.02	<0.02	<0.02
17-Oct-07	<0.02	<0.02	<0.02	<0.02	<0.02
24-Oct-07	<0.01	<0.01	<0.01	<0.01	<0.01
30-Oct-07	<0.02	<0.02	<0.02	<0.02	<0.02
06-Nov-07	<0.02	<0.02	<0.02	<0.02	<0.02
14-Nov-07	<0.01	<0.01	<0.01	<0.01	<0.01
19-Nov-07	<0.02	<0.02	<0.02	<0.02	<0.02
27-Nov-07	<0.02	<0.02	<0.02	<0.02	<0.02
06-Dec-07	<0.01	<0.01	<0.01	<0.01	<0.01
11-Dec-07	<0.01	<0.01	<0.01	<0.01	<0.01
17-Dec-07	<0.03	<0.03	<0.03	<0.03	<0.03
27-Dec-07	<0.01	<0.01	<0.01	<0.01	<0.01

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

<u>Collection Date</u>	<u>T51</u>	<u>T57</u>	<u>T58</u>	<u>T64</u>	<u>T72</u>
03-Oct-07	0.005 ± 0.001	0.005 ± 0.001	0.005 ± 0.001	0.004 ± 0.001	0.006 ± 0.001
10-Oct-07	0.008 ± 0.002	0.006 ± 0.002	0.007 ± 0.002	0.006 ± 0.002	0.011 ± 0.002
17-Oct-07	0.013 ± 0.002	0.012 ± 0.002	0.013 ± 0.002	0.010 ± 0.002	0.011 ± 0.002
24-Oct-07	0.012 ± 0.002	0.008 ± 0.002	0.009 ± 0.002	0.011 ± 0.002	0.011 ± 0.002
30-Oct-07	0.017 ± 0.002	0.014 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.015 ± 0.002
06-Nov-07	0.019 ± 0.002	0.013 ± 0.002	0.016 ± 0.002	0.014 ± 0.002	0.020 ± 0.002
14-Nov-07	0.022 ± 0.002	0.023 ± 0.002	0.023 ± 0.002	0.022 ± 0.002	0.023 ± 0.002
19-Nov-07	0.024 ± 0.003	0.018 ± 0.003	0.018 ± 0.003	0.023 ± 0.003	0.020 ± 0.003
27-Nov-07	0.018 ± 0.002	0.021 ± 0.002	0.017 ± 0.002	0.020 ± 0.002	0.021 ± 0.002
06-Dec-07	0.012 ± 0.002	0.010 ± 0.002	0.012 ± 0.002	0.012 ± 0.002	0.013 ± 0.002
11-Dec-07	0.010 ± 0.002	0.020 ± 0.003	0.010 ± 0.003	0.016 ± 0.003	0.017 ± 0.003
17-Dec-07	0.010 ± 0.002	0.010 ± 0.002	0.009 ± 0.002	0.009 ± 0.002	0.010 ± 0.002
27-Dec-07	0.014 ± 0.002	0.010 ± 0.001	0.015 ± 0.002	0.011 ± 0.001	0.014 ± 0.002
Average:	0.014 ± 0.001	0.013 ± 0.001	0.013 ± 0.001	0.013 ± 0.001	0.015 ± 0.001

2.b. AIR PARTICULATES - GAMMA ANALYSIS OF QUARTERLY COMPOSITES - (pCi/m³)Fourth Quarter, 2007

<u>Sample Site</u>	<u>Be-7</u>	<u>K-40</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>
T51	0.1705 ± 0.0141	<0.0279	<0.0017	<0.0010	<0.0535
T57	0.1045 ± 0.0120	<0.0214	<0.0016	<0.0011	<0.0538
T58	<0.0150	<0.0153	<0.0013	<0.0006	<0.0512
T64	<0.0166	<0.0136	<0.0012	<0.0013	<0.0464
T72	<0.0167	<0.0129	<0.0015	<0.0010	<0.0396

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

Sample Site	Collection Date	<u>H-3</u>	<u>K-40</u>	<u>Mn-54</u>	<u>Co-58</u>	<u>Fe-59</u>	<u>Co-60</u>	<u>Zn-65</u>	Zr-95	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	Ba-140
									<u>Nb-95</u> (A)				<u>La-140</u> (B)
T42	18-Oct-07	<143	173 ± 27	<4	<3	<6	<3	<6	<5	<5	<3	<3	<4
	19-Nov-07	<146	219 ± 27	<3	<4	<8	<5	<10	<6	<9	<5	<4	<7
	06-Dec-07	<143	251 ± 54	<4	<4	<11	<5	<8	<9	<6	<5	<6	<6
T67	18-Oct-07	<143	182 ± 31	<3	<3	<8	<3	<8	<6	<5	<3	<3	<4
	19-Nov-07	<146	109 ± 21	<3	<3	<7	<4	<7	<6	<5	<4	<4	<7
	06-Dec-07	<143	136 ± 11	<1	<1	<3	<2	<4	<3	<2	<2	<1	<3
T81	18-Oct-07	<233	216 ± 39	<5	<4	<9	<4	<7	<9	<6	<5	<5	<6
	19-Nov-07	<146	249 ± 51	<4	<5	<10	<5	<12	<9	<5	<6	<5	<10
	06-Dec-07	<143	230 ± 55	<4	<5	<10	<6	<13	<8	<7	<6	<6	<8

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

(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	30-Nov-07	1545 ± 149	<15	<16	<39	<16	<33	<19	<16	<321	<72
T81	15-Oct-07	1960 ± 87	<8	<8	<16	<9	<17	<12	<9	909 ± 85	248 ± 12

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	30-Nov-07	2684 ± 226	<26	<25	<58	<32	<64	<25	<25	<450	<106
T81	12-Oct-07	3022 ± 124	<12	<11	<26	<14	<26	<13	<11	<220	<48

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

Sample Site	Collection Date	<u>Be-7</u>	<u>K-40</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>	<u>Pb-212</u>	<u>Ra-226</u>	<u>Ra-228</u>
T40	18-Oct-07	3378 ± 135	4429 ± 232	<24	<16	85 ± 10	<2415	<83	<374	<67
	19-Nov-07	3138 ± 127	2789 ± 179	<23	<15	33 ± 9	<2334	<83	<339	<56
	06-Dec-07	2887 ± 121	4553 ± 218	<26	<16	28 ± 8	<2397	<78	<323	<59
T41	18-Oct-07	2945 ± 109	7841 ± 224	<20	<15	<15	<907	<103	<278	<52
	19-Nov-07	2774 ± 61	4988 ± 120	<13	<8	34 ± 4	<1105	39 ± 6	<159	<28
	06-Dec-07	2362 ± 134	5120 ± 249	<29	<22	56 ± 11	<2951	<116	<364	<72
T67	18-Oct-07	3174 ± 53	2749 ± 94	<9	<6	41 ± 3	1751 ± 355	32 ± 4	<132	<23
	19-Nov-07	3543 ± 112	4556 ± 161	<22	<13	69 ± 6	1577 ± 331	<93	<263	<37
	06-Dec-07	2446 ± 85	3890 ± 144	<17	<13	30 ± 5	<755	<80	<256	<35

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ATTACHMENT C

AMENDED RESULTS FROM THE INTERLABORATORY

COMPARISON PROGRAM 2007

DEPARTMENT OF ENERGY

MAPEP 17, June 2007

AND

MAPEP 18, December 2007

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Radionuclide	Result	DOE-MAPEP 17 RESULTS		Acceptance Range
		Ref. Value	Flag (Evaluation)	
Matrix: RdF Air Filter Bq/filter				
MN54	4.17	3.5185	A	2.4603 – 4.5741
CO57	3.81	2.8876	N	2.0213 – 3.7539
CO60	3.11	2.9054	A	2.0338 – 3.7770
ZN65	2.77	2.6828	A	1.8780 – 3.4876
CS134	4.52	4.1960	A	2.9372 – 5.4548
CS137	2.95	2.5693	A	1.7985 – 3.3401
Am241	0.11	0.0977	A	0.0684 – 0.1270
U234/233	0.0998	0.0981	A	0.0687 – 0.1275
U238	0.1079	0.1021	A	0.0715 – 0.1327
Matrix: GrF Air Filter Bq/filter				
Gross Beta	0.50	0.441	A	0.221 – 0.662
Matrix: MaS Soil Bq/kg				
K40	620.33	602	A	421 - 783
MN54	706.67	685.2	A	479.6 – 890.8
CO57	493.33	471.2	A	329.8 – 612.6
CO60	269.67	274.7	A	192.3 – 357.1
ZN65	563.3	536.8	A	375.8 – 697.8
CS134	319.26	327.4	A	229.2 – 425.6
CS137	808.67	799.7	A	559.8 – 1039.6
U238	194.67	192.4	A	134.7 – 250.1
AM241	35.73	34.8	A	24.4 – 45.2
Matrix: MaW Water Bq/L				
H3	293.75	283.0	A	198.1 – 367.9
MN54	133.17	123.8	A	86.7 – 160.9
CO57	145.1	143.7	A	100.6 – 186.8
CO60	28.41	26.9	A	18.8 – 35.0
ZN65	126.13	114.8	A	80.4 – 149.2
CS134	84.74	83.5	A	58.5 – 108.6
CS137	170.7	163.0	A	114.1 – 211.9
AM241	1.90	1.71	A	1.20 – 2.22
Matrix: RdV Vegetation, Bq/sample :				
MN54	7.59	8.4492	A	5.9144 – 10.9840
CO57	7.01	8.1878	A	5.7315 – 10.6441
CO60	5.03	5.8215	A	4.0751 – 7.5680
ZN65	6.05	5.6991	A	3.9894 – 7.4088
CS134	5.63	6.2101	A	4.3471 – 8.0731
CS137	6.35	6.9949	A	4.8964 – 9.0934

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

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DOE-MAPEP 18 RESULTS

Radionuclide	Result	Ref. Value	Flag (Evaluation)	Acceptance Range
Matrix: RdF Air Filter Bq/filter				
MN54	0.004		A	Sensitivity Eval.
CO57	3.58	3.55	A	2.49 – 4.62
CO60	1.28	1.31	A	0.92 – 1.70
ZN65	2.32	2.04	A	1.43 – 2.65
CS134	2.34	2.52	A	1.76 – 3.28
CS137	2.59	2.70	A	1.89 – 3.51
AM241	0.16	0.158	A	0.111 – 0.205
U238	0.20	0.225	A	0.158 – 0.293
Matrix: GrF Air Filter Bq/filter				
Gross Beta	0.33	0.286	A	0.143 – 0.429
Matrix: MaS Soil Bq/kg				
K40	632.57	571	A	400 - 742
MN54	617.70	570	A	399 - 741
CO57	461.2	421	A	295 - 547
CO60	8.41	2.9	N	Sensitivity Eval.
ZN65	- 6.71		A	Blank (no activity)
CS134	881.67	854	A	598 - 1110
CS137	580	545	A	382 - 709
Am241	140.67	127.2	A	89.0 – 165.4
U238	158.37	148	A	104 - 192
Matrix: MaW Water Bq/L				
H3	506.83	472	A	330 - 614
MN54	12.78	12.1	A	8.5 – 15.7
CO57	22.23	22.8	A	16.0 – 29.6
CO60	8.48	8.40	A	5.88 – 10.92
NI63	26.05	30.7	A	21.5 – 39.9
ZN65	17.69	16.3	A	11.4 – 21.2
SR90	12.5	11.40	A	7.98 – 14.82
CS134	-0.01		A	Blank (no activity)
CS137	-0.08		A	Blank (no activity)
Am241	1.2	1.23	A	0.86 – 1.60
Matrix: RdV Vegetation, Bq/sample :				
MN54	4.22	4.74	A	3.32 – 6.16
CO57	6.34	6.89	A	4.82 – 8.96
CO60	2.36	2.77	A	1.94 – 3.60
ZN65	-0.10		A	Blank (no activity)
CS134	5.51	6.28	A	4.40 – 8.16
CS137	2.99	3.41	A	2.39 – 4.43
AM241	0.29	0.240	W	0.198 – 0.312

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

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Footnote for MAPEP Evaluation:

From the MAPEP handbook:

Acceptance criteria were developed from a review of precision and accuracy data compiled by other 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.

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ATTACHMENT D

Industry Initiative

Ground Water Protection Program

Tritium in Ground Water Monitoring

2007

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A. Description of Program:

The Ground Water Protection Program, Industry Initiative, is described in the ODCM Section 5B.

Of the wells listed in 5B, the following are west of the site proper, west of the cooling canal system:

Well	Location
L-3	West of Interceptor Canal, on Land-U property. Sample from top and bottom ⁽¹⁾
L-5	West of Interceptor Canal, on Land-U property. Sample from top and bottom ⁽¹⁾
G-21	Tallahassee Road extension, west of FPL property. Sample from top and bottom ⁽¹⁾
G-28	Tallahassee Road extension, west of FPL property. Sample from top and bottom ⁽¹⁾

(1) These wells have two sampling depths, samples are drawn from both depths.

Of the wells listed in 5B, the following are on the site proper:

Well	Location
STP-1	Northeast of PTN Sewage Plant.
CD-1	Northeast Corner of Neutralization Basin.
PTPED-9	Northeast Corner of Neutralization Basin.
P-94-2	North of Solids Settling Basin, east of PTN intake.
P-94-4	East of Dress-out Building, in the RCA.

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

Sample assay is performed by a private contractor. This contractor provides other radiological assay for the effluents & rad-waste program; this affords QA for the Industry Initiative monitoring program.

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B. Results

Turkey Point 2007 Tritium Results Summary, pCi/L

Well number	1st Quarter Mar 2007	2nd Quarter May 2007	3rd Quarter July 2007	4th Quarter Oct 2007
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L-3 Top	NS	<MDA	<MDA	<MDA
L-3 Bottom	4,350	4150	3710	4290
L-5 Top	NS	<MDA	<MDA	<MDA
L-5 Bottom	3,500	1,620	3500	3660
G-21 Top	NS	<MDA	<MDA	<MDA
G-21 Bottom	<MDA	<MDA	<MDA	<MDA
G-28 Top	NS	<MDA	<MDA	<MDA
G-28 Bottom	<MDA	<MDA	570	<MDA

STP-1	<MDA	<MDA	<MDA	<MDA
CD-1	630	<MDA	<MDA	NS
PTPED – 1/9	710	<MDA	<MDA	360
P-94-2	710	1160	<MDA	1070
P-94-4	480	570	660	770

PTPED-3	NS	NS	NS	520
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PTPED-4	NS	460	NS	NS
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MDA is 350 to 450 pCi/L

NS means Not Sampled

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B. Results (continued)

Turkey Point 2007 Well Sampling Results, pCi/L

Well	Nuclide	1Q07 Mar	2Q07 May	3Q07 Jul	4Q07 Oct
L-3 T	H3	ns Note1	<	<	<
	K-40	ns	<	<	<
L-3 B	H3	4350	4150	3710	4290
	K-40	566	515	461	541
	Cs-137		3.5		<
	AcTh-228		8.6		<
L-5 T	H3	ns	<	<	<
	K-40	ns	<	<	<
L-5 B	H3	3500	1620	3500	3666
	K-40	497	186	436	477
	AcTh-228	<	<	13.9	<
G-21 T	H3	ns	<	<	<
	K-40	ns	<	<	42
G-21 B	H3	<	<	<	<
	K-40	<	<	<	53
G-28 T	H3	ns	<	<	<
	K-40	ns	<	<	<
G-28B	H3	<	<	570	<
	K-40	117	119	<	112
STP-1	H3	<	<	<	<
	K-40	<	<	<	90
CD-1	H3	630	<	<	Note2
	K-40	100	<	<	Note2
PTPED-1	H3	710	<	<	360
	K-40	<	<	<	<
	Cs-137	<	18.4	9.5	10.5
P-94-2	H3	710	1160	<	1070
	K-40	105	133	<	231
	Cs-137	<	<	12.1	<
P-94-4	H3	480	570	660	770
	K-40	<	65	203	<
	Cs-137	12	3.3	<	10
PTPED-3	H3				520
	K-40				<
	Cs-137			Note2	4.5
	AcTh-228				11.3
PTPED-4	H3		460		
	K-40		<	Note3	
	Cs-137		<		

Note1 "Top" not added to program until 2Q07

Note2 Inadvertently sampled instead of CD-1; PTPED-3 is right next to CD-1.

Note3 Inadvertently sampled in addition to the others.

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C. 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 liquid radiological waste; the canal system tritium level averages about 4,000 pCi/L. This supports the expectation to see tritium in subsurface water collected either on-site or off-site close to the cooling canal system.

“Off-site” Wells

Wells L-3 and L-5 are adjacent to the west border of the cooling canal system; the tritium levels seen in the ‘bottom’ samples is consistent with the known & understood interface between the canal system and underlying salt to brackish-water aquifer. As expected, tritium is not seen in the ‘top’ sample.

Wells G-21 and G-28 are west, hydraulically upgrate, from the canal system. Seven of eight sample were less than detectable (350 to 450 pCi/L); the one sample result of 570 pCi/L is slightly above the lower limits of detection.

The addition of the “top” sample of the “L” and “G” wells into the ODCM sampling program occurred in the second quarter of 2007.

“On-Site” Wells

Those detectable results are less than the cooling canal system average level. This is most likely the result of rainwater diluting the underlying cooling canal influence.

PTPED-3 is not part of the ODCM, nor a part of the RETS program. It was inadvertently sampled for CD-1; those two wells are adjacent to each other.

PTPED-4, also not part of any well sampling program, was inadvertently sampled.

Maps depicting the well locations follow.

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Offsite H3 Monitoring Wells

