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L-2007-053
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
2006 Annual Radiological
Environmental Operating Report

Enclosed is the 2006 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 James W. Connolly at (305) 246-6632.

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

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2006

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: Peter G Berg

Reviewed by: J K Dine

2006
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
TURKEY POINT PLANT – UNITS 3 & 4

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2006
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, 2006 to December 31, 2006.

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

2006
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.

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.

g. Ground Water, NEI Initiative: There were no ground water sampling locations in the REMP for 2006

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

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.

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 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.

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 11% of the required detection level specified by ODCM Table 5.1-3.

4. Waterborne, Sediment:

The results are consistent with past measurements. Only cosmic-ray produced Be-7 and naturally occurring isotopes were identified.

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 10% of the reporting level specified by ODCM Table 5.1-2. No other fission products were detected.

7. Land Use Census

There were no changes to the land use relative to last year's report.

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 15 and 16.

In MAPEP 15, the results Air Filter, Water and Vegetation matrices for those nuclides associated with nuclear power plant operation and using analytical methods used in the REMP are Acceptable. The Soil matrix had one warning in response to over-estimated U-238 results.
There was one not acceptable result; the lab reported an extremely low value for Cs-134 when there was none in the sample. The lab reported a false positive.

In MAPEP 16, the results for all matrices were acceptable. The warning associated with Co-57 in vegetation resulted from the lab reporting a 'zero' without a confidence interval (e.g., zero ± .00x). The W flag was issued because the grading process did not get a response that fit the expected format. The evaluation process for a blank (i.e., un-spiked) expects some small number with a large error. The State lab reported just 0.00 (zero).

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.

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, 2006
(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: Name[c] Distance & Direction	Location with Highest Annual Mean: Mean (f)[b] Range	Control Locations Mean (f)[b] Range
Exposure Rate, 88[d]	---	5.4 (84/84) 3.9 – 8.2	NW-10 10 mi., NW	7.6 (4/4) 6.9 - 8.2	6.2 (4/4) 5.7 – 6.5

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, 2006
(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: Name[c] Distance & Direction	Location with Highest Annual Mean: Mean (f)[b] Range	Control Locations Mean (f)[b] Range
^{131}I, 260	0.024	< MDA	---	---	< MDA
Gross Beta, 260	0.0025	0.016 (208/208) 0.005 - 0.029	T-72 < 1 mi., WSW	0.017 (52/52) 0.006 - 0.029	0.016 (52/52) 0.004 - 0.027
Composite Gamma Isotopic, 20					
^{7}Be	0.0052	0.1862 (16/16) 0.1045 - 0.2326	T-72 < 1 mi., WSW	0.2066 (4/4) 0.1693 - 0.2326	0.2014 (4/4) 0.1429 - 0.2585
^{134}Cs	0.00069	< MDA	---	---	< MDA
^{137}Cs	0.00066	< MDA	---	---	< MDA
^{210}Pb	---	0.0273 (10/16) 0.0123 - 0.0382	T-58 1 mi., NW	0.0318 (2/4) 0.0286 – 0.0350	0.0298 (2/4) 0.0265 – 0.0331

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, 2006
(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: Name[c] Distance & Direction	Location with Highest Annual Mean: Mean (f)[b] Range	Control Locations Mean (f)[b] Range
Tritium, 36	230	185 (4/24) 125 - 310	T-81 6 mi., S	185 (4/12) 125 - 310	<MDA
Gamma Isotopic, 36					
^{40}K	60	311 (24/24) 198 - 419	T-81 6 mi., S	319 (12/12) 248 - 400	202 (12/12) 93 - 336
^{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

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, 2006
(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	100	157 (2/4) 154 - 159	T-81 6 mi., S	159 (1/2)	< MDA
^{40}K	140	268 (2/4) 264 - 272	T-81 6 mi., S	268 (2/2) 264 - 272	148 (2/2) 111 - 184
^{210}Pb	---	541 (3/4) 499 - 570	T-81 6 mi., S	562 (2/2) 550 - 570	< MDA
^{226}Ra	49	933 (4/4) 631 - 1500	T-42 < 1 mi., ENE	1066 (2/2) 631 - 1500	355 (1/2)
^{235}U	---	51 (1/4)	T-81 6 mi., S	56 (1/2)	< MDA
^{238}U	---	777 (2/4) 638 - 916	T-81 6 mi., S	916 (1/2)	< MDA
^{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

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, 2006
(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: Name[c] Distance & Direction	Location with Highest Annual Mean: Mean (f)[b] Range	Control Locations Mean (f)[b] Range
Gamma Isotopic, 3					
^{40}K	130	2023 (2/2) 1899 - 2147	T-81 6 mi., S	2023 (2/2) 1899 - 2147	1276 (1/1)
^{226}Ra	20	502 (1/2)	T-81 6 mi., S	502 (1/2)	319 (1/1)
^{228}Ra	---	< MDA	---	---	48 (1/1)
^{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

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, 2006
(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: Name[c] Distance & Direction	Location with Highest Annual Mean: Mean (f)[b] Range	Control Locations Mean (f)[b] Range
Gamma Isotopic, 4					
^{7}Be	---	<MDA	---	---	<MDA
^{40}K	130	2862 (2/2) 2602 - 3121	T-81 6 mi., S	2862 (2/2) 2602 - 3121	2488 (2/2) 2325 - 2651
^{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

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, 2006
(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: Name[c] Distance & Direction	Location with Highest Annual Mean: Mean (f)[b] Range	Control Locations Mean (f)[b] Range
Gamma Isotopic, 36					
^{7}Be	71	1356 (24/24) 453 - 2661	T-40 3 mi., W	1428 (12/12) 453 - 2661	1259 (12/12) 606 - 2162
^{40}K	100	4253 (24/24) 2564 - 6634	T-41 2 mi., W/NW	4839 (12/12) 2833 - 6634	3409 (12/12) 2818 - 4342
^{58}Co	9	<MDA	---	---	<MDA
^{60}Co	10	<MDA	---	---	<MDA
^{131}I	9	<MDA	---	---	<MDA
^{134}Cs	8	<MDA	---	---	<MDA
^{137}Cs	8	52 (19/24) 22 - 196	T-40 3 mi., W	56 (12/12) 22 - 196	28 (6/12) 23 - 36
^{210}Pb	---	1800 (2/24) 1337 - 2264	T-41 2 mi., W/NW	2264 (1/12)	1881 (3/12) 877 - 3604
^{226}Ra	---	449 (6/24) 157 - 785	T-41 2 mi., W/NW	463 (3/12) 327 - 670	274 (3/12) 206 - 313

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, 2006
(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).

MDA refers to minimum detectable activity.

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TURKEY POINT PLANT – UNITS 3 & 4

TABLE 1A

DEVIATIONS / MISSING DATA

A)	Pathway:	Airborne, Particulates & Radioiodine
	Location:	T-64 , 22 miles NNE
	Dates:	28 Feb to 8 Mar 2006
	Deviation:	Failure to provide continuous monitoring
	Description of Problem:	Air sampler pump failure.
	Corrective Action:	Replaced pump, verified sampling system as operating correctly.
B)	Pathway:	Airborne, Particulates & Radioiodine
	Location:	T-57 , 4 miles NW
	Dates:	7-14 Nov , 14-21 Nov, 13-19 Dec , 19-27 Dec 2006
	Deviation:	Failure to provide continuous monitoring
	Description of Problem:	Sporadic power faults caused less than continuous sampler operation; sampler does auto-restart upon power restoration.
	Corrective Action:	Check, reset if needed, breaker, replaced sampler pump (suspected cause), verify equipment operable and operating. Upgrade power source to sampler system; planned completion in early 2007.
C)	Pathway:	Airborne, Particulates & Radioiodine
	Location:	T-51 , 2 miles NNW
	Dates:	6-13 Dec 2006
	Deviation:	Failure to provide continuous monitoring
	Description of Problem:	Power failure at sampling station.
	Corrective Action:	Restored power; verified sampling equipment operation.
D)	Pathway:	Ingestion – seafood, crustaceans
	Location:	T-67 , 13 – 18 miles North (pathway Control Location)
	Dates:	Second half-2006 (semi-annual sampling)
	Deviation:	Failure to collect sample
	Description of Problem:	Insufficient sample collected; half-life versus required LLD concerns precludes compositing a 6 month sample
	Corrective Action:	No corrective action applicable.

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TABLE 1B

ANALYSIS WITH LLDs ABOVE ODCM TABLE 5.1-3 DETECTION CAPABILITIES
1/1/2006 – 12/31/2006

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

TABLE 2

LAND USE CENSUS

Distance to Nearest (a, b)

Sector	7/06 Milk (c) Animal	7/06 Residence (g)	7/06 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	4.2 / 323
NNW	L	4.4 / 333	4.6 / 327

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:

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

ATTACHMENT A

KEY TO SAMPLE LOCATIONS

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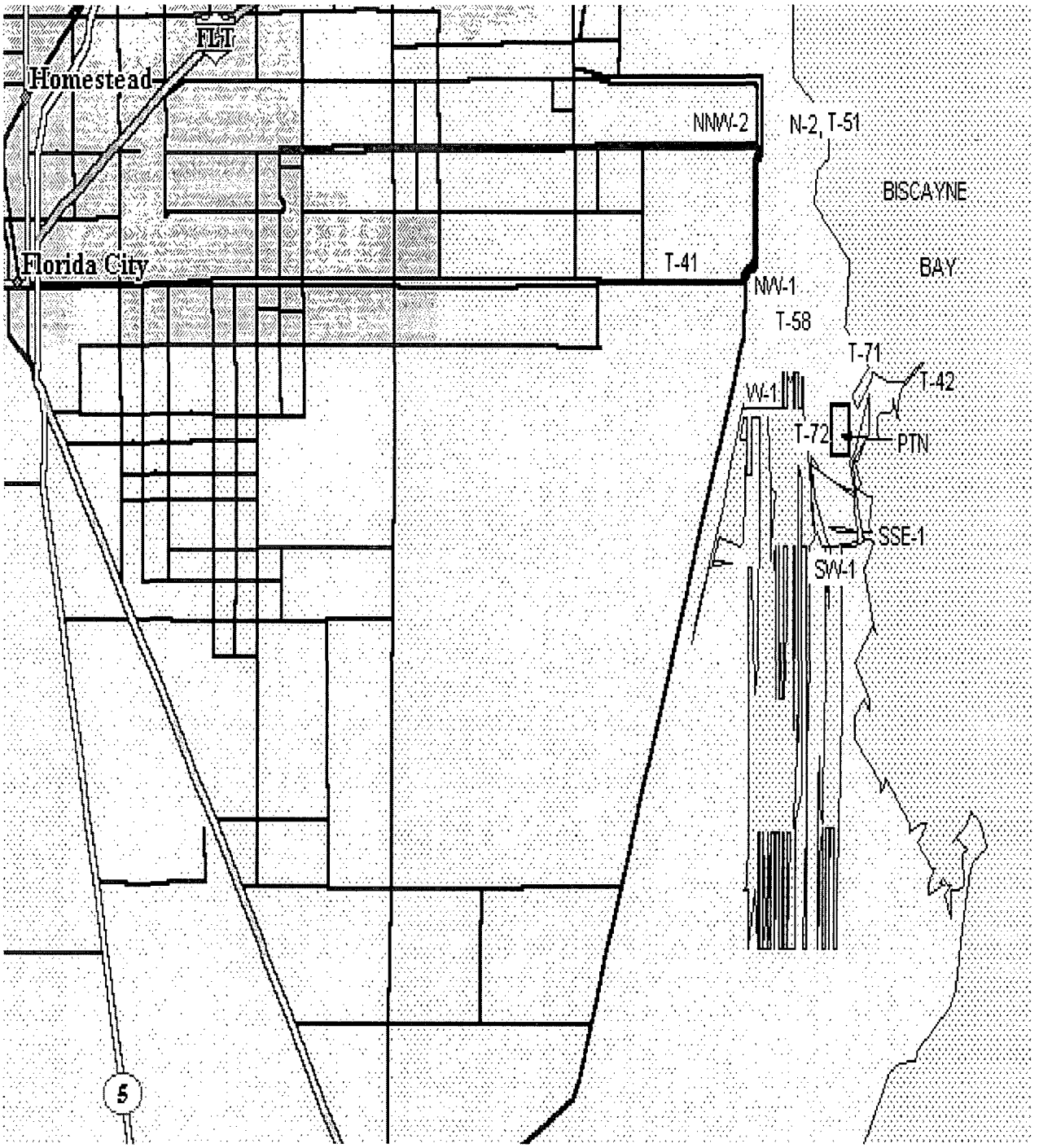
NEAR SITE SAMPLING LOCATIONS



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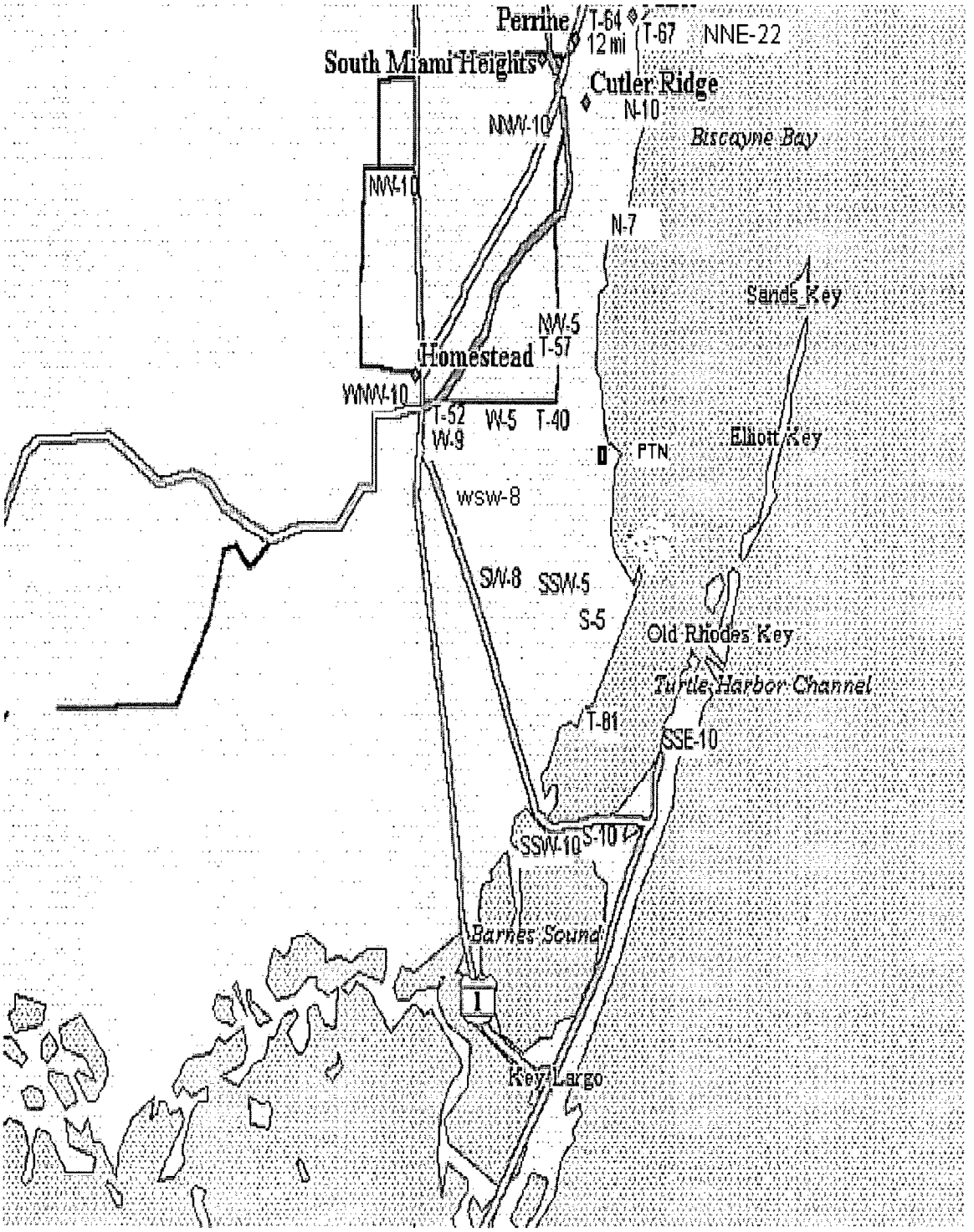
DISTANT REMP SAMPLING LOCATIONS



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-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-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.
Note			
T-71	NNE	0.5	On site "Red Barn" picnic area. This sampling station may be used as an alternate to T-51.

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

2006
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

2006

First Quarter, 2006

Second Quarter, 2006

Third Quarter, 2006

Fourth Quarter, 2006

TURKEY POINT SITE

Offsite Dose Calculation Manual Sampling

First Quarter, 2006

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
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 - (μR/hour)

Sample Site	Deployment 07-Dec-05 Collection 15-Mar-06	Sample Site	Deployment 07-Dec-05 Collection 15-Mar-06
N-2	5.9 ± 0.3	WSW-8	4.8 ± 0.4
N-7	5.1 ± 0.2		
N-10	5.5 ± 0.3	SW-1	4.7 ± 0.3
		SW-8	7.2 ± 1.1
NNW-2	5.5 ± 0.8		
NNW-10	5.9 ± 0.3	SSW-5	5.3 ± 0.3
		SSW-10	5.0 ± 0.3
NW-1	7.0 ± 0.3		
NW-5	5.0 ± 0.2	S-5	5.0 ± 0.4
NW-10	8.2 ± 0.5	S-10	6.0 ± 0.3
WNW-10	6.1 ± 0.4	SSE-1	5.1 ± 0.2
		SSE-10	5.8 ± 0.4
W-1	6.9 ± 0.3		
W-5	5.2 ± 0.3	NNE-22	6.5 ± 0.3
W-9	5.0 ± 0.2		

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

Collection Date	T51	T57	T58	T64	T72
05-Jan-06	<0.02	<0.02	<0.02	<0.02	<0.02
10-Jan-06	<0.03	<0.03	<0.03	<0.03	<0.03
17-Jan-06	<0.03	<0.03	<0.03	<0.03	<0.03
25-Jan-06	<0.01	<0.01	<0.01	<0.01	<0.01
02-Feb-06	<0.01	<0.01	<0.01	<0.01	<0.01
07-Feb-06	<0.03	<0.03	<0.03	<0.03	<0.03
16-Feb-06	<0.01	<0.01	<0.01	<0.01	<0.01
22-Feb-06	<0.01	<0.01	<0.01	<0.01	<0.01
28-Feb-06	<0.02	<0.02	<0.02	<0.02	<0.02
08-Mar-06	<0.01	<0.01	<0.01	<0.02(A)	<0.01
14-Mar-06	<0.02	<0.02	<0.02	<0.02	<0.02
21-Mar-06	<0.02	<0.02	<0.02	<0.02	<0.02
29-Mar-06	<0.02	<0.02	<0.02	<0.02	<0.02

(A) Pump failed, replaced. Run time est. at 137.5 out of 191.75 hrs.

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

Collection Date	Sample Sites T51	T57	T58	T64	T72
05-Jan-06	0.018 ± 0.002	0.017 ± 0.002	0.018 ± 0.002	0.024 ± 0.002	0.020 ± 0.002
10-Jan-06	0.023 ± 0.003	0.022 ± 0.003	0.016 ± 0.003	0.021 ± 0.003	0.027 ± 0.003
17-Jan-06	0.011 ± 0.002	0.011 ± 0.002	0.011 ± 0.002	0.013 ± 0.002	0.010 ± 0.002
25-Jan-06	0.014 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.010 ± 0.002	0.016 ± 0.002
02-Feb-06	0.015 ± 0.002	0.015 ± 0.002	0.015 ± 0.002	0.017 ± 0.002	0.016 ± 0.002
07-Feb-06	0.012 ± 0.003	0.010 ± 0.002	0.008 ± 0.002	0.009 ± 0.002	0.011 ± 0.003
16-Feb-06	0.020 ± 0.002	0.021 ± 0.002	0.022 ± 0.002	0.017 ± 0.002	0.020 ± 0.002
22-Feb-06	0.011 ± 0.002	0.009 ± 0.002	0.011 ± 0.002	0.013 ± 0.002	0.015 ± 0.002
28-Feb-06	0.016 ± 0.002	0.018 ± 0.002	0.013 ± 0.002	0.015 ± 0.002	0.016 ± 0.002
08-Mar-06	0.021 ± 0.002	0.021 ± 0.002	0.019 ± 0.002	0.022 ± 0.003(A)	0.023 ± 0.002
14-Mar-06	0.019 ± 0.002	0.018 ± 0.002	0.014 ± 0.002	0.015 ± 0.002	0.016 ± 0.002
21-Mar-06	0.018 ± 0.002	0.019 ± 0.002	0.021 ± 0.002	0.027 ± 0.003	0.022 ± 0.002
29-Mar-06	0.015 ± 0.002	0.017 ± 0.002	0.018 ± 0.002	0.015 ± 0.002	0.020 ± 0.002
Average:	0.016 ± 0.001	0.016 ± 0.001	0.015 ± 0.001	0.017 ± 0.001	0.018 ± 0.001

(A) Pump failed, replaced. Run time est. at 137.5 out of 191.75 hrs.

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

First Quarter, 2006

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
T51	0.2142 ± 0.0175	<0.0270	<0.0017	<0.0013	<0.0629
T57	0.2064 ± 0.0181	<0.0294	<0.0016	<0.0008	<0.0554
T58	0.2191 ± 0.0128	<0.0156	<0.0013	<0.0010	0.0286 ± 0.0042
T64	0.2585 ± 0.0180	<0.0278	<0.0014	<0.0011	<0.0545
T72	0.2326 ± 0.0134	<0.0156	<0.0014	<0.0008	0.0217 ± 0.0034

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-Jan-06	<144	211 ± 35	<4	<4	<8	<5	<10	<7	<5	<4	<4	<6
	03-Feb-06	<155	383 ± 33	<3	<3	<7	<5	<9	<6	<5	<4	<4	<6
	15-Mar-06	<154	350 ± 24	<2	<3	<5	<3	<6	<4	<4	<3	<2	<4
T67	17-Jan-06	<144	211 ± 28	<4	<4	<6	<4	<9	<6	<4	<5	<3	<9
	03-Feb-06	<155	209 ± 27	<3	<3	<7	<4	<7	<6	<6	<4	<4	<5
	14-Mar-06	<154	136 ± 25	<3	<4	<6	<3	<8	<6	<5	<4	<4	<7
T81	17-Jan-06	<144	248 ± 37	<4	<4	<6	<5	<7	<7	<4	<7	<4	<7
	07-Feb-06	173 ± 30	365 ± 33	<3	<3	<7	<5	<9	<7	<5	<4	<4	<8
	14-Mar-06	131 ± 29	315 ± 41	<3	<3	<8	<4	<8	<6	<5	<5	<4	<5

(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	03-Feb-06	<127	<246	<15	<15	<19	<14	<1275	1500 ± 180	<57	<1047
T67	03-Feb-06	<103	184 ± 68	<10	<10	<13	<13	<812	<302	<50	<653
T81	07-Feb-06	<112	272 ± 75	<11	<12	<13	<11	555 ± 266	819 ± 157	<51	<687

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 has not yet been collected.										
T81	This sample has not yet been 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 has not yet been collected.										
T81	This sample has not yet been 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
T40	17-Jan-06	453 ± 67	6576 ± 281	<17	<20	41 ± 7	<2550	<379
	07-Feb-06	1304 ± 103	3149 ± 182	<12	<14	47 ± 7	<2256	<366
	14-Mar-06	631 ± 37	3367 ± 93	<7	<7	22 ± 4	<947	157 ± 65
T41	17-Jan-06	859 ± 97	3844 ± 247	<18	<22	<24	<2725	327 ± 160
	07-Feb-06	780 ± 91	6336 ± 262	<17	<22	<18	<2477	<376
	14-Mar-06	1083 ± 110	3969 ± 229	<18	<20	<24	<2379	670 ± 148
T67	17-Jan-06	729 ± 69	3399 ± 173	<12	<19	<12	<1397	<332
	03-Feb-06	757 ± 79	3938 ± 201	<18	<17	<15	<1972	313 ± 151
	14-Mar-06	1296 ± 37	3062 ± 85	<8	<7	23 ± 4	<940	206 ± 59

TURKEY POINT SITE

Offsite Dose Calculation Manual Sampling

Second Quarter, 2006

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
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	0	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 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 - (μR/hour)

Sample Site	Deployment 15-Mar-06 Collection 15-June-06	Sample Site	Deployment 15-Mar-06 Collection 15-June-06
N-2	5.6 ± 0.2	WSW-8	5.3 ± 0.1
N-7	4.8 ± 0.2		
N-10	5.2 ± 0.2	SW-1	5.3 ± 0.2
		SW-8	6.0 ± 0.2
NNW-2	4.5 ± 0.1		
NNW-10	5.6 ± 0.2	SSW-5	5.1 ± 0.1
		SSW-10	5.3 ± 0.3
NW-1	6.5 ± 0.2		
NW-5	4.5 ± 0.3	S-5	4.9 ± 0.2
NW-10	7.9 ± 0.3	S-10	5.8 ± 0.1
WNW-10	6.6 ± 0.3	SSE-1	4.7 ± 0.2
		SSE-10	5.6 ± 0.2
W-1	6.6 ± 0.2		
W-5	5.7 ± 0.3	NNE-22	6.4 ± 0.5
W-9	4.9 ± 0.3		

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

Collection Date	T51	T57	T58	T64	T72
04-Apr-06	<0.02	<0.02	<0.02	<0.02	<0.02
11-Apr-06	<0.02	<0.02	<0.02	<0.02	<0.02
18-Apr-06	<0.01	<0.01	<0.01	<0.01	<0.01
25-Apr-06	<0.01	<0.01	<0.01	<0.01	<0.01
02-May-06	<0.01	<0.01	<0.01	<0.01	<0.01
10-May-06	<0.02	<0.02	<0.02	<0.02	<0.02
16-May-06	<0.02	<0.02	<0.02	<0.02	<0.02
23-May-06	<0.02	<0.02	<0.02	<0.02	<0.02
30-May-06	<0.02	<0.02	<0.02	<0.02	<0.02
07-Jun-06	<0.01	<0.01	<0.01	<0.01	<0.01
14-Jun-06	<0.02	<0.02	<0.02	<0.02	<0.02
21-Jun-06	<0.02	<0.02	<0.02	<0.02	<0.02
27-Jun-06	<0.02	<0.02	<0.01	<0.02	<0.02

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

Collection Date	Sample Site T51	T57	T58	T64	T72
04-Apr-06	0.021 ± 0.003	0.023 ± 0.003	0.020 ± 0.003	0.024 ± 0.003	0.020 ± 0.003
11-Apr-06	0.014 ± 0.002	0.010 ± 0.002	0.019 ± 0.002	0.018 ± 0.002	0.018 ± 0.002
18-Apr-06	0.013 ± 0.002	0.013 ± 0.002	0.015 ± 0.002	0.014 ± 0.002	0.012 ± 0.002
25-Apr-06	0.017 ± 0.002	0.018 ± 0.002	0.022 ± 0.002	0.015 ± 0.002	0.017 ± 0.002
02-May-06	0.016 ± 0.002	0.017 ± 0.002	0.019 ± 0.002	0.017 ± 0.002	0.014 ± 0.002
10-May-06	0.024 ± 0.002	0.023 ± 0.002	0.029 ± 0.002	0.026 ± 0.003	0.023 ± 0.002
16-May-06	0.019 ± 0.002	0.022 ± 0.003	0.020 ± 0.002	0.026 ± 0.003	0.023 ± 0.003
23-May-06	0.014 ± 0.002	0.018 ± 0.002	0.014 ± 0.002	0.012 ± 0.002	0.018 ± 0.002
30-May-06	0.009 ± 0.002	0.013 ± 0.002	0.012 ± 0.002	0.014 ± 0.002	0.009 ± 0.002
07-Jun-06	0.018 ± 0.002	0.021 ± 0.002	0.018 ± 0.002	0.017 ± 0.002	0.018 ± 0.002
14-Jun-06	0.022 ± 0.002	0.018 ± 0.002	0.020 ± 0.002	0.022 ± 0.002	0.024 ± 0.002
21-Jun-06	0.014 ± 0.002	0.020 ± 0.002	0.012 ± 0.002	0.016 ± 0.002	0.019 ± 0.002
27-Jun-06	0.010 ± 0.002	0.006 ± 0.002	0.009 ± 0.002	0.008 ± 0.002	0.010 ± 0.002
Average:	0.016 ± 0.001	0.017 ± 0.001	0.018 ± 0.001	0.017 ± 0.001	0.017 ± 0.001

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

Second Quarter, 2006

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
T51	0.1814 ± 0.0125	<0.0230	<0.0012	<0.0009	0.0324 ± 0.0036
T57	0.1881 ± 0.0128	<0.0159	<0.0014	<0.0011	0.0279 ± 0.0040
T58	0.1970 ± 0.0139	<0.0229	<0.0011	<0.0004	0.0350 ± 0.0047
T64	0.2061 ± 0.0127	<0.0205	<0.0011	<0.0011	0.0265 ± 0.0034
T72	0.2225 ± 0.0158	<0.0251	<0.0025	<0.0012	<0.0591

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	11-Apr-06	<148	419 ± 36	<3	<3	<8	<4	<10	<5	<5	<4	<4	<8
	17-May-06	<144	375 ± 35	<4	<4	<6	<5	<8	<6	<5	<5	<4	<4
	13-Jun-06	<145	330 ± 35	<3	<4	<9	<4	<8	<7	<5	<4	<5	<5
T67	11-Apr-06	<148	328 ± 33	<3	<3	<8	<4	<7	<5	<4	<4	<3	<8
	16-May-06	<144	336 ± 30	<4	<3	<8	<4	<7	<6	<6	<5	<4	<6
	13-Jun-06	<145	119 ± 20	<2	<2	<5	<3	<4	<4	<3	<3	<2	<4
T81	11-Apr-06	<146	333 ± 30	<3	<3	<6	<5	<8	<6	<4	<4	<4	<5
	17-May-06	<144	400 ± 35	<4	<4	<7	<4	<7	<6	<5	<4	<4	<5
	13-Jun-06	<145	331 ± 31	<3	<3	<7	<4	<8	<5	<5	<4	<4	<6

(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	U-238
These samples were previously collected.											

4.a.1. CRUSTACEA - (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	25-May-06	1276 ± 65	<6	<7	<16	<7	<15	<7	<6	319 ± 48	48 ± 9
T81	28-Apr-06	1899 ± 245	<31	<26	<103	<32	<47	<36	<29	<648	<118

4.a.2. FISH - (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	13-Apr-06	2651 ± 260	<26	<45	<75	<36	<62	<31	<30	<490	<135
T81	27-Apr-06	3121 ± 289	<34	<29	<99	<30	<79	<30	<30	<538	<111

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
T40	11-Apr-06	1946 ± 107	4301 ± 221	<17	<19	65 ± 11	<2073	<81	<337
	16-May-06	823 ± 46	3483 ± 99	<11	<8	36 ± 4	<1099	<38	<159
	13-Jun-06	1443 ± 90	3088 ± 180	<16	<18	196 ± 12	<2051	<72	785 ± 125
T41	11-Apr-06	1447 ± 106	5852 ± 236	<14	<16	47 ± 10	<2146	<74	<330
	16-May-06	812 ± 83	2833 ± 176	<23	<16	62 ± 10	<2281	<73	<314
	13-Jun-06	1100 ± 83	4699 ± 212	<14	<15	35 ± 6	<1894	<61	<293
T67	11-Apr-06	2162 ± 97	2860 ± 177	<16	<18	29 ± 8	<2394	<77	<339
	16-May-06	772 ± 66	3566 ± 176	<21	<16	25 ± 6	3604 ± 654	<73	303 ± 113
	13-Jun-06	606 ± 61	2818 ± 165	<13	<13	<14	<1672	<58	<262

TURKEY POINT SITE

Offsite Dose Calculation Manual Sampling

Third Quarter, 2006

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
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 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 - (μR/hour)

Sample Site	Deployment 15-Jun-06 Collection 13-Sep-06	Sample Site	Deployment 15-Jun-06 Collection 15-Sep-06
N-2	5.4 ± 0.4	WSW-8	4.6 ± 0.2
N-7	4.5 ± 0.2		
N-10	4.9 ± 0.3	SW-1	4.7 ± 0.3
		SW-8	5.2 ± 0.3
NNW-2	4.2 ± 0.2		
NNW-10	5.4 ± 0.4	SSW-5	4.2 ± 0.2
		SSW-10	4.7 ± 0.2
NW-1	6.0 ± 0.4		
NW-5	4.1 ± 0.2	S-5	4.6 ± 0.3
NW-10	6.9 ± 0.4	S-10	5.5 ± 0.3
WNW-10	5.7 ± 0.3	SSE-1	4.2 ± 0.2
		SSE-10	5.6 ± 0.4
W-1	6.0 ± 0.4		
W-5	4.9 ± 0.4	NNE-22	5.7 ± 0.4
W-9	4.2 ± 0.2		

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

Collection Date	T51	T57	T58	T64	T72
05-Jul-06	<0.01	<0.01	<0.01	<0.01	<0.01
11-Jul-06	<0.02	<0.02	<0.02	<0.02	<0.02
20-Jul-06	<0.01	<0.01	<0.01	<0.01	<0.01
25-Jul-06	<0.04	<0.04	<0.04	<0.04	<0.04
01-Aug-06	<0.02	<0.02	<0.02	<0.02	<0.02
08-Aug-06	<0.01	<0.01	<0.01	<0.01	<0.01
15-Aug-06	<0.02	<0.02	<0.02	<0.02	<0.02
23-Aug-06	<0.01	<0.01	<0.01	<0.01	<0.01
29-Aug-06	<0.04	<0.04	<0.03	<0.04	<0.04
06-Sep-06	<0.01	<0.01	<0.01	<0.01	<0.01
12-Sep-06	<0.02	<0.02	<0.02	<0.02	<0.02
19-Sep-06	<0.02	<0.02	<0.02	<0.02	<0.02
26-Sep-06	<0.02	<0.02	<0.02	<0.02	<0.02

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

Collection Date	Sample Site T51	T57	T58	T64	T72
05-Jul-06	0.013 ± 0.002	0.008 ± 0.002	0.011 ± 0.002	0.010 ± 0.002	0.011 ± 0.002
11-Jul-06	0.013 ± 0.002	0.009 ± 0.002	0.012 ± 0.002	0.014 ± 0.002	0.012 ± 0.002
20-Jul-06	0.013 ± 0.002	0.012 ± 0.002	0.008 ± 0.001	0.010 ± 0.002	0.011 ± 0.002
25-Jul-06	0.012 ± 0.002	0.008 ± 0.002	0.014 ± 0.002	0.009 ± 0.002	0.013 ± 0.002
01-Aug-06	0.014 ± 0.002	0.017 ± 0.002	0.016 ± 0.002	0.016 ± 0.002	0.018 ± 0.002
08-Aug-06	0.011 ± 0.002	0.014 ± 0.002	0.013 ± 0.002	0.021 ± 0.002	0.020 ± 0.002
15-Aug-06	0.016 ± 0.002	0.018 ± 0.002	0.017 ± 0.002	0.020 ± 0.002	0.019 ± 0.002
23-Aug-06	0.013 ± 0.002	0.010 ± 0.002	0.014 ± 0.002	0.012 ± 0.002	0.015 ± 0.002
29-Aug-06	0.013 ± 0.002	0.006 ± 0.002	0.010 ± 0.002	0.012 ± 0.002	0.011 ± 0.002
06-Sep-06	0.006 ± 0.002	0.005 ± 0.001	0.007 ± 0.002	0.007 ± 0.002	0.008 ± 0.002
12-Sep-06	0.011 ± 0.002	0.012 ± 0.002	0.014 ± 0.002	0.010 ± 0.002	0.015 ± 0.002
19-Sep-06	0.017 ± 0.002	0.018 ± 0.002	0.019 ± 0.002	0.016 ± 0.002	0.022 ± 0.002
26-Sep-06	0.017 ± 0.002	0.016 ± 0.002	0.019 ± 0.002	0.016 ± 0.002	0.015 ± 0.002
Average:	0.013 ± 0.001	0.012 ± 0.001	0.013 ± 0.001	0.013 ± 0.001	0.015 ± 0.001

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

Third Quarter, 2006

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
T51	0.1045 ± 0.0101	<0.0147	<0.0013	<0.0009	0.0166 ± 0.0035
T57	0.1216 ± 0.0132	<0.0211	<0.0012	<0.0008	0.0123 ± 0.0051
T58	0.1303 ± 0.0147	<0.0210	<0.0018	<0.0014	<0.0473
T64	0.1429 ± 0.0165	<0.0277	<0.0018	<0.0009	<0.0556
T72	0.1693 ± 0.0136	<0.0264	<0.0019	<0.0013	<0.0514

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	12-Jul-06	<135	296 ± 23	<2	<2	<5	<3	<5	<4	<3	<3	<2	<4
	08-Aug-06	<140	314 ± 22	<2	<2	<5	<3	<5	<4	<4	<3	<2	<3
	13-Sep-06	<141	198 ± 29	<4	<3	<7	<4	<8	<6	<5	<4	<4	<6
T67	12-Jul-06	<135	287 ± 28	<4	<4	<7	<4	<7	<6	<5	<4	<3	<5
	08-Aug-06	<140	136 ± 22	<4	<4	<7	<4	<7	<6	<6	<4	<4	<5
	12-Sep-06	<141	241 ± 26	<3	<2	<6	<4	<6	<6	<5	<4	<3	<5
T81	12-Jul-06	310 ± 48	361 ± 17	<2	<2	<3	<2	<3	<3	<3	<2	<2	<2
	08-Aug-06	125 ± 46	326 ± 23	<2	<2	<5	<2	<5	<4	<4	<3	<2	<3
	12-Sep-06	<141	273 ± 25	<2	<3	<5	<3	<6	<6	<4	<4	<3	<5

(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	U-235	U-238
T42	12-Jul-06	154 ± 44	<132	<8	<9	<10	<9	499 ± 231	631 ± 125	<43	49 ± 7	638 ± 216
T67	12-Jul-06	<73	111 ± 34	<6	<6	<7	<7	<373	355 ± 117	26 ± 8	<58	<283
T81	12-Jul-06	159 ± 31	264 ± 44	<7	<7	<8	<7	570 ± 155	782 ± 89	51 ± 11	56 ± 6	916 ± 152

4.a.1. CRUSTACEA - (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 has not yet been collected.										
T81	This sample has not yet been collected.										

4.a.2. FISH - (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 has not yet been collected										
T81	This sample has not yet been 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
T40	12-Jul-06	1660 ± 75	3284 ± 126	<16	<8	31 ± 5	<652	<194
	08-Aug-06	1192 ± 76	2564 ± 134	<15	<10	52 ± 6	<1558	360 ± 109
	12-Sep-06	2661 ± 109	2978 ± 175	<24	<15	35 ± 8	<2026	<309
T41	12-Jul-06	1701 ± 51	6282 ± 123	<11	<9	<8	<499	<162
	08-Aug-06	1637 ± 114	6634 ± 286	<24	<20	23 ± 7	<2600	<365
	12-Sep-06	1669 ± 101	4805 ± 227	<23	<15	88 ± 8	<2299	<313
T67	12-Jul-06	1127 ± 63	3273 ± 121	<15	<10	<8	<571	<190
	08-Aug-06	1161 ± 87	3363 ± 139	<16	<11	<10	<711	<237
	12-Sep-06	1152 ± 66	3834 ± 151	<13	<12	<8	<624	<229

TURKEY POINT SITE

Offsite Dose Calculation Manual Specifications Sampling

Fourth Quarter, 2006

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
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	1
4.a.2. Fish	Semiannually	2	2
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 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 - (μR/hour)

Sample Site	Deployment 13-Sep-06 Collection 06-Dec-06	Sample Site	Deployment 13-Sep-06 Collection 06-Dec-06
N-2	5.7 ± 0.4	WSW-8	4.8 ± 0.3
N-7	4.4 ± 0.3		
N-10	5.4 ± 0.3	SW-1	5.0 ± 0.3
		SW-8	5.4 ± 0.3
NNW-2	4.4 ± 0.3		
NNW-10	5.0 ± 0.3	SSW-5	4.8 ± 0.3
		SSW-10	4.9 ± 0.3
NW-1	6.3 ± 0.3		
NW-5	4.2 ± 0.3	S-5	4.9 ± 0.3
NW-10	7.2 ± 0.4	S-10	5.4 ± 0.4
WNW-10	5.8 ± 0.4	SSE-1	4.4 ± 0.2
		SSE-10	5.6 ± 0.6
W-1	5.9 ± 0.4		
W-5	4.6 ± 0.4	NNE-22	6.2 ± 0.3
W-9	3.9 ± 0.2		

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

Collection Date	T51	T57	T58	T64	T72
04-Oct-06	<0.02	<0.02	<0.02	<0.02	<0.02
11-Oct-06	<0.02	<0.03	<0.02	<0.02	<0.02
17-Oct-06	<0.01	<0.01	<0.01	<0.01	<0.01
24-Oct-06	<0.01	<0.01	<0.01	<0.01	<0.01
31-Oct-06	<0.02	<0.02	<0.02	<0.02	<0.02
07-Nov-06	<0.02	<0.02	<0.02	<0.02	<0.02
14-Nov-06	<0.02	<0.02(A)	<0.02	<0.02	<0.02
21-Nov-06	<0.01	<0.04(B)	<0.01	<0.01	<0.01
28-Nov-06	<0.02	<0.02	<0.02	<0.02	<0.02
06-Dec-06	<0.02	<0.02	<0.02	<0.03	<0.03
13-Dec-06	<0.01(C)	<0.01	<0.01	<0.01	<0.01
19-Dec-06	<0.02	<0.03(D)	<0.01	<0.01	<0.01
27-Dec-06	<0.01	<0.01(E)	<0.01	<0.01	<0.01

(A) No power; GFI receptacle was reset; estimated run time 44.6 hours.
(B) No power; GFI receptacle was reset; pump replaced; estimated run time 19 hours.
(C) No power to the box; pump was still hot indicating power lost recently; experienced a normal run time of 172.417 hours; checked again on 12/15/06 at 1430 and estimated power was restored that morning at 0945.
(D) No power; GFI receptacle was reset; estimated run time 19 hours.
(E) No power; GFI receptacle was reset; estimated run time 158 hours.

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

Sample Sites

Collection Date	T51	T57	T58	T64	T72
04-Oct-06	0.014 ± 0.002	0.018 ± 0.002	0.015 ± 0.002	0.020 ± 0.002	0.019 ± 0.002
11-Oct-06	0.019 ± 0.002	0.017 ± 0.003	0.018 ± 0.002	0.018 ± 0.002	0.015 ± 0.002
17-Oct-06	0.019 ± 0.003	0.019 ± 0.002	0.021 ± 0.003	0.018 ± 0.002	0.021 ± 0.003
24-Oct-06	0.016 ± 0.002	0.017 ± 0.002	0.016 ± 0.002	0.020 ± 0.002	0.015 ± 0.002
31-Oct-06	0.025 ± 0.002	0.019 ± 0.002	0.024 ± 0.002	0.022 ± 0.002	0.022 ± 0.002
07-Nov-06	0.013 ± 0.002	0.015 ± 0.002	0.012 ± 0.002	0.015 ± 0.002	0.012 ± 0.002
14-Nov-06	0.025 ± 0.003	0.015 ± 0.006(A)	0.021 ± 0.002	0.021 ± 0.002	0.029 ± 0.003
21-Nov-06	0.026 ± 0.003	0.019 ± 0.002(B)	0.023 ± 0.003	0.024 ± 0.003	0.028 ± 0.003
28-Nov-06	0.008 ± 0.002	0.010 ± 0.002	0.009 ± 0.002	0.006 ± 0.002	0.013 ± 0.002
06-Dec-06	0.016 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.014 ± 0.002	0.014 ± 0.002
13-Dec-06	0.017 ± 0.002(C)	0.015 ± 0.002	0.019 ± 0.002	0.016 ± 0.002	0.016 ± 0.002
19-Dec-06	0.016 ± 0.003	0.006 ± 0.002(D)	0.007 ± 0.002	0.004 ± 0.002	0.006 ± 0.002
27-Dec-06	0.009 ± 0.002	0.008 ± 0.002(E)	0.013 ± 0.002	0.014 ± 0.002	0.013 ± 0.002
Average:	0.017 ± 0.001	0.015 ± 0.001	0.016 ± 0.001	0.016 ± 0.001	0.017 ± 0.001

(A) No power; GFI receptacle was reset; estimated run time 44.6 hours.
(B) No power; GFI receptacle was reset; pump replaced; estimated run time 19 hours.
(C) No power to the box; pump was still hot indicating power lost recently; experienced a normal run time of 172.417 hours; checked again on 12/15/06 at 1430 and estimated power was restored that morning at 0945.
(D) No power; GFI receptacle was reset; estimated run time 19 hours.
(E) No power; GFI receptacle was reset; estimated run time 158 hours.

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

Fourth Quarter, 2006

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
T51	0.1807 ± 0.0123	<0.0181	<0.0009	<0.0010	0.0247 ± 0.0048
T57	0.2123 ± 0.0144	<0.0242	<0.0014	<0.0013	0.0357 ± 0.0047
T58	0.1971 ± 0.0155	<0.0274	<0.0017	<0.0013	<0.0562
T64	0.1980 ± 0.0127	<0.0186	<0.0010	<0.0009	0.0331 ± 0.0039
T72	0.2018 ± 0.0124	<0.0171	<0.0012	<0.0007	0.0382 ± 0.0038

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	11-Oct-06	<146	214 ± 29	<3	<3	<7	<4	<9	<6	<5	<5	<4	<4
	14-Nov-06	<142	299 ± 31	<3	<4	<8	<4	<8	<5	<4	<3	<4	<7
	06-Dec-06	<143	254 ± 30	<4	<4	<6	<4	<7	<7	<5	<4	<4	<4
T67	11-Oct-06	<146	102 ± 29	<3	<4	<8	<4	<7	<6	<6	<4	<3	<6
	14-Nov-06	<142	93 ± 25	<4	<2	<7	<4	<9	<6	<5	<4	<3	<8
	05-Dec-06	<142	226 ± 29	<3	<3	<6	<4	<7	<6	<6	<4	<3	<3
T81	11-Oct-06	<146	264 ± 24	<2	<2	<5	<2	<4	<4	<3	<2	<2	<3
	14-Nov-06	<143	327 ± 45	<3	<3	<10	<5	<9	<9	<6	<6	<5	<7
	06-Dec-06	<143	285 ± 23	<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)

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

4.a.1. CRUSTACEA - (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	Unable to obtain any blue crabs after numerous attempts.										
T81	31-Oct-06	2147 ± 201	<25	<32	<74	<32	<55	<30	<25	502 ± 220	<124

4.a.2. FISH - (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	27-Oct-06	2325 ± 182	<18	<18	<61	<19	<39	<24	<16	<278	<66
T81	20-Oct-06	2602 ± 221	<24	<28	<66	<32	<66	<27	<27	<466	<115

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
T40	11-Oct-06	1703 ± 46	3425 ± 90	<10	<8	36 ± 4	<962	<33	<145
	14-Nov-06	1429 ± 37	3915 ± 87	<9	<7	76 ± 4	<861	<28	<125
	06-Dec-06	1893 ± 47	3867 ± 98	<9	<7	29 ± 4	1337 ± 308	<33	<135
T41	11-Oct-06	1423 ± 87	4346 ± 206	<22	<19	<20	<2180	<79	<270
	14-Nov-06	1385 ± 90	5402 ± 207	<22	<14	32 ± 6	<1941	<69	393 ± 152
	06-Dec-06	1512 ± 97	3067 ± 168	<19	<15	34 ± 5	2264 ± 722	<70	<279
T67	11-Oct-06	2032 ± 41	3028 ± 62	<8	<5	23 ± 3	1161 ± 152	<35	<109
	14-Nov-06	1755 ± 36	3421 ± 60	<7	<4	36 ± 3	877 ± 154	<31	<100
	05-Dec-06	1563 ± 77	4342 ± 152	<19	<11	32 ± 6	<812	<82	<247

ATTACHMENT C

RESULTS FROM THE INTERLABORATORY

COMPARISON PROGRAM 2006

DEPARTMENT OF ENERGY

MAPEP 15, June 2006

AND

MAPEP 16, December 2006

2006
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
TURKEY POINT PLANT – UNITS 3 & 4

DOE-MAPEP 15 RESULTS

Radionuclide	Result	Ref. Value	Flag (Evaluation)	Acceptance Range
Matrix: RdF Air Filter Bq/filter				
MN54	< MDA	None	A	Not Applicable
CO57	4.300	4.096	A	2.87 – 5.32
CO60	2.170	2.180	A	1.53 – 2.84
ZN65	3.820	3.423	A	2.40 – 4.45
CS134	2.920	2.934	A	2.05 – 3.81
CS137	2.580	2.531	A	1.77 – 3.29
Am-241	0.100	0.093	A	0.07 – 0.12
Pu-238	0.076	0.067	A	0.05 – 0.09
Matrix: GrF Air Filter Bq/filter				
Gross Beta	0.444	0.481	A	0.24 - 0.72
Matrix: MaS Soil Bq/kg				
K40	601.47	604	A	423 - 785
MN54	348.23	346.77	A	242.74 - 450.80
CO57	669.5	656.29	A	459.4 - 853.18
CO60	428.93	447.1	A	312.97 - 581.23
ZN65	669.83	657.36	A	460.15 - 854.57
CS134	2.11	None	N	
CS137	335.37	339.69	A	237.78 - 441.60
U238	50.10	38.85	W	27.20 - 50.50
AM241	59.02	57.08	A	39.96 - 74.20
Matrix: MaW Water Bq/L				
H3	1039.3	952.01	A	666.41 - 1,238
MN54	328.47	315	A	220.50 - 409.50
CO57	162.17	166.12	A	116.28 - 15.96
CO60	154.50	153.5	A	107.45 - 199.55
ZN65	242.77	228.16	A	159.71 - 296.61
CS134	95.36	95.1	A	66.57 - 123.63
CS137	< MDA	None	A	Not Applicable
AM241	0.99	1.3	A	0.91 - 1.69
Matrix: RdV Vegetation, Bq/sample :				
MN54	5.76	6.247	A	4.37 - 8.12
CO57	8.89	8.578	A	6.00 - 11.15
CO60	4.10	4.52	A	3.16 - 5.88
ZN65	9.39	9.798	A	6.89 - 12.74
CS134	< MDA	None	A	Not Applicable
CS137	2.84	3.074	A	2.15 - 4.00

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

2006
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
TURKEY POINT PLANT – UNITS 3 & 4

DOE-MAPEP 16 RESULTS

Radionuclide	Result	Ref. Value	Flag (Evaluation)	Acceptance Range
Matrix: RdF Air Filter Bq/filter				
MN54	2.20	1.92	A	1.10 – 2.05
CO57	2.93	2.582	A	1.81 – 3.36
CO60	1.66	1.577	A	1.10 – 2.05
ZN65	-0.006	0	A	0 ± 0.027
CS134	3.29	3.117	A	2.20 – 4.09
CS137	2.03	1.805	A	1.26 – 2.35
AM241	0.16	0.142	A	0.10 – 0.19
Matrix: GrF Filter Bq/sample				
Gross Beta	0.39	0.359	A	0.18 – 0.54
Matrix: MaS Soil Bq/kg				
K40	622.13	604	A	423.00 – 785.00
MN54	625.4	594.25	A	415.98 – 772.52
CO57	721.33	676.33	A	473.43 – 879.23
CO60	2.698	1.98	A	None Listed
ZN65	965.1	903.61	A	632.53 – 1,175
CS134	457.75	452.13	A	316.49 – 587.77
CS137	545.2	525.73	A	368.01 – 683.45
Matrix: MaW Water Bq/L				
H3	469.59	428.85	A	300.20 – 557.50
MN54	-0.05	0	A	0 ± 0.11
CO57	212.2	213.08	A	149.16 – 277.00
CO60	48.54	47.5	A	33.20 – 61.80
NI63	98.82	118.62	A	83.03 – 154.21
ZN65	190.9	176.37	A	123.46 – 229.28
SR90	17.7	15.69	A	10.98 – 20.40
CS134	113.57	112.82	A	78.97 – 146.66
CS137	202.80	196.14	A	137.30 – 254.98
Matrix: RdV Vegetation, Bq/sample :				
MN54	7.77	8.351	A	5.85 – 10.86
CO57	0.00	0	W	0 ± 0.01
CO60	5.26	5.806	A	4.06 – 7.55
ZN65	5.68	5.984	A	4.19 – 7.78
CS134	6.99	7.487	A	5.24 – 9.73
CS137	5.03	5.495	A	3.85 – 7.14
AM241	0.01	0	A	0 ± 0.03

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

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.