Florida Power & Light Company, 6501 S. Ocean Drive, Jensen Beach, FL 34957

March 22, 2010

L-2010-058
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 2009

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 2009.

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

Sincerely,

ES Katzman

Eric S. Katzman
Licensing Manager
St. Lucie Plant

Attachment

ESK/tlt

IE25
NRR

2009

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: [signature] 3-16-2010

Reviewed by: [signature] 3/16/10

2009
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.

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.

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

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

2. Analytical Responsibility:

Radiological environmental monitoring for the 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.

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.

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. Six indicator location samples, of 52 collected and analyzed, presented a tritium result. The highest value was less than 7% of the required LLD listed in ODCM Table 4.12-1. There were no indications of any other nuclides that could be attributed to plant effluents. Results for surface water samples are summarized in Table 1.

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.
Three, of 24, indicator location and one, of 12, control location samples collected & analyzed presented Cs-137 results. The highest value was less than 2% of the Reporting Level listed in ODCM Table 3.12-2.
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 20 and 21.

In MAPEP 20, the results for Water, Air Filter Gross Beta, mixed gamma emitters in Air Filters, Soil and Vegetation matrices for those nuclides associated with nuclear power plant operation and using analytical methods used in the REMP are acceptable.

In MAPEP 21, the results for Water, Air Filter Gross Beta, mixed gamma emitters in Air Filters, Soil and Vegetation matrices for those nuclides associated with nuclear power plant operation and using analytical methods used in the REMP are acceptable

The results are listed in Attachment C.

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.

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, 2009
(County, State)

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

Type and Total Number of Analyses Performed	Lower Limit of Detection [a] (LLD)	All Indicator Locations Mean (f)[b] Range	Location with Highest Annual Mean		Control Locations Mean (f)[b] Range
			Name [c] Distance & Direction	Mean (f)[b] Range	
Exposure Rate, 108[d]	---	4.8 (104/104) 3.7 - 6.0	S - 5 5 mi., S	5.8 (4/4) 5.5 – 6.0	5.0 (4/4) 4.8 – 5.3

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, 2009
(County, State)

PATHWAY: AIRBORNE
SAMPLES COLLECTED: RADIOIODINE AND PARTICULATES
UNITS: PICO - Ci/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	0.014 (207/208) 0.003 - 0.026	H-14 1 mile, SE	0.014 (52/52) 0.007 - 0.025	0.014 (52/52) 0.006 - 0.024
Composite Gamma Isotopic, 20					
^{7}Be	0.0052	0.1394 (16/16) 0.0144- 0.2564	H-34 .5 mile, N	0.1524 (4/4) 0.1167 - 0.2564	0.1383 (4/4) 0.0185 - 0.2717
^{134}Cs	0.00069	<MDA	---	---	<MDA
^{137}Cs	0.00066	<MDA	---	---	<MDA
^{210}Pb	---	0.0166 (6/16) 0.0119 - 0.0257	H-14 1 mile, SE	0.0188 (2/4) .0119 - .0257	0.0237 (2/4) 0.0187 - .0287

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, 2009
(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: Name[c] Distance & Direction	Location with Highest Annual Mean: Mean (f)[b] Range	Control Locations Mean (f)[b] Range
Tritium, 64	230	136 (6/52) 112 - 184	H-15 <1 mi., ENE/E/ESE	136 (6/52) 112 - 184	<MDA
Gamma Isotopic, 64					
^{40}K	60	337 (52/52) 260 - 448	H-15 <1 mi., ENE/E/ESE	337 (52/52) 260 - 448	339 (12/12) 279 - 412
^{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

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, 2009
(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 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	140	298 (2/2) 212 - 383	H-15 <1 mi, ENE/E/ESE	298 (2/2) 212 - 383	168 (2/2) 130 - 207
^{58}Co	9	<MDA	---	---	<MDA
^{60}Co	12	<MDA	---	---	<MDA
^{134}Cs	14	<MDA	---	---	<MDA
^{137}Cs	12	<MDA	---	---	<MDA
^{210}Pb	---	241 (1/2)	H-15 <1 mi., ENE/E/ESE	241 (1/2)	<MDA
^{226}Ra	49	328 (2/2) 111 - 546	H-15 <1 mi., ENE/E/ESE	328 (2/2) 111 - 546	402 (1/2)
^{232}Th	---	77 (2/2) 34 - 120	H-15 <1 mi., ENE/E/ESE	77 (2/2) 34 - 120	57 (1/2)
^{235}U	---	13 (1/2)	H-15 <1 mi., ENE/E/ESE	13 (1/2)	<MDA
^{238}U	---	161 (1/2)	H-15 <1 mi., ENE/E/ESE	161 (1/2)	288 (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, 2009
(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	2238 (2/2) 1765 – 2711	H-15 <1 mi., ENE/E/ESE	2238 (2/2) 1765 – 2711	2028 (2/2) 1522 - 2534
^{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	---	---	<MDA
^{228}Ra	---	< 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, 2009
(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	2587 (2/2) 2301 - 2873	H-15 <1 mi., ENE/E/ESE	2587 (2/2) 2301 - 2873	2688 (2/2) 2626 - 2749
^{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, 2009
(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 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	1109 (24/24) 457 - 2123	H-52 1 mi., S/SSE	1138 (12/12) 457 - 2123	1033 (12/12) 578 - 1654
^{40}K	100	4011 (24/24) 2901 - 5847	H-51 1 mi. , N/NNW	4033 (12/12) 2901 - 4870	2939 (12/12) 1905 - 4641
^{58}Co	6	<MDA	---	---	<MDA
^{60}Co	8	<MDA	---	---	< MDA
^{131}I	9	<MDA	---	---	<MDA
^{134}Cs	8	<MDA	---	---	<MDA
^{137}Cs	8	26 (3/24) 20 - 30	H-52 1 mi., S/SSE	29 (1/12)	9 (1/12)
^{210}Pb	---	235 (6/24) 103 - 359	H-52 1 mi., S/SSE	285 (4/12) 199 - 359	156 (2/12) 152 - 159
^{212}Pb	---	11 (5/24) 7 - 16	H-51 1 mi., N/NNW	12 (2/12) 7 - 16	<MDA
^{226}Ra	---	129 (1/12)	H-52 1 mi., S/SSE	129 (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, 2009
(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

DEVIATIONS / MISSING DATA

A)	Pathway:	Airborne, Particulates & Radioiodines
	Location:	H-30, 2 miles W
	Dates:	4/14/09 – 4/21/09
	Deviation:	Failure to perform continuous monitoring
	Description of Problem:	Sampling pump failure during sampling period; estimated sampling duration of 24.3 hours of 167.8 hour sampling period.
	Corrective Action:	Replaced pump, verified equipment as operable.
B)	Pathway:	Airborne, Particulates & Radioiodines
	Location:	H-12 , 12 miles S
	Dates:	6/02/09 – 6/10/09
	Deviation:	Failure to perform continuous monitoring
	Description of Problem:	Apparent power interruption during sampling period; estimated sampling duration of 153.3 hours of 184.9 hour sampling period
	Corrective Action:	Verified equipment as operable; no repairs needed.
C)	Pathway:	Airborne, Particulates & Radioiodines
	Location:	H-30 , 2 miles West
	Dates:	7/16/09 – 7/21/09
	Deviation:	Failure to perform continuous monitoring
	Description of Problem:	Power interruption during sampling period; estimated sampling duration of 77.1 hours of 121.25 hour sampling period.
	Corrective Action:	Reset circuit breaker, verified equipment as operable.

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TABLE 1B

ANALYSIS WITH LLDs ABOVE THE REQUIRED DETECTION CAPABILITIES
(LLDs) Listed in ODCM TABLE 4.12-1
1/1/2009 – 12/31/2009

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

An Air Particulate sample result for the sampling period 4-14-09 to 4-21-09 at location H-30, 2 miles W, was reported as < 0.044 pCi/M^3; the required LLD for this assay is 0.01. An abnormally short runtime (approximately one day out of seven) is the cause; this short runtime was also reported on Table 1A, Deviations / Missing Data.

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TABLE 2

LAND USE CENSUS
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Survey Performed July & August 2009

Distance to Nearest (a, b)

Sector	Milk (c) Animal	Residence	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	O
SSE	L (f)	2.0/149 (g)	L
S	L	3.3/190	L
SSW	L	2.2/212	4.4/207
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	2.7/344	L

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TABLE 2

LAND USE CENSUS
(Page 2 of 2)

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:

Sector	Distance	Description
SSE	1.8/147	Fire Station

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ATTACHMENT A

KEY TO SAMPLE LOCATIONS
(6 Pages)

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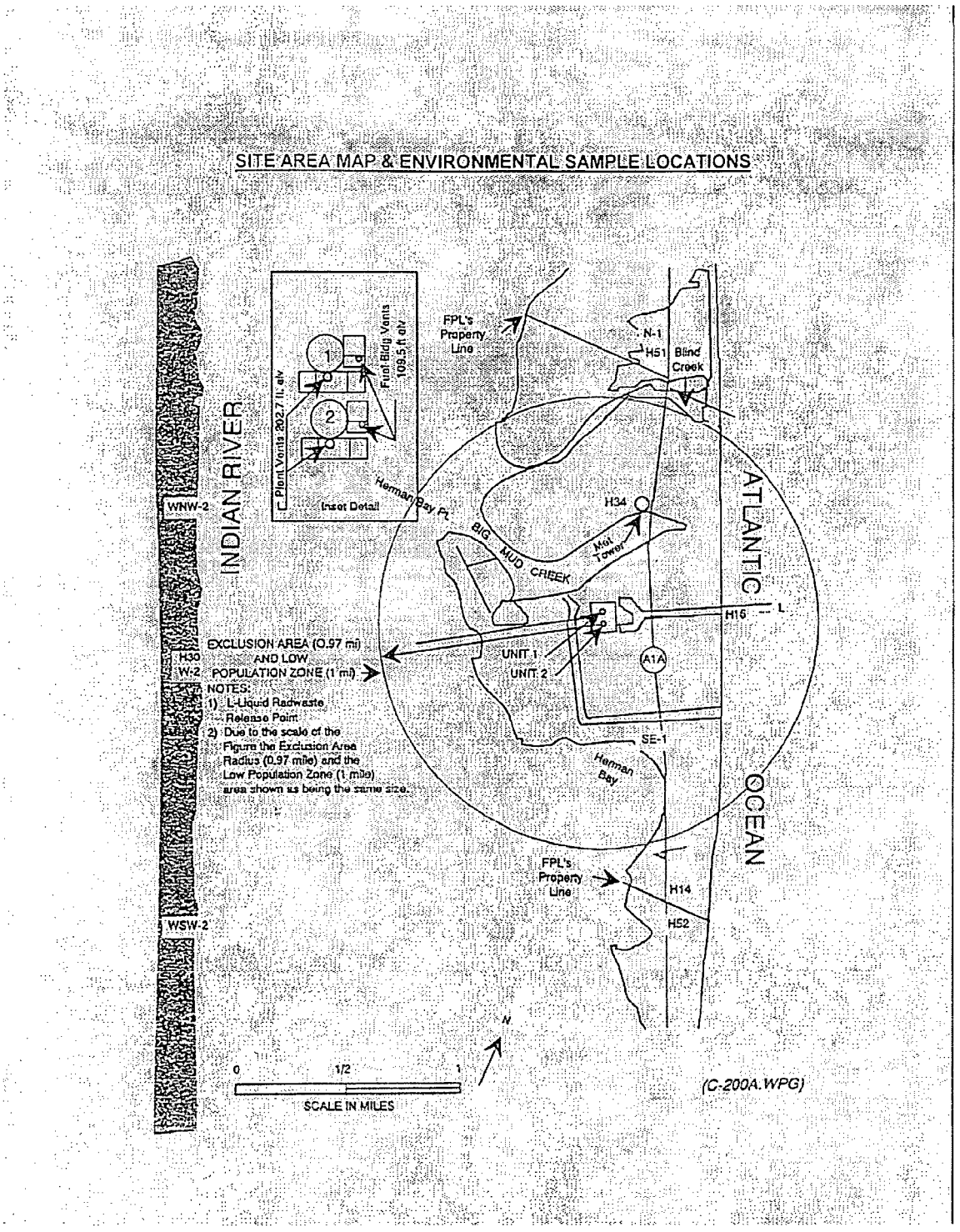

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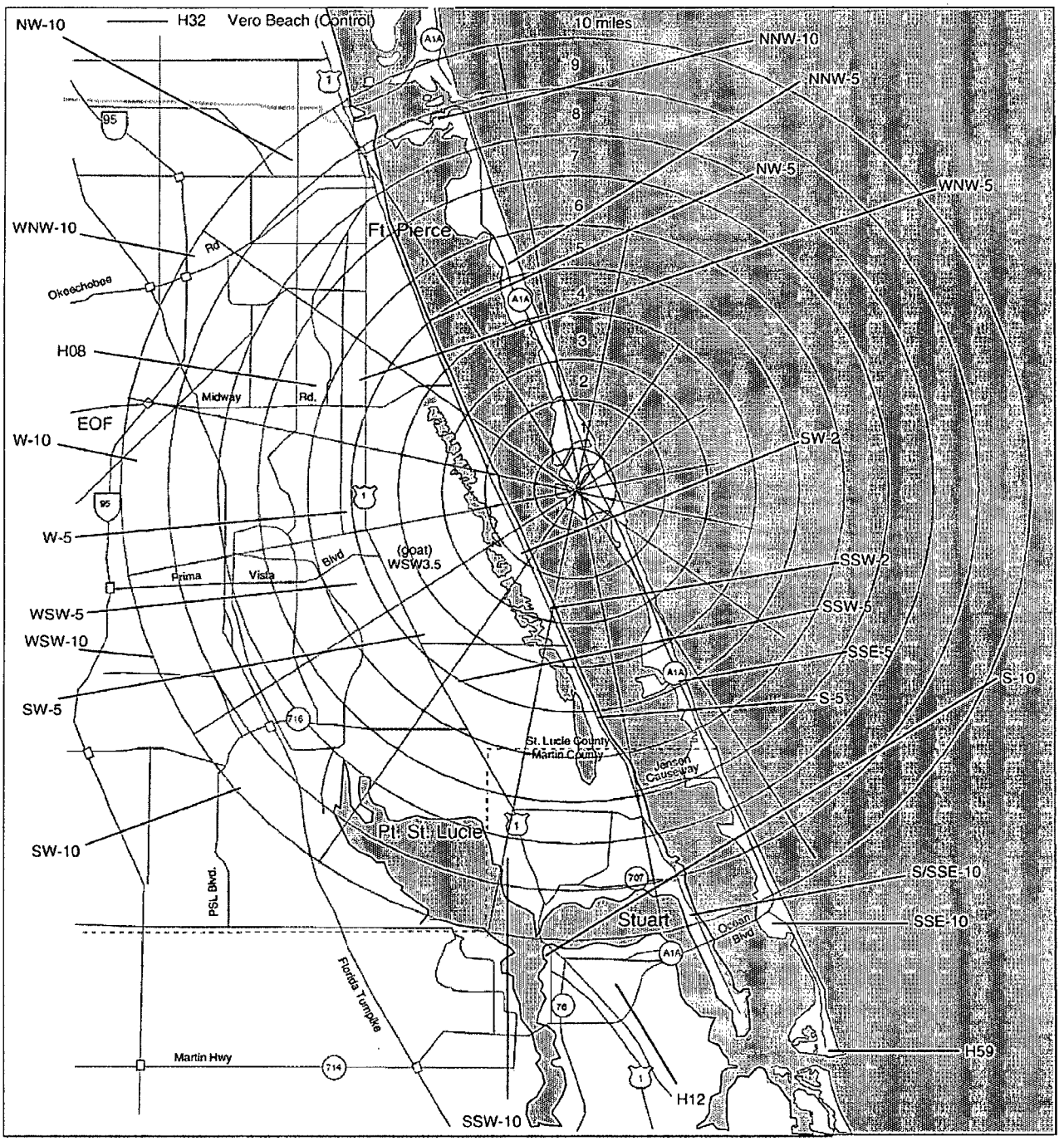
ENVIRONMENTAL SAMPLE LOCATIONS (10 MILES)



(P/CHEM/C-200B-F2-R0)

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ATTACHMENT A

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

Location Name	Direction Sector	Approximate Distance (miles)	Description
N-1	N	1	A1A, North of Blind Creek
NNW-5	NNW	4.8	Frederick Douglas Beach Entrance
NNW-10	NNW	8.7	Coast Guard Station
NW-5	NW	5.4	Indian River Dr., at Rio Vista Dr.
NW-10	NW	9.6	FPL Facility, S.R. 68 at 33RD St.
WNW-2	WNW	2.3	Cemetery South of 7107 Indian River Dr.
WNW-5	WNW	5.1	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	5.4	Oleander and Sager Street
W-10	W	10.3	Interstate 95 at S.R. 709
WSW-2	WSW	1.8	8503 Indian River Dr.
WSW-5	WSW	5.6	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	4.5	U.S. 1 at Village Green Dr.
SW-10	SW	10.2	Port St. Lucie Blvd. at Cairo Rd.
SSW-2	SSW	2.6	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	5.2	13179 Indian River Drive
S-10	S	10.8	U.S. 1 at S.R. 714
S/SSE-10	SSE	9.9	Indian River Dr. at Quail Run Lane
SSE-5	SSE	5.1	North of entrance to Miramar
SSE-10	SSE	10.2	Elliot Museum
SE-1	SE	1	South of Cooling Canal
Control:			
H-32	NNW	18.1	University of Florida IFAS Vero Beach

ATTACHMENT A

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

Location Name	Direction Sector	Approximate Distance (miles)	Description
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
Control:			
H-12	S	12	FPL Substation, SR-76 Stuart

PATHWAY: WATERBORNE
SAMPLES COLLECTED: SURFACE WATER (OCEAN)
SAMPLE COLLECTION FREQUENCY: H-15 WEEKLY, H-59 MONTHLY

Location Name	Direction Sector	Approximate Distance (miles)	Description
H-15	ENE/E/SSE	<1	Atlantic Ocean, public beaches east side A1A
Control:			
H-59	S/SSE	10-20	Near south end of Hutchinson Island

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

Location Name	Direction Sector	Approximate Distance (miles)	Description
H-15	ENE/E/ESE	<1	Atlantic Ocean, public beaches east side A1A
Control:			
H-59	S/SSE	10-20	Near south end of Hutchinson Island

ATTACHMENT A

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

Location Name	Direction Sector	Approximate Distance (miles)	Description
H-15	ENE/E/ESE	<1	Ocean Side, Vicinity of St. Lucie Plant
Control:			
H-59	S/SSE	10-20	Near south end of Hutchinson Island

SAMPLES COLLECTED: BROAD LEAF VEGETATION
SAMPLE COLLECTION FREQUENCY: MONTHLY

Location Name	Direction Sector	Approximate Distance (miles)	Description
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	Near south end of Hutchinson Island

2009
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
ST. LUCIE PLANT - UNITS 1 & 2

ATTACHMENT B

RADIOLOGICAL SURVEILLANCE OF

FLORIDA POWER AND LIGHT COMPANY

ST. LUCIE SITE

2009

First Quarter 2009

Second Quarter 2009

Third Quarter 2009

Fourth Quarter 2009

ST. LUCIE SITE

Offsite Dose Calculation Manual Sampling

First Quarter, 2009

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
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	2
4.b. Broadleaf Vegetation	Monthly	3	9
			Total: 188

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 10-Dec-08 Collection 17-Mar-09	Sample Site	Deployment 10-Dec-08 Collection 17-Mar-09
N-1	4.7 ± 0.5	SW-2	4.6 ± 0.3
NNW-5	5.0 ± 0.4	SW-5	5.5 ± 0.5
NNW-10	5.4 ± 0.5	SW-10	5.0 ± 0.3
NW-5	4.4 ± 0.4	SSW-2	4.3 ± 0.3
NW-10	5.8 ± 0.4	SSW-5	5.5 ± 0.5
WNW-2	4.6 ± 0.4	SSW-10	5.1 ± 0.3
WNW-5	4.6 ± 0.3	S-5	5.5 ± 0.5
WNW-10	5.6 ± 0.4	S-10	4.5 ± 0.4
W-2	4.3 ± 0.3	S/SSE-10	4.4 ± 0.4
W-5	5.3 ± 0.4	SSE-5	4.3 ± 0.2
W-10	4.8 ± 0.5	SSE-10	5.1 ± 0.4
WSW-2	4.6 ± 0.4	SE-1	4.9 ± 0.5
WSW-5	4.5 ± 0.3	H-32	5.3 ± 0.3
WSW-10	4.2 ± 0.2		

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

Collection Date	H08	H12	H14	H30	H34
08-Jan-09	<0.01	<0.01	<0.01	<0.01	<0.01
15-Jan-09	<0.02	<0.02	<0.02	<0.02	<0.02
22-Jan-09	<0.01	<0.01	<0.01	<0.01	<0.01
28-Jan-09	<0.02	<0.02	<0.02	<0.02	<0.02
04-Feb-09	<0.01	<0.01	<0.01	<0.01	<0.01
12-Feb-09	<0.02	<0.02	<0.02	<0.02	<0.02
18-Feb-09	<0.02	<0.01	<0.02	<0.02	<0.02
24-Feb-09	<0.02	<0.02	<0.02	<0.02	<0.02
04-Mar-09	<0.02	<0.02	<0.02	<0.02	<0.02
10-Mar-09	<0.03	<0.03	<0.03	<0.03	<0.03
17-Mar-09	<0.03	<0.03	<0.03	<0.03	<0.03
24-Mar-09	<0.02	<0.02	<0.02	<0.02	<0.02
31-Mar-09	<0.02	<0.02	<0.02	<0.02	<0.02

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

Collection Date	H08	H12	H14	H30	H34
08-Jan-09	0.018 ± 0.002	0.019 ± 0.002	0.015 ± 0.002	0.012 ± 0.002	0.015 ± 0.002
15-Jan-09	0.008 ± 0.002	0.014 ± 0.002	0.015 ± 0.002	0.008 ± 0.002	0.013 ± 0.002
22-Jan-09	0.017 ± 0.002	0.016 ± 0.002	0.017 ± 0.002	0.013 ± 0.002	0.016 ± 0.002
28-Jan-09	0.023 ± 0.003	0.019 ± 0.003	0.020 ± 0.003	0.013 ± 0.002	0.015 ± 0.002
04-Feb-09	0.009 ± 0.002	0.012 ± 0.002	0.007 ± 0.002	0.009 ± 0.002	0.009 ± 0.002
12-Feb-09	0.017 ± 0.002	0.016 ± 0.002	0.017 ± 0.002	0.012 ± 0.002	0.017 ± 0.002
18-Feb-09	0.013 ± 0.002	0.014 ± 0.002	0.015 ± 0.002	0.013 ± 0.002	0.013 ± 0.002
24-Feb-09	0.016 ± 0.003	0.019 ± 0.003	0.022 ± 0.003	0.018 ± 0.002	0.024 ± 0.003
04-Mar-09	0.016 ± 0.002	0.020 ± 0.002	0.019 ± 0.002	0.023 ± 0.002	0.015 ± 0.002
10-Mar-09	0.020 ± 0.003	0.020 ± 0.003	0.014 ± 0.002	0.016 ± 0.002	0.017 ± 0.003
17-Mar-09	0.017 ± 0.002	0.016 ± 0.002	0.014 ± 0.002	0.017 ± 0.002	0.015 ± 0.002
24-Mar-09	0.016 ± 0.002	0.016 ± 0.002	0.017 ± 0.002	0.011 ± 0.002	0.014 ± 0.002
31-Mar-09	0.018 ± 0.002	0.018 ± 0.002	0.019 ± 0.002	0.016 ± 0.002	0.016 ± 0.002
Average:	0.016 ± 0.001	0.017 ± 0.001	0.016 ± 0.001	0.014 ± 0.001	0.015 ± 0.001

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

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
H08	0.2313 ± 0.0259	<0.0233	<0.0018	<0.0018	0.0121 ± 0.0024
H12	0.2717 ± 0.0275	<0.0210	<0.0021	<0.0013	0.0187 ± 0.0027
H14	0.2308 ± 0.0147	<0.0194	<0.0016	<0.0011	0.0257 ± 0.0042
H30	0.2340 ± 0.0297	<0.0202	<0.0020	<0.0011	<0.0084
H34	0.2564 ± 0.0161	<0.0216	<0.0011	<0.0009	0.0223 ± 0.0044

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)
H15	08-Jan-09	<143	321 ± 31	<2	<2	<5	<3	<5	<4	<3	<3	<3	<4
	15-Jan-09	<143	420 ± 16	<2	<2	<3	<2	<4	<3	<2	<2	<2	<3
	22-Jan-09	<143	290 ± 50	<6	<6	<13	<7	<12	<9	<8	<7	<8	<10
	28-Jan-09	<143	411 ± 31	<3	<4	<9	<4	<8	<6	<4	<5	<4	<14
	04-Feb-09	<138	430 ± 34	<3	<4	<7	<3	<9	<5	<4	<4	<3	<13
	12-Feb-09	<135	288 ± 22	<1	<1	<3	<2	<3	<2	<1	<1	<1	<5
	18-Feb-09	<135	283 ± 23	<1	<1	<3	<2	<3	<3	<2	<1	<2	<2
	24-Feb-09	112 ± 27	265 ± 17	<3	<3	<6	<3	<6	<5	<3	<3	<3	<9
	04-Mar-09	<134	306 ± 20	<3	<3	<7	<4	<7	<5	<3	<3	<4	<11
	10-Mar-09	<131	355 ± 19	<2	<2	<3	<2	<3	<3	<2	<2	<2	<5
	17-Mar-09	<147	304 ± 22	<3	<3	<7	<4	<9	<6	<5	<4	<4	<4
	24-Mar-09	<146	397 ± 16	<2	<2	<3	<2	<4	<3	<2	<2	<2	<4
	31-Mar-09	<146	306 ± 13	<1	<1	<3	<2	<3	<2	<2	<2	<1	<3
H59	08-Jan-09	<143	291 ± 18	<1	<1	<2	<1	<3	<2	<1	<1	<1	<2
	18-Feb-09	<131	325 ± 34	<2	<2	<5	<3	<6	<5	<3	<3	<3	<4
	17-Mar-09	<147	393 ± 34	<4	<4	<8	<5	<8	<6	<7	<4	<3	<5

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

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

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

Sample Site	Collection Date	Be-7	K-40	Co-58	Co-60	Cs-134	Cs-137	Pb-210	Ra-226	Th-232	U-238
H15	24-Feb-09	<55	212 ± 23	<6	<6	<7	<7	241 ± 32	111 ± 49	34 ± 4	13 ± 3
H59	24-Feb-09	<60	130 ± 39	<7	<6	<9	<7	<471	<221	<41	<69

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
H15	10-Mar-09	1765 ± 144	<12	<12	<27	<13	<29	<14	<12	<246	<42
H59	23-Mar-09	1522 ± 127	<29	<26	<52	<30	<68	<33	<30	<600	<110

4.a.2. FISH - Mixed 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	18-Mar-09	2873 ± 199	<19	<21	<45	<21	<32	<24	<20	<337	<90
H59	31-Mar-09	2626 ± 159	<27	<23	<50	<28	<65	<30	<29	<502	<86

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

Sample Site	Collection Date	Be-7	K-40	I-131	Cs-134	Cs-137	Pb-210	Ra-226	Ra-228
H51	08-Jan-09	704 ± 83	4503 ± 237	<20	<25	30 ± 9	<2791	<365	<75
	18-Feb-09	974 ± 91	4103 ± 215	<12	<17	20 ± 8	<2394	<325	<64
	17-Mar-09	681 ± 109	4634 ± 231	<23	<17	<21	<2477	<354	<65
H52	08-Jan-09	1067 ± 99	3996 ± 178	<20	<16	29 ± 6	<1127	<353	<54
	18-Feb-09	953 ± 72	3082 ± 231	<10	<11	<10	342 ± 38	<221	<37
	17-Mar-09	998 ± 83	3272 ± 191	<26	<17	<18	<2249	291 ± 110	<66
H59	08-Jan-09	1055 ± 95	4641 ± 315	<16	<15	<15	<298	<286	<52
	18-Feb-09	1290 ± 80	2003 ± 119	<12	<12	<13	<761	<279	<41
	17-Mar-09	763 ± 34	2648 ± 77	<9	<7	9 ± 3	<926	<133	<24

ST. LUCIE SITE

Offsite Dose Calculation Manual Sampling

Second Quarter, 2009

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
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	0
4.b. Broadleaf Vegetation	Monthly	3	9
			Total: 182

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 17-Mar-09 Collection 02-Jun-09	Sample Site	Deployment 17-Mar-09 Collection 02-Jun-09
N-1	4.9 ± 0.5	SW-2	4.8 ± 0.4
NNW-5	4.6 ± 0.5	SW-5	5.5 ± 0.6
NNW-10	5.0 ± 0.7	SW-10	4.4 ± 0.5
NW-5	4.4 ± 0.6	SSW-2	4.3 ± 0.4
NW-10	5.4 ± 0.8	SSW-5	5.4 ± 0.4
WNW-2	4.8 ± 0.6	SSW-10	5.1 ± 0.6
WNW-5	4.7 ± 0.5	S-5	6.0 ± 0.4
WNW-10	5.4 ± 0.6	S-10	4.5 ± 0.3
W-2	4.4 ± 0.6	S/SSE-10	4.2 ± 0.4
W-5	5.1 ± 0.6	SSE-5	4.1 ± 0.4
W-10	5.1 ± 0.6	SSE-10	4.5 ± 0.6
WSW-2	4.7 ± 0.5	SE-1	4.4 ± 0.2
WSW-5	5.1 ± 0.5	H-32	4.8 ± 0.5
WSW-10	4.2 ± 0.5		

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

Collection Date	H08	H12	H14	H30	H34
07-Apr-09	<0.03	<0.02	<0.02	<0.03	<0.02
14-Apr-09	<0.02	<0.02	<0.02	<0.02	<0.02
21-Apr-09	<0.02	<0.02	<0.02	<0.04(A)	<0.02
30-Apr-09	<0.01	<0.01	<0.01	<0.01	<0.01
05-May-09	<0.03	<0.03	<0.03	<0.03	<0.03
13-May-09	<0.02	<0.02	<0.02	<0.02	<0.02
20-May-09	<0.01	<0.01	<0.01	<0.01	<0.01
27-May-09	<0.01	<0.01	<0.01	<0.02	<0.01
02-Jun-09	<0.03	<0.03	<0.02	<0.02	<0.02
10-Jun-09	<0.02	<0.03(B)	<0.03	<0.02	<0.03
16-Jun-09	<0.01	<0.01	<0.01	<0.01	<0.01
23-Jun-09	<0.01	<0.01	<0.01	<0.01	<0.01
30-Jun-09	<0.02	<0.02	<0.02	<0.02	<0.02

(A) Vacuum pump failed and was replaced. Estimated run time was 24.3 out of 167.8 hours.
(B) Estimated run time was 153.3 out of 184.9 hours. Unknown reason for a lower flow.

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

Collection Date	H08	H12	H14	H30	H34
07-Apr-09	0.014 ± 0.002	0.013 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.011 ± 0.002
14-Apr-09	0.021 ± 0.002	0.021 ± 0.002	0.021 ± 0.002	0.023 ± 0.002	0.021 ± 0.002
21-Apr-09	0.014 ± 0.002	0.012 ± 0.002	0.010 ± 0.002	<0.044(A)	0.011 ± 0.002
30-Apr-09	0.018 ± 0.002	0.019 ± 0.002	0.023 ± 0.002	0.021 ± 0.002	0.016 ± 0.002
05-May-09	0.020 ± 0.003	0.017 ± 0.003	0.018 ± 0.003	0.017 ± 0.003	0.018 ± 0.003
13-May-09	0.011 ± 0.002	0.009 ± 0.002	0.011 ± 0.002	0.007 ± 0.002	0.009 ± 0.002
20-May-09	0.003 ± 0.001	0.007 ± 0.002	0.009 ± 0.002	0.004 ± 0.002	0.004 ± 0.002
27-May-09	0.007 ± 0.002	0.007 ± 0.002	0.007 ± 0.002	0.007 ± 0.002	0.007 ± 0.002
02-Jun-09	0.015 ± 0.002	0.016 ± 0.002	0.012 ± 0.002	0.009 ± 0.002	0.014 ± 0.002
10-Jun-09	0.011 ± 0.002	0.011 ± 0.002(B)	0.009 ± 0.002	0.009 ± 0.002	0.010 ± 0.002
16-Jun-09	0.021 ± 0.003	0.020 ± 0.002	0.018 ± 0.002	0.017 ± 0.002	0.012 ± 0.002
23-Jun-09	0.020 ± 0.002	0.024 ± 0.002	0.023 ± 0.002	0.014 ± 0.002	0.025 ± 0.002
30-Jun-09	0.012 ± 0.002	0.014 ± 0.002	0.013 ± 0.002	0.009 ± 0.002	0.007 ± 0.002
Average:	0.014 ± 0.001	0.015 ± 0.001	0.014 ± 0.001	<0.013	0.013 ± 0.001

(A) Vacuum pump failed and was replaced. Estimated run time was 24.3 out of 167.8 hours.
(B) Estimated run time was 153.3 out of 184.9 hours. Unknown reason for a lower flow.

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

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
H08	0.1094 ± 0.0127	<0.0293	<0.0033	<0.0025	0.0146 ± 0.0039
H12	0.1435 ± 0.0205	<0.0278	<0.0023	<0.0012	0.0287 ± 0.0059
H14	0.1167 ± 0.0130	<0.0341	<0.0027	<0.0025	0.0119 ± 0.0037
H30	0.1061 ± 0.0131	<0.0367	<0.0035	<0.0022	<0.0262
H34	0.1170 ± 0.0135	<0.0299	<0.0026	<0.0014	<0.0159

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)
H15	07-Apr-09	<139	289 ± 15	<2	<2	<4	<2	<5	<4	<3	<2	<2	<4
	14-Apr-09	<139	280 ± 21	<3	<4	<7	<4	<10	<6	<4	<4	<4	<7
	21-Apr-09	<139	390 ± 31	<3	<3	<7	<3	<8	<5	<5	<5	<4	<6
	30-Apr-09	<138	378 ± 14	<1	<1	<3	<2	<3	<2	<2	<2	<2	<2
	05-May-09	<154	323 ± 31	<4	<3	<8	<5	<8	<6	<5	<5	<4	<7
	13-May-09	<154	278 ± 17	<3	<3	<5	<3	<6	<4	<3	<3	<3	<9
	20-May-09	<154	426 ± 35	<4	<4	<7	<3	<8	<6	<5	<5	<5	<13
	27-May-09	<154	350 ± 16	<2	<2	<3	<2	<4	<3	<2	<2	<2	<4
	03-Jun-09	<145	316 ± 22	<4	<3	<7	<4	<9	<5	<4	<4	<4	<9
	10-Jun-09	<146	312 ± 11	<1	<1	<3	<1	<3	<2	<2	<1	<1	<2
	16-Jun-09	<146	398 ± 18	<2	<2	<3	<2	<3	<3	<2	<2	<2	<4
	23-Jun-09	<146	446 ± 30	<3	<3	<7	<4	<6	<5	<4	<4	<4	<8
	30-Jun-09	<145	374 ± 17	<2	<2	<3	<2	<4	<3	<2	<2	<2	<3
H59	07-Apr-09	<139	366 ± 32	<4	<4	<7	<3	<8	<6	<5	<5	<4	<7
	05-May-09	<154	309 ± 22	<3	<3	<7	<4	<8	<6	<4	<4	<3	<5
	03-Jun-09	<146	294 ± 21	<3	<3	<7	<3	<7	<6	<3	<3	<3	<7

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

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

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

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

4.a.1. CRUSTACEA - (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	This sample was previously collected.										
H59	This sample was previously collected.										

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

Sample Site	Collection Date	Be-7	K-40	I-131	Cs-134	Cs-137	Pb-210	Pb-212	Ra-226	Ra-228
H51	07-Apr-09	2015 ± 113	3074 ± 190	<16	<16	<20	<2457	<89	<356	<62
	05-May-09	761 ± 79	2927 ± 182	<16	<22	<20	<1429	<72	<342	<55
	03-Jun-09	946 ± 42	2901 ± 116	<8	<9	<8	164 ± 42	7 ± 2	<191	<30
H52	07-Apr-09	1365 ± 55	3020 ± 129	<10	<12	<11	359 ± 43	11 ± 3	<221	<37
	05-May-09	457 ± 79	3070 ± 184	<16	<19	<22	<1595	<74	<339	<61
	03-Jun-09	1003 ± 45	4133 ± 161	<10	<11	<11	241 ± 39	11 ± 3	<221	<39
H59	07-Apr-09	967 ± 70	2616 ± 136	<13	<11	<11	<722	<95	<269	<42
	05-May-09	710 ± 65	1905 ± 160	<16	<18	<19	<1601	<80	<318	<58
	03-Jun-09	1538 ± 85	3429 ± 154	<11	<12	<13	<678	<97	<260	<38

ST. LUCIE SITE

Offsite Dose Calculation Manual Sampling

Third Quarter, 2009

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
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	0
4.a.2. Fish	Semiannually	2	2
4.b. Broadleaf Vegetation	Monthly	3	9
			Total: 186

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 02-Jun-09 Collection 09-Sep-09	Sample Site	Deployment 02-Jun-09 Collection 09-Sep-09
N-1	3.7 ± 0.3	SW-2	4.6 ± 0.5
NNW-5	4.1 ± 0.5	SW-5	5.6 ± 0.5
NNW-10	4.5 ± 0.5	SW-10	5.1 ± 0.6
NW-5	4.2 ± 0.4	SSW-2	4.6 ± 0.5
NW-10	5.6 ± 0.7	SSW-5	5.5 ± 0.6
WNW-2	4.3 ± 0.6	SSW-10	5.2 ± 0.4
WNW-5	4.3 ± 0.5	S-5	6.0 ± 0.5
WNW-10	5.0 ± 0.5	S-10	4.7 ± 0.5
W-2	4.2 ± 0.4	S/SSE-10	4.5 ± 0.5
W-5	4.9 ± 0.6	SSE-5	4.1 ± 0.4
W-10	4.6 ± 0.5	SSE-10	4.9 ± 0.5
WSW-2	4.6 ± 0.5	SE-1	4.3 ± 0.5
WSW-5	4.6 ± 0.4	H-32	5.1 ± 0.5
WSW-10	4.4 ± 0.5		

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

Collection Date	H08	H12	H14	H30	H34
08-Jul-09	<0.02	<0.02	<0.02	<0.02	<0.02
16-Jul-09	<0.02	<0.02	<0.02	<0.02	<0.02
21-Jul-09	<0.03	<0.03	<0.03	<0.05(A)	<0.03
29-Jul-09	<0.02	<0.02	<0.02	<0.02	<0.02
05-Aug-09	<0.01	<0.01	<0.01	<0.01	<0.01
12-Aug-09	<0.02	<0.02	<0.02	<0.02	<0.02
19-Aug-09	<0.02	<0.02	<0.02	<0.02	<0.02
25-Aug-09	<0.02	<0.02	<0.02	<0.02	<0.02
02-Sep-09	<0.02	<0.02	<0.02	<0.02	<0.02
09-Sep-09	<0.01	<0.01	<0.01	<0.01	<0.01
15-Sep-09	<0.01	<0.01	<0.01	<0.01	<0.01
22-Sep-09	<0.03	<0.03	<0.03	<0.03	<0.03
30-Sep-09	<0.02	<0.02	<0.02	<0.02	<0.02

(A) Pump not running; breaker tripped, was reset. Estimated run time 77.1 out of 121.25 hours.

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

Collection Date	H08	H12	H14	H30	H34
08-Jul-09	0.012 ± 0.002	0.011 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.012 ± 0.002
16-Jul-09	0.019 ± 0.002	0.016 ± 0.002	0.015 ± 0.002	0.017 ± 0.002	0.016 ± 0.002
21-Jul-09	0.012 ± 0.003	0.013 ± 0.003	0.011 ± 0.003	0.007 ± 0.003(A)	0.014 ± 0.003
29-Jul-09	0.007 ± 0.002	0.010 ± 0.002	0.009 ± 0.002	0.007 ± 0.002	0.007 ± 0.002
05-Aug-09	0.010 ± 0.002	0.011 ± 0.002	0.014 ± 0.002	0.012 ± 0.002	0.017 ± 0.002
12-Aug-09	0.014 ± 0.002	0.016 ± 0.002	0.016 ± 0.002	0.012 ± 0.002	0.013 ± 0.002
19-Aug-09	0.015 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.010 ± 0.002	0.016 ± 0.002
25-Aug-09	0.013 ± 0.002	0.011 ± 0.002	0.015 ± 0.002	0.014 ± 0.002	0.010 ± 0.002
02-Sep-09	0.013 ± 0.002	0.009 ± 0.002	0.010 ± 0.002	0.010 ± 0.002	0.011 ± 0.002
09-Sep-09	0.005 ± 0.002	0.006 ± 0.002	0.007 ± 0.002	0.008 ± 0.002	0.005 ± 0.002
15-Sep-09	0.008 ± 0.002	0.008 ± 0.002	0.011 ± 0.002	0.006 ± 0.002	0.007 ± 0.002
22-Sep-09	0.017 ± 0.002	0.013 ± 0.002	0.019 ± 0.002	0.015 ± 0.002	0.014 ± 0.002
30-Sep-09	0.010 ± 0.002	0.009 ± 0.002	0.013 ± 0.002	0.009 ± 0.002	0.010 ± 0.002
Average:	0.012 ± 0.001	0.011 ± 0.001	0.013 ± 0.001	0.011 ± 0.001	0.012 ± 0.001

(A) Pump not running; breaker tripped, was reset. Estimated run time 77.1 out of 121.25 hours.

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

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
H08	0.0883 ± 0.0147	<0.0333	<0.0020	<0.0021	<0.0159
H12	0.1196 ± 0.0123	<0.0215	<0.0016	<0.0014	<0.0442
H14	0.0989 ± 0.0110	<0.0365	<0.0024	<0.0009	<0.0435
H30	0.1029 ± 0.0162	<0.0308	<0.0016	<0.0012	<0.0471
H34	0.1167 ± 0.0142	<0.0284	<0.0009	<0.0009	<0.0498

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)
H15	08-Jul-09	<159	382 ± 35	<4	<4	<8	<4	<8	<8	<5	<5	<4	<6
	16-Jul-09	<153	301 ± 12	<1	<1	<3	<2	<3	<2	<2	<1	<1	<3
	21-Jul-09	<153	296 ± 12	<1	<1	<3	<2	<3	<2	<2	<1	<2	<3
	29-Jul-09	<159	302 ± 16	<2	<2	<5	<3	<5	<4	<3	<2	<2	<5
	05-Aug-09	134 ± 52	362 ± 32	<4	<3	<7	<4	<7	<6	<5	<5	<4	<13
	12-Aug-09	<159	298 ± 12	<2	<1	<3	<2	<3	<2	<2	<2	<2	<3
	19-Aug-09	<158	284 ± 17	<2	<2	<5	<3	<5	<4	<2	<2	<2	<8
	25-Aug-09	<158	326 ± 33	<4	<3	<7	<4	<9	<6	<4	<4	<4	<15
	02-Sep-09	<173	260 ± 33	<4	<3	<8	<4	<9	<7	<6	<4	<3	<11
	09-Sep-09	<173	279 ± 22	<2	<2	<4	<2	<4	<3	<2	<2	<2	<6
	15-Sep-09	<158	275 ± 36	<4	<4	<8	<4	<7	<6	<6	<4	<4	<15
	22-Sep-09	<157	413 ± 35	<4	<4	<8	<4	<8	<6	<5	<5	<4	<14
	30-Sep-09	<157	448 ± 35	<4	<3	<7	<4	<8	<6	<4	<5	<4	<13
H59	08-Jul-09	<159	353 ± 37	<4	<4	<8	<4	<8	<7	<6	<5	<3	<5
	05-Aug-09	<159	313 ± 22	<4	<3	<7	<4	<8	<5	<4	<3	<4	<7
	09-Sep-09	<173	372 ± 33	<4	<3	<8	<4	<6	<6	<4	<4	<4	<14

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

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

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

Sample Site	Collection Date	Be-7	K-40	Co-58	Co-60	Cs-134	Cs-137	Pb-210	Ra-226	Th-232	U-238
H15	09-Sep-09	<99	383 ± 75	<8	<11	<14	<12	<2091	546 ± 125	120 ± 20	<639
H59	09-Sep-09	<62	207 ± 46	<6	<6	<8	<7	<1134	402 ± 72	57 ± 8	<337

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 not yet collected.										
H59	This sample not yet collected.										

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

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226	Ra-228
H15	09-Sep-09	2301 ± 166	<30	<32	<66	<30	<65	<30	<27	<554	<86
H59	30-Sep-09	2749 ± 209	<19	<21	<37	<24	<44	<24	<18	<358	<86

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

Sample Site	Collection Date	Be-7	K-40	I-131	Cs-134	Cs-137	Pb-210	Pb-212	Ra-226	Ra-228
H51	08-Jul-09	1022 ± 68	4062 ± 159	<18	<10	<12	<721	<78	<248	<41
	05-Aug-09	706 ± 34	4382 ± 162	<9	<10	<9	103 ± 28	16 ± 3	<203	<35
	09-Sep-09	1557 ± 89	3523 ± 178	<13	<15	<14	<1621	<68	<251	<58
H52	08-Jul-09	868 ± 68	5847 ± 181	<18	<11	<12	<691	<91	<257	<48
	05-Aug-09	890 ± 26	4897 ± 163	<5	<5	<5	199 ± 16	9 ± 1	<97	<17
	09-Sep-09	1367 ± 99	3900 ± 214	<15	<17	<18	<2007	<74	<303	<71
H59	08-Jul-09	795 ± 37	2922 ± 118	<13	<9	<9	152 ± 28	<16	<196	<29
	05-Aug-09	1654 ± 91	3774 ± 158	<12	<13	<12	<712	<95	<280	<38
	09-Sep-09	1208 ± 48	2703 ± 121	<9	<9	<9	159 ± 28	<16	<191	<34

ST. LUCIE SITE

Offsite Dose Calculation Manual Sampling

Fourth Quarter, 2009

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
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	2
4.a.2. Fish	Semiannually	2	0
4.b. Broadleaf Vegetation	Monthly	3	9
			Total: 184

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 09-Sep-09 Collection 02-Dec-09	Sample Site	Deployment 09-Sep-09 Collection 02-Dec-09
N-1	4.7 ± 0.5	SW-2	4.4 ± 0.4
NNW-5	4.6 ± 0.6	SW-5	5.2 ± 0.6
NNW-10	4.9 ± 0.4	SW-10	4.7 ± 0.4
NW-5	4.6 ± 0..4	SSW-2	4.7 ± 0.4
NW-10	5.9 ± 0.5	SSW-5	5.0 ± 0.4
WNW-2	4.4 ± 0.4	SSW-10	5.1 ± 0.3
WNW-5	4.6 ± 0.4	S-5	5.9 ± 0.5
WNW-10	5.2 ± 0.5	S-10	4.6 ± 0.3
W-2	4.2 ± 0.4	S/SSE-10	4.6 ± 0.3
W-5	4.9 ± 0.5	SSE-5	4.1 ± 0.4
W-10	4.5 ± 0.4	SSE-10	4.9 ± 0.4
WSW-2	4.6 ± 0.4	SE-1	4.5 ± 0.5
WSW-5	4.4 ± 0.4	H-32	5.0 ± 0.4
WSW-10	4.1 ± 0.4		

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

Collection Date	H08	H12	H14	H30	H34
06-Oct-09	<0.02	<0.02	<0.02	<0.02	<0.02
14-Oct-09	<0.02	<0.02	<0.02	<0.02	<0.02
21-Oct-09	<0.02	<0.02	<0.02	<0.02	<0.02
28-Oct-09	<0.03	<0.03	<0.03	<0.03	<0.03
04-Nov-09	<0.01	<0.01	<0.01	<0.01	<0.01
09-Nov-09	<0.03	<0.03	<0.03	<0.03	<0.03
17-Nov-09	<0.01	<0.01	<0.01	<0.01	<0.01
23-Nov-09	<0.03	<0.03	<0.03	<0.03	<0.03
02-Dec-09	<0.02	<0.02	<0.02	<0.02	<0.02
08-Dec-09	<0.02	<0.02	<0.01	<0.02	<0.02
16-Dec-09	<0.02	<0.02	<0.02	<0.02	<0.02
22-Dec-09	<0.02	<0.02	<0.01	<0.02	<0.02
30-Dec-09	<0.02	<0.02	<0.02	<0.02	<0.02

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

Collection Date	H08	H12	H14	H30	H34
06-Oct-09	0.017 ± 0.002	0.018 ± 0.003	0.018 ± 0.003	0.017 ± 0.002	0.016 ± 0.002
14-Oct-09	0.011 ± 0.002	0.014 ± 0.002	0.010 ± 0.002	0.013 ± 0.002	0.013 ± 0.002
21-Oct-09	0.012 ± 0.002	0.014 ± 0.002	0.013 ± 0.002	0.010 ± 0.002	0.013 ± 0.002
28-Oct-09	0.012 ± 0.002	0.010 ± 0.002	0.008 ± 0.002	0.011 ± 0.002	0.013 ± 0.002
04-Nov-09	0.009 ± 0.002	0.011 ± 0.002	0.008 ± 0.002	0.007 ± 0.002	0.009 ± 0.002
09-Nov-09	0.026 ± 0.003	0.024 ± 0.003	0.025 ± 0.003	0.026 ± 0.003	0.021 ± 0.003
17-Nov-09	0.007 ± 0.002	0.007 ± 0.002	0.009 ± 0.002	0.005 ± 0.001	0.009 ± 0.002
23-Nov-09	0.010 ± 0.002	0.009 ± 0.002	0.016 ± 0.002	0.011 ± 0.002	0.012 ± 0.002
02-Dec-09	0.018 ± 0.002	0.016 ± 0.002	0.017 ± 0.002	0.018 ± 0.002	0.013 ± 0.002
08-Dec-09	0.007 ± 0.002	0.014 ± 0.002	0.012 ± 0.002	0.013 ± 0.002	0.012 ± 0.002
16-Dec-09	0.008 ± 0.002	0.011 ± 0.002	0.014 ± 0.002	0.014 ± 0.002	0.008 ± 0.002
22-Dec-09	0.011 ± 0.002	0.008 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.012 ± 0.002
30-Dec-09	0.018 ± 0.002	0.020 ± 0.002	0.018 ± 0.002	0.023 ± 0.002	0.017 ± 0.002
Average:	0.013 ± 0.001	0.014 ± 0.001	0.014 ± 0.001	0.014 ± 0.001	0.013 ± 0.001

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

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
H08	0.1044 ± 0.0121	<0.0369	<0.0039	<0.0029	<0.0286
H12	0.1846 ± 0.0168	<0.0429	<0.0029	<0.0023	<0.0182
H14	0.1425 ± 0.0134	<0.0309	<0.0017	<0.0015	<0.0527
H30	0.1449 ± 0.0177	<0.0358	<0.0024	<0.0020	<0.0171
H34	0.1193 ± 0.0047	0.0064 ± 0.0013	<0.0010	<0.0008	0.0128 ± 0.0014

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)
H15	06-Oct-09	<165	291 ± 22	<3	<3	<7	<4	<8	<5	<4	<3	<4	<5
	14-Oct-09	152 ± 50	401 ± 25	<2	<3	<6	<3	<6	<5	<5	<2	<3	<14
	21-Oct-09	<150	403 ± 31	<3	<3	<8	<4	<8	<6	<4	<4	<4	<13
	28-Oct-09	<149	310 ± 18	<3	<3	<6	<3	<6	<5	<3	<3	<3	<9
	04-Nov-09	<145	286 ± 12	<1	<1	<3	<2	<3	<3	<2	<2	<2	<6
	09-Nov-09	<144	276 ± 20	<3	<3	<8	<3	<9	<6	<4	<4	<3	<13
	17-Nov-09	<144	300 ± 21	<3	<3	<7	<3	<8	<5	<3	<3	<3	<12
	23-Nov-09	184 ± 49	298 ± 12	<1	<1	<3	<2	<3	<2	<1	<2	<1	<5
	01-Dec-09	118 ± 45	418 ± 33	<3	<4	<7	<3	<8	<7	<5	<5	<4	<14
	08-Dec-09	<137	308 ± 22	<4	<3	<8	<4	<6	<5	<4	<4	<3	<12
	16-Dec-09	117 ± 45	352 ± 34	<4	<5	<8	<5	<9	<9	<4	<7	<5	<15
	22-Dec-09	<141	364 ± 42	<3	<3	<7	<4	<9	<7	<5	<4	<4	<11
	30-Dec-09	<141	378 ± 35	<4	<4	<7	<4	<8	<7	<5	<5	<4	<13
H59	14-Oct-09	<150	279 ± 19	<3	<3	<6	<4	<7	<5	<6	<3	<3	<5
	09-Nov-09	<144	366 ± 21	<2	<2	<4	<2	<4	<3	<2	<2	<2	<8
	01-Dec-09	<138	412 ± 34	<4	<4	<7	<4	<9	<6	<4	<4	<4	<15

(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
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	22-Oct-09	2711 ± 78	<17	<27	<85	<17	<42	<19	<15	<173	<50
H59	17-Nov-09	2534 ± 192	<20	<19	<54	<23	<43	<27	<22	1066 ± 186	<141

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 previously collected.										
H59	This sample was previously collected.										

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

Sample Site	Collection Date	Be-7	K-40	I-131	Cs-134	Cs-137	Pb-210	Pb-212	Ra-226	Ra-228
H51	14-Oct-09	820 ± 67	4859 ± 210	<23	<18	<14	<1604	<80	<278	<71
	09-Nov-09	1994 ± 119	4553 ± 171	<7	<13	<14	<660	<98	<292	<41
	01-Dec-09	770 ± 70	4870 ± 217	<17	<18	<16	<1644	<85	<291	<69
H52	14-Oct-09	1282 ± 94	5107 ± 229	<24	<21	<16	<1731	<82	<302	<76
	09-Nov-09	2123 ± 111	4033 ± 222	<30	<16	<17	<1663	<73	<311	<63
	01-Dec-09	1274 ± 85	3519 ± 144	<13	<14	<11	<676	<87	<254	<39
H59	14-Oct-09	645 ± 77	2978 ± 146	<20	<13	<14	<1338	<65	<226	<56
	09-Nov-09	1198 ± 102	2708 ± 183	<29	<14	<14	<1547	<74	<282	<58
	01-Dec-09	578 ± 67	2942 ± 177	<14	<22	<15	<1500	<77	<303	<63

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ATTACHMENT C

RESULTS FROM THE 2009

INTERLABORATORY COMPARISON PROGRAM

CONDUCTED BY

DEPARTMENT OF ENERGY

(2 Pages)

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DOE-MAPEP 20 RESULTS

Radionuclide	Result	Ref. Value	Flag (Evaluation)	Acceptance Range
Matrix: RdF Air Filter Bq/filter				
MN54	2.22	2.2709	A	1.5896 – 2.9522
CO57	1.15	1.30	A	0.91 – 1.69
CO60	1.14	1.22	A	0.85 – 1.59
ZN65	1.34	1.36	A	0.95 – 1.77
CS134	2.88	2.93	A	2.05 – 3.81
CS137	1.45	1.52	A	1.06 – 1.98
Matrix: GrF Air Filter Bq/filter				
Gross Beta	1.54	1.27	A	0.64 – 1.91
Matrix: MaS Soil Bq/kg				
K40	652.74	570	A	399 - 741
MN54	347.54	307	A	215 - 399
CO57	0.05		A	Bank, no activity
CO60	4.48	4.113	A	Performance assay
ZN65	278.17	242	A	169 - 315
CS134	452.51	467	A	327 - 607
CS137	660.6	605	A	424 – 787
Matrix: MaW Water Bq/L				
H3	344.72	330.9	A	231.6 – 430.2
MN54	15.43	14.66	A	10.06 – 19.06
CO57	18.04	18.9	A	13.2 – 24.6
CO60	17.13	17.21	A	12.05 – 22.37
NI63	44.57	53.50	A	37.45 – 69.55
ZN65	14.7	13.6	A	9.5 – 17.7
CS134	21.18	22.5	A	15.8 – 29.3
CS137	-0.14		A	Cs137 inference from Cs-134 test
Matrix: RdV Vegetation, Bq/sample :				
MN54	2.19	2.30	A	1.61 – 2.99
CO57	2.27	2.36	A	1.65 – 3.07
CO60	0.08	- - -	A	A lower detectability eval.
ZN65	1.33	1.354	A	0.948 – 1.760
CS134	3.25	3.40	A	2.38 – 4.42
CS137	0.9	0.93	A	0.65 – 1.21

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

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DOE-MAPEP 21 RESULTS

Radionuclide	Result	Ref. Value	Flag (Evaluation)	Acceptance Range
Matrix: RdF Air Filter Bq/filter				
MN54	6.31	5.49	A	3.84 – 7.14
CO57	6.12	6.48	A	4.54 – 8.42
CO60	1.05	1.03	A	0.72 – 1.34
ZN65	4.69	3.93	A	2.75 – 5.11
CS134	- 0.06		A	Bank, no activity
CS137	1.55	1.40	A	0.98 – 1.82
Matrix: GrF Air Filter Bq/filter				
Gross Beta	1.484	1.32	A	0.66 – 1.98
Matrix: MaS Soil Bq/kg				
K40	403.97	375	A	263 - 488
MN54	873.6	796	A	557 - 1035
CO57	632.79	586	A	410 - 762
CO60	343.70	327	A	229 - 425
ZN65	1354.41	1178	A	825 - 1531
CS134	2.32		A	Bank, no activity
CS137	712.12	669	A	468 - 870
Matrix: MaW Water Bq/L				
H3	508.91	634.1	A	443.9 – 824.3
MN54	0.066		A	Bank, no activity
CO57	34.53	36.6	A	25.6 – 47.6
CO60	15.28	15.4	A	10.8 – 20.0
ZN65	29.79	26.9	A	18.8 – 35.0
SR90	14.2	12.99	A	9.09 – 16.89
CS134	29.44	32.2	A	22.5 – 41.9
CS137	41.88	41.2	A	28.8 – 53.6
Matrix: RdV Vegetation, Bq/sample :				
MN54	7.10	7.9	A	5.5 – 10.3
CO57	7.39	8.0	A	5.6 – 10.4
CO60	2.33	2.57	A	1.80 – 3.34
ZN65	0.14		A	Bank, no activity
CS134	-0.13		A	Bank, no activity
CS137	2.09	2.43	A	1.7 – 3.16

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

ATTACHMENT D

Industry Initiative

Ground Water Protection Program

Tritium in Ground Water Monitoring

2009

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A. Description of Program:

Quarterly sampling & analysis for Tritium & principle gamma emitters is performed by the State of Florida Department of Health (DOH) and Bureau of Radiation Control (BRC), pursuant to an Agreement between FPL and DOH, as part of the ODCM REMP sampling program.

The wells identified for radiological environmental sampling in support of the industry initiative are listed below, and in Appendix B-2 of the ODCM. The ten wells are on the 'outside' perimeter of the protected area. Two locations where the Plant ID ends with "S" are shallower wells adjacent, within a few feet, of a deeper well at the same location.

State ID	St. Lucie Plant ID	Location Description
H70	GIS-MW-ES	West of A1A; between the discharge canal and Gate "B"
H71	GIS-MW-EI	West of A1A; between the discharge canal and Gate "B"
H72	GIS-MW-SI	South of Intake canal and the adjacent access road
H73	GIS-MW-SWS	S/W corner of Intake canal and the adjacent access road
H74	GIS-MW-SWI	S/W corner of Intake canal and the adjacent access road
H75	GIS-MW-WI	West of plant site and intake canal; South of switchyard
H76	H76	North of Simulator; South of Big Mud Creek
H77	H77	East of Barge Slip; By LU bldg
H78	H78	South of North Warehouse
H79	H79	West of A1A and East of Parking Lot

B. St. Lucie 2009 Tritium Results [1] Summary, pCi/L

Well number	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
H-70	< 143 [2]	< 139	< 159	< 150
H-71	324	522	592	488
H-72	< 143	< 139	< 159	< 150
H-73	< 143	< 139	< 159	< 147
H-74	< 143	< 139	< 159	< 150
H-75	< 143	< 139	< 159	< 150
H76	NIS [3]	NIS	< 152	99 [4]
H77	NIS	NIS	< 152	< 150
H78	NIS	NIS	< 152	< 147
H79	NIS	NIS	< 152	< 150

Notes

1. Samples analyzed for H3 and principle gamma emitters; tritium is the only fission product identified. Naturally occurring K-40 is occasionally identified.
2. Laboratory H3 MDA is about 140 pCi/liter
3. Not In Service; well set during 2009
4. Maybe a false positive; counting statistics were good, Coefficient of Variance was 25%

Map depicting the well locations follows.

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RADIOLOGICAL ENVIRONMENTAL SAMPLING LOCATIONS
IN SUPPORT OF THE INDUSTRY INITIATIVE