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L-2008-091
10 CFR 50.4
10 CFR 50.36

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

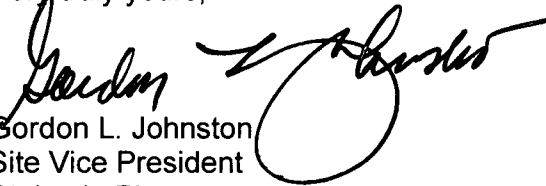
RE: St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
Annual Radiological Environmental
Operating Report for Calendar Year 2007

The attached report is being submitted pursuant to Technical Specification 6.9.1.8. The *Annual Radiological Environmental Operating Report* provides information summaries and analytical results of the Radiological Environmental Monitoring Program (REMP) for calendar year 2007.

Attachment C of this report references incomplete results from the Department of Energy (DOE) Interlaboratory Comparison Program. The DOE issued a letter indicating a delay for the second cycle performance assessment results (MAPEP-18, December 2007). Upon receipt of this data, Florida Power & Light Company will submit an amended report.

Please contact us should there be any questions regarding this report.

Very truly yours,


Gordon L. Johnston
Site Vice President
St. Lucie Plant

Attachment

GLJ/ttt

TEAS
NRR

2007
ANNUAL
RADIOLOGICAL ENVIRONMENTAL
OPERATING REPORT

ST. LUCIE PLANT

UNITS 1 & 2

LICENSE NOS. DPR-67, NPF-16

DOCKET NOS. 50-335, 50-389

Data Submitted by: Florida DOH

Prepared by: Peter G. Bueh

Reviewed by: J. Lamb 3/20/08

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ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
ST. LUCIE PLANT – UNITS 1 & 2

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**ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
ST. LUCIE PLANT – UNITS 1 & 2**

I. INTRODUCTION

This report is submitted pursuant to Specification 6.9.1.8 of St. Lucie Unit 1 and St. Lucie Unit 2 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 meeting the requirements of Unit 1 and Unit 2 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 to 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 St. Lucie Plant is conducted pursuant to the St. Lucie Units 1 and 2 Offsite Dose Calculation Manual (ODCM) Section 3/4.12.1., Monitoring Program.

1. Sample Locations, Types and Frequencies:

- a. Direct radiation gamma exposure rate is monitored continuously at 27 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 two locations. Samples are collected and analyzed weekly and monthly, respectively. Analyses include gamma isotopic and tritium measurements.

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- d. Shoreline sediment samples are collected from two 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. 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 2007

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

2. Analytical Responsibility:

Radiological environmental monitoring for the St. Lucie Plant is conducted by the State of Florida, Department of Health (DOH), Bureau of Radiation Control (BRC). Samples are collected and analyzed by DOH personnel.

Samples are analyzed at the DOH BRC 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 or missing data, if any, are noted and explained in Table 1A. Samples not meeting the specified "A PRIORI" LLD, if any, are noted and explained in Table 1B. Analysis data for all specified samples analyzed during the surveillance period is provided in Attachment B.

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D. Land Use Census

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

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 St. Lucie Plant ODCM. Table 1 provides a summary of the measurements made for the nuclides required by ODCM, Table 4.12-1, for all samples specified by Table 3.12-1. 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. Surface Water:

The results for radioactivity measurements in surface water are consistent with past measurements and with measurements made during the pre-operational surveillance program. There were no indications of any nuclides attributed to plant effluents. Results for surface water samples are summarized in Table 1.

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4. Waterborne Sediment and Food Products:

The results for radioactivity measurements in waterborne sediment, fish and crustacean samples are consistent with past measurements and with measurements made during the pre-operational surveillance program. There were no indications of any nuclides attributed to plant effluents. Results for the waterborne sediment, fish and crustacean samples are summarized in Table 1.

5. Broad Leaf Vegetation:

The results of radioactivity measurements in broad leaf vegetation are consistent with past measurements and with measurements made during the pre-operational surveillance program.

There were no indications of any nuclides attributed to plant effluents.

Results for the broad leaf vegetation samples are summarized in Table 1.

6. Land Use 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 percent greater than locations currently being sampled in the radiological environmental monitoring program were identified by the land use census.

7. 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 has reported a delay for issuance of the report that would contain the performance grade. The report is typically published in February; the MAPEP-18 performance report may be available by mid-April.

The results are listed in Attachment C.

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C. Conclusions

The data obtained through the St. Lucie Plant radiological environmental monitoring program verifies that the levels of radiation and concentrations of radioactive materials in environmental samples, representing the highest potential exposure pathways to members of the public, are not being increased.

The measurements verify that the dose or dose commitment to members of the public, due to operation of St. Lucie Units 1 and 2, 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 St. Lucie Units 1 & 2, Docket No(s). 50-335 & 50-389
 Location of Facility St. Lucie, 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, 10 ⁶ ^d	---	5.2 (102/102) 4.3 - 6.5	NW-10 10 mi., NW	6.3 (4/4) 6.1 - 6.4	5.4 (4/4) 5.1 - 5.9

Number of Non-Routine Reported Measurements = 0

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
 Name of Facility St. Lucie Units 1 & 2, Docket No(s). 50-335 & 50-389
 Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2007
 (County, State)

PATHWAY: AIRBORNE
 SAMPLES COLLECTED: RADIOIODINE AND PARTICULATES
 UNITS: PICO - Ci/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 (205/208) 0.003 - 0.046	H-08 6 miles, WNW	0.014 (51/52) 0.003 - 0.029	0.015 (50/52) 0.007 - 0.027
Composite Gamma Isotopic, 20					
⁷ Be	0.0052	0.1748 (16/16) 0.1119 - 0.2471	H-08 6 miles, WNW	0.1904 (4/4) 0.1395 - 0.2471	0.1974 (4/4) 0.1276 - 0.2419
¹³⁴ Cs	0.00069	<MDA	---	---	<MDA
¹³⁷ Cs	0.00066	<MDA	---	---	<MDA
²¹⁰ Pb	---	0.0242 (8/16) 0.0161 - 0.0339	H-34 0.5 mi., N	0.0339 (1/4)	0.0323 (3/4) 0.0276 - 0.0367

Number of Non-Routine Reported Measurements = 0

TABLE 1

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
 Name of Facility St. Lucie Units 1 & 2, Docket No(s). 50-335 & 50-389
 Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2007
 (County, State)

PATHWAY: WATERBORNE

SAMPLES COLLECTED: SURFACE WATER

UNITS: PICO - Ci/LITER

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, 64	172	<MDA	---	---	<MDA
Gamma Isotopic, 64					
⁴⁰ K	60	359 (52/52) 225 - 421	H-15 <1 mi., ENE/E/ESE	359 (52/52) 225 - 421	327 (12/12) 279 - 392
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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 Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2007
 (County, State)

PATHWAY: WATERBORNE
 SAMPLES COLLECTED: SHORELINE SEDIMENT
 UNITS: PICO - Ci/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 Distance & Direction	Mean (f) ^b Range	
Gamma Isotopic, 4					
⁷ Be	---	146 (1/2)	H-15 <1 mi, ENE/E/ESE	146 (1/2)	88 (1/2)
⁴⁰ K	140	488 (2/2) 268 - 707	H-15 <1 mi, ENE/E/ESE	488 (2/2) 268 - 707	300 (2/2) 220 - 379
⁵⁸ Co	9	<MDA	---	---	<MDA
⁶⁰ Co	12	<MDA	---	---	<MDA
¹³⁴ Cs	14	<MDA	---	---	<MDA
¹³⁷ Cs	12	<MDA	---	---	<MDA
²²⁶ Ra	49	316 (2/2) 198 - 434	H-15 <1 mi., ENE/E/ESE	316 (2/2) 198 - 434	298 (2/2) 194 - 402
²³² Th	---	157 (1/2)	H-15 <1 mi., ENE/E/ESE	157 (1/2)	58 (1/2)

Number of Non-Routine Reported Measurements = 0

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 Name of Facility St. Lucie Units 1 & 2, Docket No(s). 50-335 & 50-389
 Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2007
 (County, State)

PATHWAY: INGESTION
 SAMPLES COLLECTED: CRUSTACEA
 UNITS: PICO - Ci/Kg, WET

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	
Gamma Isotopic, 4					
⁴⁰ K	130	2387 (2/2) 2272 – 2502	H-15 <1 mi., ENE/E/ESE	2387 (2/2) 2272 – 2502	1744 (2/2) 1587 - 1901
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
²²⁶ Ra	---	< MDA	---	---	450 (1/2)
²²⁸ Ra	---	< MDA	---	---	187 (1/2)

Number of Non-Routine Reported Measurements = 0

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
 Name of Facility St. Lucie Units 1 & 2, Docket No(s). 50-335 & 50-389
 Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2007
 (County, State)

PATHWAY: INGESTION
 SAMPLES COLLECTED: FISH
 UNITS: PICO - Ci/Kg, WET

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	
Gamma Isotopic, 4					
⁴⁰ K	130	2812 (2/2) 2347 - 3277	H-15 <1 mi., ENE/E/ESE	2812 (2/2) 2347 - 3277	3497 (2/2) 2864 - 4130
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

Number of Non-Routine Reported Measurements = 0

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
 Name of Facility St. Lucie Units 1 & 2, Docket No(s). 50-335 & 50-389
 Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2007
 (County, State)

PATHWAY: INGESTION
 SAMPLES COLLECTED: BROAD LEAF VEGETATION
 UNITS: PICO - Ci/Kg, WET

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, 36					
⁷ Be	71	1385 (24/24) 489 - 2096	H-51 1 mi., N/NNW	1522 (12/12) 899 - 2096	1340 (12/12) 895 - 1948
⁴⁰ K	100	4054 (24/24) 2071 - 5957	H-52 1 mi., S/SSE	4268 (12/12) 2172 - 5975	3035 (12/12) 2016 - 4038
⁵⁸ Co	6	<MDA	---	---	<MDA
⁶⁰ Co	8	<MDA	---	---	<MDA
¹³¹ I	9	<MDA	---	---	<MDA
¹³⁴ Cs	8	<MDA	---	---	<MDA
¹³⁷ Cs	8	<MDA	---	---	<MDA
²¹⁰ Pb	---	1157 (4/24) 503 - 2004	H-51 1 mi., N/NNW	1245 (3/12) 503 - 2004	564 (2/12) 502 - 626
²¹² Pb	---	45 (6/24) 16 - 77	H-52 1 mi., S/SSE	64 (2/12) 51 - 77	40 (1/12)
²²⁶ Ra	---	406 (1/24)	H-51 1 mi., N/NNW	406 (1/12)	<MDA

Number of Non-Routine Reported Measurements = 0

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
Name of Facility St. Lucie Units 1 & 2, Docket No(s). 50-335 & 50-389
Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2007
(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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TABLE 1A
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DEVIATIONS / MISSING DATA

A)	Pathway:	Direct Exposure, TLDs
	Location:	NNW-10 , 9 miles North Northwest
	Dates:	7 MAR 07 to 12 JUN 07
	Deviation:	Failure to perform continuous monitoring
	Description of Problem:	TLD holder (cricket cage) fell apart; TLD struck by lawnmower.
	Corrective Action:	Repaired holder, replaced TLD.
B)	Pathway:	Direct Exposure, TLDs
	Location:	WNW-5, 5 miles West Northwest
	Dates:	7 MAR 07 to 12 JUN 07
	Deviation:	Failure to perform continuous monitoring
	Description of Problem:	Utility pole where TLD mounted removed for road construction; TLD removed with pole.
	Corrective Action:	Located new utility pole away from construction area, mounted replacement TLD
C)	Pathway:	Airborne, Particulates & Radioiodines
	Location:	H-14 , 1 mile Southeast
	Dates:	17 JUL 07 to 24 JUL 07
	Deviation:	Failure to perform continuous monitoring
	Description of Problem:	Apparent power interruption during sampling period; estimated sampling duration of 137.6 hours of 170 hour sampling period.
	Corrective Action:	Verified equipment as operable; no repairs needed.

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TABLE 1A
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DEVIATIONS / MISSING DATA

D)	Pathway:	Airborne, Particulates & Radioiodines
	Location:	H-34, 0.5 miles North
	Dates:	9 OCT 07 to 16 OCT 07
	Deviation:	Failure to perform continuous monitoring
	Description of Problem:	Air sample pump not running properly; estimated run time of 69 hours out of 168 hour sampling period
	Corrective Action:	Replaced air sampling pump; verified equipment as operable.
E)	Pathway:	Airborne, Particulates & Radioiodines
	Location:	H-12 , 12 miles South
	Dates:	7 NOV 07 to 14 NOV 07
	Deviation:	Failure to perform continuous monitoring
	Description of Problem:	Apparent power interruption during sampling period; estimated sampling duration of 133 hours of 163 hour sampling period
	Corrective Action:	Verified equipment as operable; no repairs needed.
F)	Pathway:	Airborne, Particulates & Radioiodines
	Location:	H-30 , 2 miles West
	Dates:	28 NOV 07 to 5 DEC 07
	Deviation:	Failure to perform continuous monitoring
	Description of Problem:	Apparent power interruption during sampling period; estimated sampling duration of 145 hours of 171 hour sampling period
	Corrective Action:	Verified equipment as operable; no repairs needed.

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TABLE 1B

ANALYSIS WITH LLDs ABOVE THE REQUIRED DETECTION CAPABILITIES
(LLDs) Listed in ODCM TABLE 4.12-1
1/1/2007 – 12/31/2007

The values specified in ODCM Table 4.12-1, Detection Capabilities, were achieved for all samples.

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TABLE 2

LAND USE CENSUS
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Distance to Nearest (a, b)

Sector	7/07 – 8/07 Milk (c) Animal	7/07 – 8/07 Residence	7/07 – 8/07 Garden (d)
N	O (e)	O	O
NNE	O	O	O
NE	O	O	O
ENE	O	O	O
E	O	O	O
ESE	O	O	O
SE	O	1.5/142 (g)	O
SSE	L (f)	3.3/152 (g)	L
S	L	3.3/190	L
SSW	L	2.2/212	L
SW	L	1.9/235	L
WSW	L	1.9/240	L
W	L	1.9/260	L
WNW	L	2.2/281	L
NW	L	3.5/304	L
NNW	L	3.4/342 (g)	L

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TABLE 2

LAND USE CENSUS
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NOTES

- a. All categories surveyed out to a 5-mile radius from the St. Lucie Plant.
- b. The following format is used to denote the location:

distance (miles)/bearing (degrees)

For example, a residence located in the southeast sector at a distance of 1.5 miles bearing 142 degrees is recorded as 1.5/142.

- c. Potential milk animal locations.
- d. Gardens with an estimated growing area of 500 square feet or more.
- e. O denotes that the sector area is predominantly an ocean area.
- f. L denotes that the sector area is predominantly a land area unoccupied by the category type.
- g. Non-residential occupied buildings in these sectors include the following:

<u>Sector</u>	<u>Distance</u>	<u>Description</u>
SSE	1.8/147	Fire Station
NNW	2.8/348	A new community is being developed. At the current time, there are no houses available for occupancy.

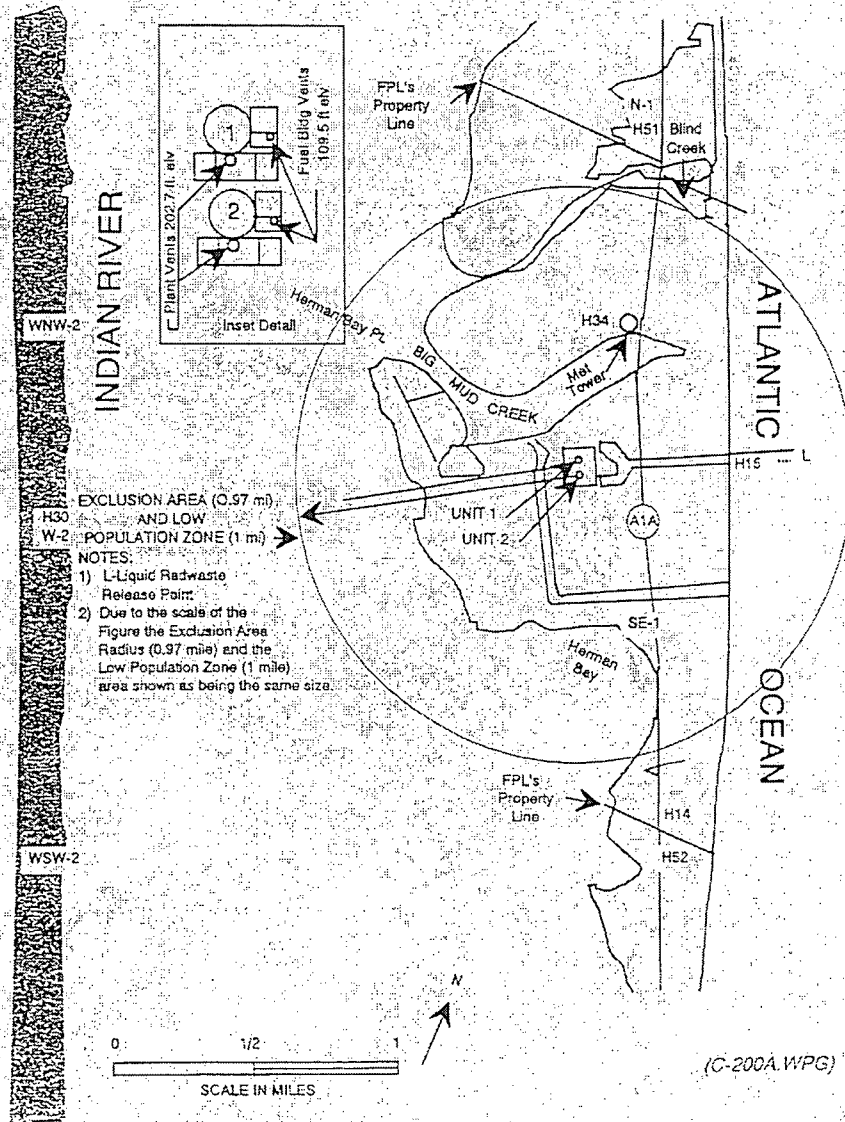
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ATTACHMENT A

KEY TO SAMPLE LOCATIONS

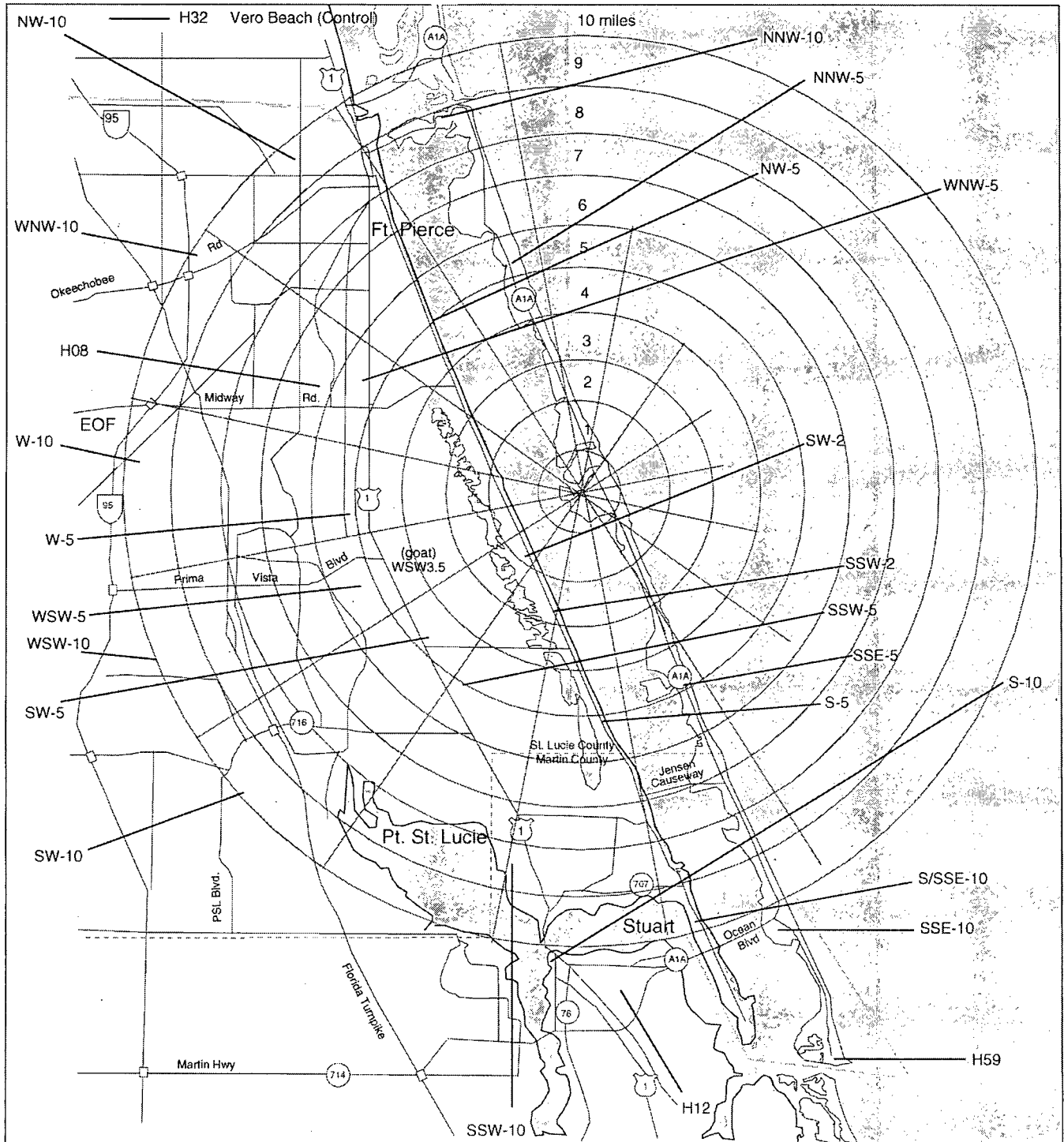
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SITE AREA MAP & ENVIRONMENTAL SAMPLE LOCATIONS



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ENVIRONMENTAL SAMPLE LOCATIONS (10 MILES)



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ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
ST. LUCIE PLANT - UNITS 1 & 2

ATTACHMENT A

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

<u>Location Name</u>	<u>Direction Sector</u>	<u>Approximate Distance (miles)</u>	<u>Description</u>
N-1	N	1	A1A, North of Blind Creek
NNW-5	NNW	5	South of Pete Stone Creek
NNW-10	NNW	9	Coast Guard Station
NW-5	NW	6	Indian River Dr., at Rio Vista Dr.
NW-10	NW	10	S.R. 68 at S.R. 607
WNW-2	WNW	3	Cemetery South of 7107 Indian River Dr.
WNW-5	WNW	5	U.S. 1 at S.R. 712
WNW-10	WNW	10	S.R. 70, West of Turnpike
W-2	W	2	7609 Indian River Drive
W-5	W	5	Oleander and Sager Street
W-10	W	9	Interstate 95 at S.R. 709
WSW-2	WSW	2	8503 Indian River Dr.
WSW-5	WSW	5	Prima Vista at Yacht Club
WSW-10	WSW	10	Del Rio at Davis Street
SW-2	SW	2	9207 Indian River Drive
SW-5	SW	5	U.S. 1 at Village Green Dr.
SW-10	SW	10	Port St. Lucie Blvd. at Cairo Rd.
SSW-2	SSW	3	10307 Indian River Drive
SSW-5	SSW	6	U.S. 1 at Port St. Lucie Blvd.
SSW-10	SSW	8	Pine Valley at Westmoreland Rd.
S-5	S	5	13179 Indian River Drive
S-10	S	10	U.S. 1 at S.R. 714
S/SSE-10	SSE	10	Indian River Dr. at Quail Run Lane
SSE-5	SSE	5	Entrance to Nettles Island
SSE-10	SSE	10	Elliot Museum
SE-1	SE	1	South of Cooling Canal
Control:			
H-32	NNW	19	University of Florida IFAS Vero Beach

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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>
H-08	WNW	6	FPL Substation, Weatherbee Rd.
H-14	SE	1	On-Site, Near South Property Line
H-30	W	2	Power Line, 7609 Indian River Drive
H-34	N	0.5	On-Site at Meteorology Tower
<u>Control:</u>			
H-12	S	12	FPL Substation, SR-76 Stuart

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PATHWAY: WATERBORNE

SAMPLES COLLECTED: SURFACE WATER (OCEAN)

SAMPLE COLLECTION FREQUENCY: H-15 WEEKLY, H-59 MONTHLY

<u>Location Name</u>	<u>Direction Sector</u>	<u>Approximate Distance (miles)</u>	<u>Description</u>
H-15	ENE/E/SSE	<1	Atlantic Ocean, Public Beaches East Side A1A

Control:

H-59	S/SSE	10-20	South End, Hutchinson Island
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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>
H-15	ENE/E/ESE	<1	Atlantic Ocean, Public Beaches East Side A1A

Control:

H-59	S/SSE	10-20	South End, Hutchinson Island
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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>
H-15	ENE/E/ESE	<1	Ocean Side, Vicinity of St. Lucie Plant

Control:

H-59	S/SSE	10-20	South End, Hutchinson Island
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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>
H-51	N/NNW	1	Off-Site Near North Property Line
H-52	S/SSE	1	Off-Site Near South Property Line

Control:

H-59	S/SSE	10-20	South End, Hutchinson Island
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ST. LUCIE PLANT - UNITS 1 & 2

ATTACHMENT B

RADIOLOGICAL SURVEILLANCE OF
FLORIDA POWER AND LIGHT COMPANY

ST. LUCIE SITE

2007

First Quarter 2007

Second Quarter 2007

Third Quarter 2007

Fourth Quarter 2007

ST. LUCIE 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	27	27
2. Airborne			
2.a. Air Iodines	Weekly	5	65
2.b. Air Particulates	Weekly	5	65
3. Waterborne			
3.a. Surface Water	Weekly	1	13
	Monthly	1	3
3.b. Shoreline Sediment	Semiannually	2	2
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: 187

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

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

1. DIRECT RADIATION - TLDs - ($\mu\text{R}/\text{hour}$)

Sample Site	Deployment 08-Dec-06 Collection 07-Mar-07	Sample Site	Deployment 08-Dec-06 Collection 07-Mar-07
N-1	5.0 ± 0.3	SW-2	4.8 ± 0.4
NNW-5	5.0 ± 0.4	SW-5	5.9 ± 0.5
NNW-10	5.5 ± 0.3	SW-10	5.3 ± 0.4
NW-5	5.0 ± 0.3	SSW-2	4.8 ± 0.3
NW-10	6.1 ± 0.5	SSW-5	6.2 ± 0.5
		SSW-10	5.5 ± 0.4
WNW-2	5.2 ± 0.3		
WNW-5	5.2 ± 0.4	S-5	5.5 ± 0.3
WNW-10	6.0 ± 0.5	S-10	5.2 ± 0.3
		S/SSE-10	5.1 ± 0.3
W-2	4.8 ± 0.3		
W-5	6.5 ± 1.3	SSE-5	4.7 ± 0.3
W-10	5.3 ± 0.3	SSE-10	5.7 ± 0.3
WSW-2	5.0 ± 0.4	SE-1	5.4 ± 0.3
WSW-5	5.1 ± 0.4		
WSW-10	4.8 ± 0.3	H-32	5.9 ± 0.3

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

<u>Collection Date</u>	<u>H08</u>	<u>H12</u>	<u>H14</u>	<u>H30</u>	<u>H34</u>
02-Jan-07	<0.02	<0.02	<0.02	<0.02	<0.02
10-Jan-07	<0.01	<0.01	<0.01	<0.01	<0.01
18-Jan-07	<0.01	<0.01	<0.01	<0.01	<0.01
23-Jan-07	<0.03	<0.03	<0.03	<0.03	<0.03
02-Feb-07	<0.01	<0.01	<0.01	<0.01	<0.01
08-Feb-07	<0.03	<0.03	<0.03	<0.03	<0.03
14-Feb-07	<0.03(A)	<0.03	<0.03	<0.03	<0.03
22-Feb-07	<0.01	<0.01	<0.01	<0.01	<0.01
01-Mar-07	<0.02	<0.02	<0.02	<0.02	<0.02
07-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	<0.01	<0.02	<0.02	<0.01	<0.02
27-Mar-07	<0.01	<0.01	<0.01	<0.01	<0.01

(A) Gas meter changed out. This was based on review of data while compiling the quarterly report for the fourth quarter of 2006.

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

<u>Collection Date</u>	<u>H08</u>	<u>H12</u>	<u>H14</u>	<u>H30</u>	<u>H34</u>
02-Jan-07	0.008 ± 0.002	0.007 ± 0.002	0.007 ± 0.002	0.012 ± 0.003	0.006 ± 0.002
10-Jan-07	0.007 ± 0.002	0.009 ± 0.002	0.008 ± 0.002	0.005 ± 0.001	0.004 ± 0.001
18-Jan-07	0.007 ± 0.002	0.010 ± 0.002	0.007 ± 0.002	0.006 ± 0.001	0.006 ± 0.002
23-Jan-07	0.010 ± 0.003	0.013 ± 0.003	0.006 ± 0.002	0.005 ± 0.002	0.015 ± 0.003
02-Feb-07	0.020 ± 0.002	0.018 ± 0.002	0.017 ± 0.002	0.015 ± 0.002	0.018 ± 0.002
08-Feb-07	0.017 ± 0.003	0.019 ± 0.003	0.019 ± 0.003	0.027 ± 0.003	0.023 ± 0.003
14-Feb-07	0.025 ± 0.003(A)	0.022 ± 0.003	0.018 ± 0.002	0.025 ± 0.003	0.017 ± 0.003
22-Feb-07	0.020 ± 0.002	0.025 ± 0.002	0.018 ± 0.002	0.021 ± 0.002	0.017 ± 0.002
01-Mar-07	0.016 ± 0.002	0.018 ± 0.002	0.015 ± 0.002	0.013 ± 0.002	0.014 ± 0.002
07-Mar-07	0.012 ± 0.002	0.019 ± 0.002	0.018 ± 0.002	0.021 ± 0.003	0.015 ± 0.002
14-Mar-07	0.017 ± 0.002	0.018 ± 0.002	0.007 ± 0.002	0.010 ± 0.002	0.013 ± 0.002
20-Mar-07	0.016 ± 0.002	0.015 ± 0.002	0.019 ± 0.003	0.015 ± 0.002	0.018 ± 0.003
27-Mar-07	0.016 ± 0.002	0.017 ± 0.002	0.016 ± 0.002	0.013 ± 0.002	0.015 ± 0.002
Average:	0.015 ± 0.001	0.016 ± 0.001	0.014 ± 0.001	0.014 ± 0.001	0.014 ± 0.001

(A) Gas meter changed out. This was based on review of data while compiling the quarterly report for the fourth quarter of 2006.

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>
H08	0.2105 ± 0.0136	<0.0162	<0.0012	<0.0008	0.0239 ± 0.0046
H12	0.2497 ± 0.0146	<0.0184	<0.0010	<0.0010	0.0367 ± 0.0046
H14	0.2137 ± 0.0144	<0.0191	<0.0011	<0.0010	0.0198 ± 0.0051
H30	0.1752 ± 0.0144	<0.0150	<0.0009	<0.0011	0.0179 ± 0.0039
H34	0.1819 ± 0.0046	<0.0076	<0.0005	<0.0004	0.0339 ± 0.0073

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)
H15	02-Jan-07	<140	333 ± 36	<3	<3	<6	<5	<8	<6	<5	<5	<3	<13
	10-Jan-07	<144	376 ± 26	<3	<3	<7	<3	<8	<5	<5	<3	<3	<5
	18-Jan-07	<144	225 ± 37	<4	<5	<10	<4	<11	<8	<6	<5	<4	<8
	23-Jan-07	<144	364 ± 35	<3	<3	<5	<4	<7	<6	<4	<5	<4	<14
	02-Feb-07	<147	389 ± 37	<3	<4	<8	<5	<6	<5	<5	<4	<3	<6
	08-Feb-07	<147	343 ± 34	<4	<3	<8	<4	<8	<4	<6	<4	<3	<6
	14-Feb-07	<146	310 ± 40	<4	<4	<9	<4	<10	<7	<6	<5	<5	<7
	22-Feb-07	<146	383 ± 28	<2	<2	<5	<3	<6	<4	<3	<3	<2	<4
	01-Mar-07	<143	381 ± 38	<4	<4	<7	<4	<8	<6	<5	<4	<4	<6
	07-Mar-07	<143	323 ± 44	<4	<5	<12	<5	<12	<7	<7	<5	<5	<8
	14-Mar-07	<145	342 ± 34	<4	<3	<6	<4	<8	<6	<4	<4	<4	<12
	20-Mar-07	<145	322 ± 36	<3	<3	<8	<4	<9	<6	<5	<4	<3	<4
	27-Mar-07	<145	413 ± 36	<4	<3	<7	<4	<8	<5	<4	<4	<4	<11
H59	02-Jan-07	<145	347 ± 32	<4	<3	<8	<4	<7	<7	<4	<5	<3	<8
	15-Feb-07	<146	332 ± 38	<5	<4	<7	<5	<9	<7	<6	<4	<4	<10
	07-Mar-07	<143	282 ± 44	<5	<5	<9	<6	<13	<8	<6	<6	<5	<7

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

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

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

Sample Site	Collection Date	<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>
H15	14-Feb-07	<209	268 ± 54	<14	<8	<11	<7	<463	198 ± 91	<44	<356
H59	15-Feb-07	<77	220 ± 49	<7	<7	<9	<8	<486	402 ± 87	<48	<358

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

Sample Site	Collection Date	<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>
H15	This sample has not yet been collected.										
H59	08-Mar-07	1587 ± 215	<27	<26	<50	<28	<60	<30	<27	<476	<105

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

Sample Site	Collection Date	<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>
H15	08-Mar-07	2347 ± 199	<19	<19	<39	<26	<50	<21	<23	<310	<71
H59	15-Feb-07	4130 ± 155	<13	<13	<28	<16	<29	<16	<15	<262	<56

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>	<u>Others: Pb-212</u>
H51	02-Jan-07	2039 ± 45	3042 ± 90	<11	<7	<6	1236 ± 371	<140	
	22-Feb-07	1748 ± 42	4518 ± 87	<9	<6	<5	503 ± 160	<124	
	07-Mar-07	1433 ± 106	2817 ± 194	<23	<20	<18	<2482	<359	44 ± 15
H52	02-Jan-07	1323 ± 29	4128 ± 58	<6	<4	<3	884 ± 127	<79	
	22-Feb-07	1825 ± 55	3508 ± 109	<11	<9	<6	<1096	<153	
	07-Mar-07	993 ± 87	5551 ± 260	<24	<21	<17	<2384	<351	
H59	02-Jan-07	1495 ± 76	2033 ± 134	<20	<11	<13	<1577	<243	
	15-Feb-07	1948 ± 79	2016 ± 112	<14	<10	<9	<718	<242	
	07-Mar-07	1093 ± 79	3802 ± 160	<21	<13	<11	<783	<269	

ST. LUCIE SITE

Offsite Dose Calculation Manual Specifications 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	27	25
2. Airborne			
2.a. Air Iodines	Weekly	5	65
2.b. Air Particulates	Weekly	5	65
3. Waterborne			
3.a. Surface Water	Weekly	1	13
	Monthly	1	3
3.b. Shoreline Sediment	Semiannually	0	0
4. Ingestion			
4.a. Fish and Invertebrates			
4.a.1. Crustacea	Semiannually	1	1
4.a.2. Fish	Semiannually	0	0
4.b. Broadleaf Vegetation	Monthly	3	9
			Total: 181

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 07-Mar-07 Collection 12-Jun-07	Sample Site	Deployment 07-Mar-07 Collection 12-Jun-07
N-1	4.8 ± 0.4	SW-2	4.8 ± 0.3
NNW-5	5.2 ± 0.4	SW-5	5.7 ± 0.5
NNW-10	(A)	SW-10	4.9 ± 0.5
NW-5	4.8 ± 0.5	SSW-2	5.1 ± 0.6
NW-10	6.2 ± 0.4	SSW-5	6.0 ± 0.4
WNW-2	5.4 ± 0.4	SSW-10	5.6 ± 0.3
WNW-5	(B)	S-5	5.1 ± 0.4
WNW-10	6.1 ± 0.6	S-10	5.1 ± 0.3
W-2	5.1 ± 0.4	S/SSE-10	5.0 ± 0.4
W-5	5.7 ± 0.4	SSE-5	4.4 ± 0.2
W-10	5.7 ± 0.4	SSE-10	5.5 ± 0.4
WSW-2	5.3 ± 0.4	SE-1	4.9 ± 0.5
WSW-5	5.5 ± 0.5	H-32	5.3 ± 0.5
WSW-10	4.7 ± 0.3		

- (A) Bottom of cricket cage fell off and TLD fell out. Found a few pieces of the TLD which appears to have been run over by a lawn mower. Wire basket for cricket cage installed.
- (B) TLD lost. Utility pole which held the TLD was removed due to road construction. TLD location moved to a wooden utility pole behind the Mobil station.

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

<u>Collection Date</u>	<u>H08</u>	<u>H12</u>	<u>H14</u>	<u>H30</u>	<u>H34</u>
03-Apr-07	<0.01	<0.01	<0.01	<0.01	<0.01
12-Apr-07	<0.01	<0.01	<0.01	<0.01	<0.01
17-Apr-07	<0.01	<0.01	<0.01	<0.01	<0.01
25-Apr-07	<0.01	<0.01	<0.01	<0.01	<0.01
03-May-07	<0.01	<0.01	<0.01	<0.01	<0.01
10-May-07	<0.02	<0.02	<0.02	<0.02	<0.02
15-May-07	<0.02	<0.02	<0.02	<0.02	<0.02
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	<0.01
19-Jun-07	<0.02	<0.02	<0.02	<0.02	<0.02
27-Jun-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>H08</u>	<u>H12</u>	<u>H14</u>	<u>H30</u>	<u>H34</u>
03-Apr-07	0.014 ± 0.002	0.017 ± 0.002	0.016 ± 0.002	0.016 ± 0.002	0.019 ± 0.002
12-Apr-07	0.017 ± 0.002	0.017 ± 0.002	0.017 ± 0.002	0.019 ± 0.002	0.014 ± 0.002
17-Apr-07	0.020 ± 0.003	0.021 ± 0.003	0.017 ± 0.003	0.019 ± 0.003	0.019 ± 0.003
25-Apr-07	0.020 ± 0.002	0.018 ± 0.002	0.017 ± 0.002	0.013 ± 0.002	0.016 ± 0.002
03-May-07	0.016 ± 0.002	0.015 ± 0.002	0.017 ± 0.002	0.012 ± 0.002	0.014 ± 0.002
10-May-07	0.010 ± 0.002	0.014 ± 0.002	0.010 ± 0.002	0.013 ± 0.002	0.013 ± 0.002
15-May-07	0.014 ± 0.003	0.014 ± 0.003	0.012 ± 0.002	0.015 ± 0.003	0.016 ± 0.003
22-May-07	0.016 ± 0.002	0.020 ± 0.002	0.020 ± 0.002	0.016 ± 0.002	0.018 ± 0.002
29-May-07	0.015 ± 0.002	0.019 ± 0.002	0.013 ± 0.002	0.020 ± 0.003	0.015 ± 0.002
05-Jun-07	0.019 ± 0.002	0.022 ± 0.002	0.017 ± 0.002	0.016 ± 0.002	0.016 ± 0.002
12-Jun-07	0.015 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.014 ± 0.002	0.014 ± 0.002
19-Jun-07	0.011 ± 0.002	0.009 ± 0.002	0.015 ± 0.002	0.014 ± 0.002	0.011 ± 0.002
27-Jun-07	0.015 ± 0.002	0.016 ± 0.002	0.017 ± 0.002	0.015 ± 0.002	0.016 ± 0.002
Average:	0.016 ± 0.001	0.016 ± 0.001	0.015 ± 0.001	0.016 ± 0.001	0.016 ± 0.001

2.b.2. AIR PARTICULATES - GAMMA ANALYSIS OF QUARTERLY COMPOSITES - (pCi/m³)Second 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>
H08	0.2471 ± 0.0140	<0.0200	<0.0015	<0.0009	0.0307 ± 0.0035
H12	0.2419 ± 0.0142	<0.0205	<0.0009	<0.0010	0.0276 ± 0.0036
H14	0.2118 ± 0.0146	<0.0180	<0.0015	<0.0010	<0.0514
H30	0.2039 ± 0.0148	<0.0187	<0.0017	<0.0010	<0.0483
H34	0.2108 ± 0.0142	<0.0198	<0.0020	<0.0011	<0.0476

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)
H15	03-Apr-07	<143	416 ± 39	<3	<4	<9	<4	<10	<7	<4	<4	<4	<9
	12-Apr-07	<141	317 ± 50	<4	<4	<10	<5	<11	<8	<5	<5	<4	<5
	17-Apr-07	<140	401 ± 32	<3	<2	<7	<4	<6	<5	<6	<4	<3	<5
	25-Apr-07	<140	399 ± 34	<3	<3	<7	<4	<7	<6	<5	<4	<3	<5
	03-May-07	<147	307 ± 27	<2	<2	<5	<2	<4	<4	<3	<3	<2	<3
	10-May-07	<147	400 ± 40	<4	<4	<8	<4	<9	<6	<5	<4	<4	<6
	15-May-07	<147	417 ± 42	<3	<4	<8	<5	<8	<7	<4	<5	<4	<15
	22-May-07	<147	377 ± 33	<4	<4	<4	<4	<9	<7	<4	<4	<4	<5
	29-May-07	<147	360 ± 38	<4	<4	<9	<5	<7	<5	<5	<4	<4	<7
	05-Jun-07	<136	347 ± 45	<4	<4	<9	<4	<9	<8	<5	<4	<5	<9
	12-Jun-07	<139	397 ± 28	<3	<3	<6	<4	<6	<5	<5	<4	<3	<5
	19-Jun-07	<139	409 ± 44	<3	<5	<9	<4	<10	<7	<4	<6	<4	<11
27-Jun-07	<139	345 ± 13	<1	<1	<2	<1	<2	<2	<1	<1	<1	<2	
H59	03-Apr-07	<143	300 ± 49	<4	<4	<7	<4	<9	<7	<4	<5	<5	<8
	03-May-07	<147	321 ± 31	<3	<4	<7	<5	<8	<6	<5	<4	<4	<6
	05-Jun-07	<136	366 ± 46	<4	<4	<8	<5	<9	<7	<4	<5	<5	<7

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

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

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

Sample Site	Collection Date	<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>
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These samples were previously collected.

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

Sample Site	Collection Date	<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>
H15	06-Jun-07	2502 ± 182	<24	<24	<57	<24	<51	<28	<25	<356	<80

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

Sample Site	Collection Date	<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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These samples were previously 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>
H51	03-Apr-07	1858 ± 43	3775 ± 94	<11	<7	<6	<936	<30	<126	38 ± 8
	03-May-07	1809 ± 80	3367 ± 153	<15	<10	<10	2004 ± 342	<79	<262	<35
	05-Jun-07	899 ± 37	4773 ± 115	<11	<8	<6	<991	16 ± 5	<131	<27
H52	03-Apr-07	1142 ± 59	4082 ± 138	<15	<9	<8	<1301	<48	<182	<32
	03-May-07	1547 ± 92	2668 ± 179	<17	<15	<12	<1921	<58	<269	<46
	05-Jun-07	489 ± 90	5975 ± 248	<24	<17	<16	<2358	<74	<321	<67
H59	03-Apr-07	1652 ± 89	3415 ± 161	<24	<15	<14	<830	<108	<271	<43
	03-May-07	930 ± 62	3200 ± 167	<16	<11	<13	<1908	<58	<252	<49
	05-Jun-07	906 ± 29	2770 ± 57	<8	<4	<4	502 ± 112	<28	<88	<14

ST. LUCIE SITE

Offsite Dose Calculation Manual Specification 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	27	27
2. Airborne			
2.a. Air Iodines	Weekly	5	65
2.b. Air Particulates	Weekly	5	65
3. Waterborne			
3.a. Surface Water	Weekly	1	13
	Monthly	1	3
3.b. Shoreline Sediment	Semiannually	2	2
4. Ingestion			
4.a. Fish and Invertebrates			
4.a.1. Crustacea	Semiannually	2	2
4.a.2. Fish	Semiannually	2	1
4.b. Broadleaf Vegetation	Monthly	3	9
			Total: 187

NOTE: Measurement results having magnitudes that are significantly above the background of the measurement system are reported as net values plus or minus a one-standard-deviation error term. Measurement results that are not significantly above background 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 12-Jun-07 Collection 05-Sep-07	Sample Site	Deployment 12-Jun-07 Collection 05-Sep-07
N-1	5.1 ± 0.6	SW-2	5.1 ± 0.6
NNW-5	4.9 ± 0.6	SW-5	6.4 ± 0.7
NNW-10	5.4 ± 0.6	SW-10	5.3 ± 0.5
NW-5	4.8 ± 0.7	SSW-2	4.9 ± 0.5
NW-10	6.4 ± 0.8	SSW-5	5.9 ± 0.4
WNW-2	4.8 ± 0.7	SSW-10	5.3 ± 0.4
WNW-5	4.3 ± 0.6	S-5	5.0 ± 0.5
WNW-10	6.1 ± 0.7	S-10	5.2 ± 0.5
W-2	4.9 ± 0.6	S/SSE-10	5.6 ± 0.3
W-5	5.5 ± 0.7	SSE-5	4.4 ± 0.4
W-10	5.4 ± 0.6	SSE-10	5.2 ± 0.4
WSW-2	5.5 ± 0.5	SE-1	4.6 ± 0.5
WSW-5	5.2 ± 0.8	H-32	5.3 ± 0.4
WSW-10	4.7 ± 0.6		

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

<u>Collection Date</u>	<u>H08</u>	<u>H12</u>	<u>H14</u>	<u>H30</u>	<u>H34</u>
02-Jul-07	<0.03	<0.03	<0.03	<0.03	<0.03
09-Jul-07	<0.02	<0.02	<0.02	<0.02	<0.02
17-Jul-07	<0.01	<0.01	<0.01	<0.01	<0.01
24-Jul-07	<0.01	<0.01	<0.01(A)	<0.01	<0.01
31-Jul-07	<0.01	<0.01	<0.01	<0.01	<0.01
09-Aug-07	<0.01	<0.01	<0.01	<0.01	<0.01
16-Aug-07	<0.01	<0.01	<0.01	<0.01	<0.01
21-Aug-07	<0.03	<0.03	<0.03	<0.02	<0.03
05-Sep-07	<0.01	<0.01	<0.01	<0.01	<0.01
12-Sep-07	<0.01	<0.01	<0.01	<0.01	<0.01
19-Sep-07	<0.01	<0.01	<0.01	<0.01	<0.01
26-Sep-07	<0.01	<0.01	<0.01	<0.01	<0.01
02-Jul-07	<0.03	<0.03	<0.03	<0.03	<0.03

(A) Based on previous weeks flow rate, pump may have been off for up to 32 hours.
Estimated run time 137.6 out of 169.6 hours.

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

<u>Collection Date</u>	<u>H08</u>	<u>H12</u>	<u>H14</u>	<u>H30</u>	<u>H34</u>
02-Jul-07	<0.008	<0.009	0.005 ± 0.002	0.005 ± 0.002	0.011 ± 0.002
09-Jul-07	0.003 ± 0.001	0.008 ± 0.002	0.003 ± 0.001	0.011 ± 0.002	0.008 ± 0.002
17-Jul-07	0.003 ± 0.001	0.013 ± 0.002	0.006 ± 0.001	0.010 ± 0.002	0.010 ± 0.002
24-Jul-07	0.006 ± 0.002	0.010 ± 0.002	0.009 ± 0.002(A)	0.011 ± 0.002	0.007 ± 0.002
31-Jul-07	0.012 ± 0.002	0.010 ± 0.002	0.011 ± 0.002	0.009 ± 0.002	0.010 ± 0.002
09-Aug-07	0.018 ± 0.002	0.016 ± 0.002	0.017 ± 0.002	0.016 ± 0.002	0.012 ± 0.002
16-Aug-07	0.012 ± 0.002	0.010 ± 0.002	0.009 ± 0.002	0.006 ± 0.002	0.010 ± 0.002
21-Aug-07	0.016 ± 0.003	0.017 ± 0.003	0.012 ± 0.003	0.046 ± 0.004	0.016 ± 0.003
27-Aug-07	0.012 ± 0.002	0.009 ± 0.002	0.011 ± 0.002	0.010 ± 0.002	0.009 ± 0.002
05-Sep-07	0.015 ± 0.002	0.016 ± 0.002	0.016 ± 0.002	0.014 ± 0.002	0.010 ± 0.002
12-Sep-07	0.009 ± 0.002	0.013 ± 0.002	0.009 ± 0.002	0.004 ± 0.002	0.009 ± 0.002
19-Sep-07	0.011 ± 0.002	0.012 ± 0.002	0.018 ± 0.002	0.008 ± 0.002	0.009 ± 0.002
26-Sep-07	0.007 ± 0.002	<0.006	0.008 ± 0.002	<0.007	0.005 ± 0.002
Average:	0.010 ± 0.001	0.011 ± 0.001	0.010 ± 0.001	0.011 ± 0.001	0.010 ± 0.001

(A) Based on previous weeks flow rate, pump may have been off for up to 32 hours. Estimated run time 137.6 out of 169.6 hours.

2.b.2. 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>
H08	0.1395 ± 0.0105	<0.0201	<0.0012	<0.0009	0.0161 ± 0.0041
H12	0.1276 ± 0.0146	<0.0229	<0.0015	<0.0015	<0.0606
H14	0.1119 ± 0.0112	<0.0203	<0.0009	<0.0009	0.0174 ± 0.0036
H30	0.1238 ± 0.0164	0.1455 ± 0.0198	<0.0028	<0.0020	<0.1001
H34	0.1301 ± 0.0138	<0.0303	<0.0014	<0.0007	<0.0510

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)
H15	02-Jul-07	<167	394 ± 34	<3	<3	<8	<3	<7	<6	<7	<4	<4	<4
	09-Jul-07	<167	352 ± 45	<4	<5	<6	<7	<11	<6	<5	<5	<5	<7
	17-Jul-07	<166	401 ± 30	<2	<3	<6	<3	<6	<5	<3	<3	<3	<6
	24-Jul-07	<139	382 ± 26	<3	<2	<4	<3	<6	<4	<3	<3	<3	<7
	31-Jul-07	<139	359 ± 24	<2	<2	<4	<2	<5	<4	<2	<3	<2	<5
	09-Aug-07	<139	266 ± 43	<4	<5	<9	<5	<11	<8	<6	<6	<4	<6
	16-Aug-07	<139	331 ± 35	<3	<3	<8	<4	<8	<6	<5	<4	<3	<4
	21-Aug-07	<138	410 ± 33	<3	<3	<8	<4	<7	<5	<4	<4	<4	<10
	27-Aug-07	<133	371 ± 31	<3	<3	<6	<4	<7	<5	<4	<4	<4	<7
	05-Sep-07	<133	348 ± 32	<3	<3	<6	<3	<8	<5	<5	<4	<4	<5
	12-Sep-07	<133	366 ± 33	<2	<2	<5	<3	<5	<5	<3	<3	<2	<4
	19-Sep-07	<133	347 ± 30	<3	<3	<7	<3	<8	<6	<4	<3	<4	<10
	26-Sep-07	<128	297 ± 31	<4	<3	<5	<3	<7	<6	<5	<4	<4	<5
	H59	02-Jul-07	<167	392 ± 33	<2	<2	<5	<3	<5	<4	<4	<3	<3
09-Aug-07		<139	341 ± 37	<4	<3	<6	<5	<8	<6	<5	<5	<4	<6
12-Sep-07		<133	311 ± 44	<4	<4	<8	<4	<8	<6	<5	<4	<4	<7

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

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

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

Sample Site	Collection Date	Be-7	K-40	Co-58	Co-60	Cs-134	Cs-137	Pb-210	Ra-226	Th-232	Others: U-238
H15	13-Aug-07	146 ± 55	707 ± 111	<13	<16	<15	<13	<1114	434 ± 129	157 ± 19	
H59	13-Aug-07	88 ± 32	379 ± 51	<7	<9	<9	<8	<383	194 ± 85	58 ± 10	569 ± 128

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
H15	27-Sep-07	2272 ± 289	<33	<29	<63	<38	<56	<44	<30	<636	<174
H59	27-Sep-07	1901 ± 116	<14	<15	<31	<15	<32	<19	<17	450 ± 153	187 ± 29

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
H15	This sample was not yet collected.										
H59	27-Sep-07	2864 ± 261	<28	<19	<66	<40	<72	<39	<31	<574	<131

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>
H51	02-Jul-07	973 ± 97	5035 ± 259	<33	<19	<18	<2549	<88	<357	<76
	09-Aug-07	1004 ± 78	5412 ± 257	<22	<22	<16	<2488	<74	406 ± 177	<74
	12-Sep-07	988 ± 117	3863 ± 257	<25	<22	<18	<2406	<89	<370	<76
H52	02-Jul-07	672 ± 71	4720 ± 183	<24	<13	<12	<841	<92	<280	<36
	09-Aug-07	911 ± 40	5277 ± 135	<11	<9	<7	<1107	<35	<151	<31
	12-Sep-07	873 ± 86	5013 ± 235	<23	<18	<18	<2178	51 ± 15	<338	<67
H59	02-Jul-07	1180 ± 106	3207 ± 213	<30	<19	<18	<2565	<76	<350	<59
	09-Aug-07	895 ± 36	4038 ± 78	<8	<6	<5	<318	<34	<105	<18
	12-Sep-07	899 ± 71	3417 ± 153	<19	<11	<13	<523	<84	<256	<37

ST. LUCIE 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	27	27
2. Airborne			
2.a. Air Iodines	Weekly	5	65
2.b. Air Particulates	Weekly	5	65
3. Waterborne			
3.a. Surface Water	Weekly	1	13
	Monthly	1	3
3.b. Shoreline Sediment	Semiannually	2	0
4. Ingestion			
4.a. Fish and Invertebrates			
4.a.1. Crustacea	Semiannually	2	0
4.a.2. Fish	Semiannually	2	1
4.b. Broadleaf Vegetation	Monthly	3	9
			Total: 183

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 05-Sep-07 Collection 12-Dec-07	Sample Site	Deployment 05-Sep-07 Collection 12-Dec-07
N-1	4.3 ± 0.4	SW-2	4.9 ± 0.5
NNW-5	4.6 ± 0.4	SW-5	6.1 ± 0.5
NNW-10	5.2 ± 0.3	SW-10	4.7 ± 0.4
NW-5	4.8 ± 0.3	SSW-2	4.9 ± 0.4
NW-10	6.4 ± 0.6	SSW-5	6.2 ± 0.6
WNW-2	5.0 ± 0.4	SSW-10	5.9 ± 0.6
WNW-5	4.5 ± 0.4	S-5	5.3 ± 0.4
WNW-10	5.3 ± 0.4	S-10	5.1 ± 0.5
W-2	4.6 ± 0.3	S/SSE-10	4.9 ± 0.4
W-5	4.9 ± 0.5	SSE-5	4.3 ± 0.4
W-10	4.5 ± 0.5	SSE-10	5.0 ± 0.6
WSW-2	5.1 ± 0.6	SE-1	4.7 ± 0.4
WSW-5	4.7 ± 0.4	H-32	5.1 ± 0.4
WSW-10	4.4 ± 0.4		

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

<u>Collection Date</u>	<u>H08</u>	<u>H12</u>	<u>H14</u>	<u>H30</u>	<u>H34</u>
02-Oct-07	<0.01	<0.01	<0.01	<0.01	<0.01
09-Oct-07	<0.02	<0.02	<0.02	<0.02	<0.02
16-Oct-07	<0.02	<0.02	<0.02	<0.02	<0.04(A)
22-Oct-07	<0.02	<0.02	<0.02	<0.02	<0.02(B)
29-Oct-07	<0.02	<0.02	<0.02	<0.02	<0.02
07-Nov-07	<0.01	<0.01	<0.01	<0.01	<0.01
14-Nov-07	<0.01	<0.01(C)	<0.01	<0.01	<0.01
20-Nov-07	<0.01	<0.01	<0.01	<0.01	<0.01
28-Nov-07	<0.01	<0.01	<0.01	<0.01	<0.01
05-Dec-07	<0.01	<0.01	<0.01	<0.01(D)	<0.01
10-Dec-07	<0.03	<0.03	<0.02	<0.03	<0.03
18-Dec-07	<0.02	<0.02	<0.02	<0.02	<0.02
26-Dec-07	<0.01	<0.01	<0.01	<0.01	<0.01

(A) Pump not running properly and was replaced. Estimated run time 69 out of 168.5 hours.

(B) Outlet was bad. Pump plugged into another outlet and ran fine. Outlet was replaced at a later date. Normal run time.

(C) Pump running; possible power outage at some point during sampling period. Estimated run time 132.6 out of 163.3 hours.

(D) Pump running; possible power outage at some point during sampling period. Estimated run time 144.9 out of 170.8 hours.

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

<u>Collection Date</u>	<u>H08</u>	<u>H12</u>	<u>H14</u>	<u>H30</u>	<u>H34</u>
02-Oct-07	0.010 ± 0.002	0.007 ± 0.002	0.009 ± 0.002	0.008 ± 0.002	0.011 ± 0.002
09-Oct-07	0.005 ± 0.002	0.007 ± 0.002	0.007 ± 0.002	0.007 ± 0.002	0.005 ± 0.002
16-Oct-07	0.021 ± 0.002	0.020 ± 0.002	0.014 ± 0.002	0.020 ± 0.002	0.023 ± 0.005(A)
22-Oct-07	0.010 ± 0.002	0.011 ± 0.002	0.008 ± 0.002	0.004 ± 0.002	0.008 ± 0.002(B)
29-Oct-07	0.013 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.015 ± 0.002	0.013 ± 0.002
07-Nov-07	0.020 ± 0.002	0.009 ± 0.002	<0.005	0.017 ± 0.002	0.013 ± 0.002
14-Nov-07	0.023 ± 0.002	0.027 ± 0.003(C)	0.024 ± 0.003	0.025 ± 0.002	0.021 ± 0.002
20-Nov-07	0.029 ± 0.003	0.020 ± 0.002	0.020 ± 0.003	0.016 ± 0.002	0.018 ± 0.002
28-Nov-07	0.018 ± 0.002	0.020 ± 0.002	0.021 ± 0.002	0.017 ± 0.002	0.017 ± 0.002
05-Dec-07	0.011 ± 0.002	0.016 ± 0.002	0.012 ± 0.002	0.012 ± 0.002(D)	0.014 ± 0.002
10-Dec-07	0.018 ± 0.003	0.021 ± 0.003	0.017 ± 0.003	0.021 ± 0.003	0.014 ± 0.003
18-Dec-07	0.014 ± 0.002	0.012 ± 0.002	0.010 ± 0.002	0.011 ± 0.002	0.009 ± 0.002
26-Dec-07	0.011 ± 0.002	0.011 ± 0.002	0.006 ± 0.002	0.013 ± 0.002	0.013 ± 0.002
Average:	0.016 ± 0.001	0.015 ± 0.001	0.012 ± 0.001	0.014 ± 0.001	0.014 ± 0.001

(A) Pump not running properly and was replaced. Estimated run time 69 out of 168.5 hours.

(B) Outlet was bad. Pump plugged into another outlet and ran fine. Outlet was replaced at a later date. Normal run time.

(C) Pump running; possible power outage at some point during sampling period. Estimated run time 132.6 out of 163.3 hours.

(D) Pump running; possible power outage at some point during sampling period. Estimated run time 144.9 out of 170.8 hours.

2.b.2. 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>
H08	0.1644 ± 0.0138	<0.0200	<0.0011	<0.0008	0.0269 ± 0.0046
H12	0.1703 ± 0.0125	<0.0167	<0.0011	<0.0010	0.0326 ± 0.0037
H14	0.1740 ± 0.0124	<0.0167	<0.0012	<0.0006	<0.0112
H30	0.1388 ± 0.0113	<0.0197	<0.0011	<0.0010	0.0240 ± 0.0034
H34	0.1600 ± 0.0046	<0.0073	<0.0005	<0.0004	<0.0163

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)
H15	02-Oct-07	<134	413 ± 36	<3	<3	<5	<4	<8	<5	<4	<5	<4	<10
	09-Oct-07	<134	337 ± 43	<4	<3	<9	<4	<9	<7	<4	<5	<4	<10
	16-Oct-07	<143	318 ± 40	<4	<4	<8	<4	<10	<6	<4	<5	<4	<11
	22-Oct-07	<143	345 ± 39	<3	<3	<6	<4	<6	<5	<3	<4	<3	<8
	29-Oct-07	<147	334 ± 32	<4	<3	<6	<4	<8	<7	<4	<4	<3	<5
	07-Nov-07	<146	373 ± 45	<4	<4	<9	<4	<11	<8	<5	<6	<5	<10
	14-Nov-07	<146	367 ± 23	<2	<3	<6	<3	<6	<5	<4	<3	<3	<4
	20-Nov-07	<146	297 ± 62	<5	<5	<8	<5	<13	<8	<8	<6	<5	<6
	28-Nov-07	<146	336 ± 31	<2	<2	<4	<2	<5	<3	<3	<2	<2	<3
	05-Dec-07	<143	415 ± 28	<3	<3	<6	<3	<7	<5	<4	<4	<3	<5
	10-Dec-07	<143	315 ± 34	<2	<2	<5	<3	<5	<4	<3	<3	<2	<4
	18-Dec-07	<143	421 ± 15	<1	<2	<3	<2	<3	<3	<2	<2	<2	<3
26-Dec-07	<134	384 ± 32	<3	<3	<6	<4	<6	<5	<6	<3	<3	<5	
H59	02-Oct-07	<134	279 ± 42	<4	<4	<9	<5	<8	<6	<5	<4	<4	<5
	07-Nov-07	<146	358 ± 33	<2	<2	<5	<3	<5	<4	<2	<3	<2	<4
	03-Dec-07	<143	295 ± 40	<4	<4	<9	<4	<8	<7	<5	<5	<5	<10

(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: U-238
H15	This sample was previously collected.										
H59	This sample was 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
H15	This sample was previously collected.										
H59	This sample was previously 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
H15	09-Oct-07	3277 ± 222	<14	<15	<42	<22	<52	<21	<22	<300	<71
H59	This sample was previously 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>
H51	02-Oct-07	1718 ± 95	4383 ± 198	<22	<16	<15	<1869	41 ± 9	<271	<56
	07-Nov-07	2096 ± 49	2071 ± 97	<10	<7	<7	<938	38 ± 5	<138	<23
	03-Dec-07	1699 ± 115	2921 ± 197	<26	<17	<16	<2324	<76	<326	<47
H52	02-Oct-07	1377 ± 42	5186 ± 88	<10	<6	<5	<358	<38	<118	<20
	07-Nov-07	1919 ± 102	2127 ± 168	<25	<17	<18	<2352	77 ± 12	<348	<55
	03-Dec-07	1916 ± 83	2986 ± 138	<22	<12	<9	<708	<86	<228	<33
H59	02-Oct-07	1635 ± 49	3118 ± 110	<13	<9	<8	<1006	40 ± 5	<151	<27
	07-Nov-07	1883 ± 36	2404 ± 51	<8	<4	<5	626 ± 159	<31	<98	<14
	03-Dec-07	1558 ± 120	2999 ± 195	<30	<17	<18	<2501	<91	<350	<75

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ATTACHMENT C

RESULTS FROM THE INTERLABORATORY

COMPARISON PROGRAM 2007

DEPARTMENT OF ENERGY

MAPEP 17, June 2007

AND

MAPEP 18, December 2007
(Results have not been received from DOE)

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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				
CO57				
CO60				
ZN65			Performance	
CS134			Results	
CS137			For	
AM241			MAPEP-18	
Matrix: GrF Filter Bq/sample				
Gross Beta				
Matrix: MaS Soil Bq/kg				
K40			Not	
MN54			Available	
CO57				
CO60				
ZN65				
CS134				
CS137				
Matrix: MaW Water Bq/L				
H3				
MN54				
CO57				
CO60				
NI63				
ZN65				
SR90				
CS134				
CS137				
Matrix: RdV Vegetation, Bq/sample :				
MN54				
CO57				
CO60				
ZN65				
CS134				
CS137				
AM241				

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.