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

April 13, 2004

L-2004-081
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 2003

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 2003.

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

Very truly yours,

William Jefferson, Jr.
Vice President
St. Lucie Plant

Attachment

WJ/spt

IE25

2003

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 Bu

Reviewed by: J L Dan

2003
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 of members of the public resulting from station operation. The Radiological Environmental Monitoring Program also supplements the radiological effluent monitoring program by verifying that the measurable concentrations of radioactive materials and levels of radiation are not higher than expected on the basis of the effluent measurements and the modeling of the environmental exposure pathways.

B. Program Description

The Radiological Environmental Monitoring Program (REMP) for the 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.

g. A goat milk sample is collected from one location. The sample is collected and analyzed on a quarterly basis. No other milk-producing goats feeding on similar wild vegetation have been found in the St. Lucie region; therefore, there is no control location for this sample type.

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.

D. Land Use Census

A land use census out to a distance of a 5-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 Interlaboratory Comparison Program consists of participating in the Department of Energy's EML New York Quality Assessment Program (DOE-QAP). The DOE-QAP consists of two rounds of air filter, water, soil, and vegetation matrices. The samples are analyzed using the methods applicable to the REMP (gamma spectroscopy, gross beta, and tritium for water). The results of nuclides associated with the REMP are listed in Attachment C, Results From the Interlaboratory Comparison Program.
Please note that although our laboratory participated in the analysis for alpha in air and water, the results of this analysis are not used to support St. Lucie's Radiological Environmental Monitoring 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:

Tritium was detected in 6 of 52 Indicator Location samples and in 1 of 12 Control Location samples. The highest level seen was less than 25% of the Required LLD specified in ODCM Table 4.12-1.
No other nuclides attributed to station operation were detected. 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. Cs-137 was detected in 5 of 24 Indicator Location samples and in 1 of 12 Control Location samples. The highest level is less than 4% of the Reporting Level specified in ODCM Table 3.12-2. There were no indications of any other nuclides attributed to plant effluents. Results for the broad leaf vegetation samples are summarized in Table 1.

6. Milk, Goat:

Cesium-137 was detected in all of the samples. The presence of this nuclide is considered "weapons fallout"; the animal uptake is due to the foraging habits of the goat. The highest level was 59 pCi/liter. Samples of the wild vegetation consumed by the "pet goat" (Brazilian Pepper) indicated the presence of Cs-137. The State, Department of Health found comparable levels of Cs-137 in samples from numerous wilderness locations.

7. 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% greater than locations currently being sampled in the Radiological Environmental Monitoring Program were identified by the land use census.

8. Interlaboratory Comparison Program:

The State laboratory participated in QAP-58 and QAP-59; the two sets of samples issued by DOE for 2003.

In QAP-58, all results for those nuclides associated with nuclear power plant operation and using analytical methods used in the REMP are acceptable.
In QAP-59, the results for Air Filter matrix for those nuclides associated with nuclear power plant operation and using analytical methods used in the REMP are acceptable. The cause of the warning for Cs-134 in water is unknown. The sample was reanalyzed; similar results were found. The State reviewed the results of the over 40 laboratories participating in this program found that they too typically under-responded by about the same 10%. The warnings for soil are the result of a lab technician failing to follow procedures; the technician has been counseled on adherence to procedures.

The 'naturally occurring nuclide' results reported are inferred results from gamma spectroscopy. Chemical separation and alpha analysis is the preferred analytical method, but is outside the scope of the routine REMP.

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, 2003
(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]	—	5.0 (104/104) 4.0 - 6.4	NW-10 10 mi., NW	6.2 (4/4) 6.0 - 6.4	5.4 (4/4) 5.2 – 5.6

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, 2003
(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, 255	0.024	<MDA	—	—	<MDA
Gross Beta, 255	0.0025	0.012 (204/204) 0.004 - 0.028	H-34 0.5 mi., N	0.013 (51/51) 0.005 - 0.028	0.012 (51/51) 0.003 - 0.023
Composite Gamma Isotopic, 20					
^{7}Be	0.0052	0.1147 (16/16) 0.0765 - 0.1506	H-14 1 mi., SE	0.1192 (4/4) 0.0809 - 0.1454	0.1092 (4/4) 0.0766 - 0.1315
^{134}Cs	0.00069	<MDA	—	—	<MDA
^{137}Cs	0.00066	<MDA	—	—	<MDA
^{210}Pb	—	0.0218 (8/16) 0.0068 - 0.0463	H-34 0.5 mi., N	0.0324 (2/4) 0.0184 - 0.0463	0.0135 (2/4) 0.0068 - 0.0202

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, 2003
(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] Distance & Direction	Mean (f)[b] Range	
Tritium, 64	230	234 (6/52) 79 - 686	H-15 <1 mi., ENE/E/ESE	234 (6/52) 79 - 686	61 (1/12)
Gamma Isotopic, 64					
^{40}K	60	343 (52/52) 149 - 421	H-15 <1 mi., ENE/E/ESE	343 (52/52) 149 - 421	336 (12/12) 137 - 451
^{54}Mn	4	<MDA	—	—	<MDA
^{59}Fe	8	<MDA	—	—	<MDA
^{58}Co	4	<MDA	—	—	<MDA
^{60}Co	4	<MDA	—	—	<MDA
^{65}Zn	8	<MDA	—	—	<MDA
^{95}Zr-Nb	7	<MDA	—	—	<MDA
^{131}I	5	<MDA	—	—	<MDA
^{134}Cs	5	<MDA	—	—	<MDA
^{137}Cs	5	<MDA	—	—	<MDA
^{140}Ba-La	11	<MDA	—	—	<MDA

Number of Non-Routine Reported Measurements = 0

TABLE 1

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
Name of Facility St. Lucie Units 1 & 2, Docket No(s). 50-335 & 50-389
Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2003
(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					
^{40}K	140	408 (2/2) 308 - 507	H-15 <1 mi, ENE/E/ESE	408 (2/2) 308 - 507	148 (2/2) 124 - 173
^{210}Pb	—	< MDA	—	—	330 (1/2)
^{226}Ra	49	332 (2/2) 325 - 338	H-15 <1 mi., ENE/E/ESE	332 (2/2) 325 - 338	208 (2/2) 159 - 257
^{232}Th	—	150 (1/2)	H-15 <1 mi., ENE/E/ESE	150 (1/2)	59 (2/2) 48 - 70
^{238}U	—	361 (1/2)	H-15 <1 mi., ENE/E/ESE	361 (1/2)	367 (2/2) 353 - 381
^{58}Co	9	<MDA	—	—	<MDA
^{60}Co	12	<MDA	—	—	<MDA
^{134}Cs	14	<MDA	—	—	<MDA
^{137}Cs	12	<MDA	—	—	<MDA

Number of Non-Routine Reported Measurements = 0

TABLE 1

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
Name of Facility St. Lucie Units 1 & 2, Docket No(s). 50-335 & 50-389
Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2003
(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: Name[c] Distance & Direction	Location with Highest Annual Mean: Mean (f)[b] Range	Control Locations Mean (f)[b] Range
Gamma Isotopic, 4					
^{40}K	130	1564 (2/2) 1469 - 1658	H-15 <1 mi., ENE/E/ESE	1564 (2/2) 1469 - 1658	1356 (2/2) 1337 - 1374
^{226}Ra	—	< MDA	—	—	537 (1/2)
^{228}Ra	—	<MDA	—	—	<MDA
^{54}Mn	9	<MDA	—	—	<MDA
^{59}Fe	16	<MDA	—	—	<MDA
^{58}Co	9	<MDA	—	—	<MDA
^{60}Co	19	<MDA	—	—	<MDA
^{65}Zn	17	<MDA	—	—	<MDA
^{134}Cs	9	<MDA	—	—	<MDA
^{137}Cs	9	<MDA	—	—	<MDA

Number of Non-Routine Reported Measurements = 0

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, 2003
(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 Name[c] Distance & Direction	Location with Highest Annual Mean Mean (f)[b] Range	Control Locations Mean (f)[b] Range
Gamma Isotopic, 4					
^{40}K	130	2228 (2/2) 1824 - 3631	H-15 <1 mi., ENE/E/ESE	2228 (2/2) 1824 - 3631	3368 (2/2) 3281 - 3454
^{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

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, 2003
(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	948 (24/24) 527 - 1679	H-51 1 mi., N/NNW	997 (12/12) 575 - 1679	1083 (12/12) 628 - 2033
^{40}K	100	4280 (24/24) 2864 - 6354	H-52 1 mi. , S/SSE	4317 (12/12) 2864 - 6354	3968 (12/12) 2304 - 6048
^{131}I	9	<MDA	—	—	<MDA
^{134}Cs	8	<MDA	—	—	<MDA
^{137}Cs	8	38 (5/24) 17 - 74	H-51 1 mi., N/NNW	48 (2/12) 21 - 74	50 (1/12)
^{210}Pb	—	528 (1/24)	H-52 1 mi. , S/SSE	528 (1/12)	<MDA
^{212}Pb	—	< MDA	—	—	< MDA
^{226}Ra	—	< MDA	—	—	< MDA

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, 2003
(County, State)

PATHWAY: INGESTION
SAMPLES COLLECTED: MILK
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
Gamma Isotopic, 3					
^{40}K	60	1712 (3/3) 1650 - 1779	H-101 3.5 mi., WSW	1712 (3/3) 1650 - 1779	n/a [e]
^{210}Pb	---	<MDA	---	---	n/a
^{212}Pb	---	<MDA	---	---	n/a
^{131}I (Chemical separation)	0.1	<MDA	---	---	n/a
^{134}Cs	5	<MDA	---	---	n/a
^{137}Cs	5	39 (3/3) 22 - 59	H-101 3.5 mi., WSWE	39 (3/3) 22 - 59	n/a

Number of Non-Routine Reported Measurements = 0

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
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(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).

e. There are no other milk producing goats grazing on similar vegetation, back yard grass and wild bushes in the St. Lucie region. Therefore, there is no control location.

MDA refers to minimum detectable activity.

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TABLE 1A

DEVIATIONS / MISSING DATA

A)	Pathway:	Ingestion : Milk
	Location:	H-101 , 3.5 miles west-south-west
	Dates:	Fourth calendar quarter
	Deviation:	Failure to perform fourth quarter milk monitoring.
	Description of Problem:	The pet goat did not generate enough milk for a sample.
	Corrective Action:	None

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TABLE 1B

ANALYSIS WITH LLDs ABOVE THE REQUIRED DETECTION CAPABILITIES
(LLDs) Listed in ODCM TABLE 4.12-1
1/1/2003 – 12/31/2003

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
(Page 1 of 2)

Distance to Nearest (a, b)

Sector	7/03 Milk (c) Animal	7/03 Residence	7/03 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	3.3/191	L
SSW	L	2.2/213	L
SW	L	1.9/235	L
WSW	3.3/248 (h)	1.9/240	3.4/248 (i)
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

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
NNW	2.8/348	A new community is being developed. At the current time, there are no houses available for occupancy.

h. The milk, from the one fresh goat, is primarily used to feed other pet goats; any surplus may be occasionally consumed by humans. Occasionally, there will be insufficient sample to achieve the required LLD for I-131.

i. The garden is just 500 square feet; it is a herb garden in a residence's backyard. The owner is unwilling to provide a sample; field sampling technician feels garden is incapable of supplying sufficient sample to satisfy LLD requirements. It is not included in the REMP program.

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ATTACHMENT A

KEY TO SAMPLE LOCATIONS

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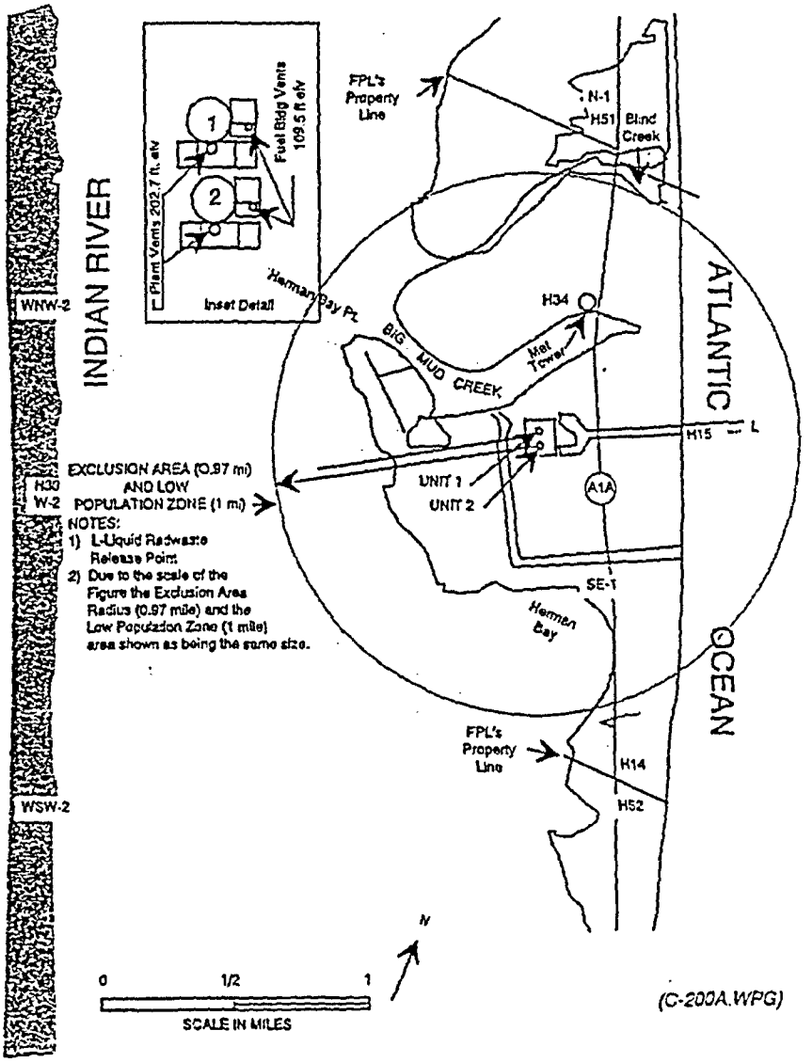
SITE AREA MAP & ENVIRONMENTAL SAMPLE LOCATIONS



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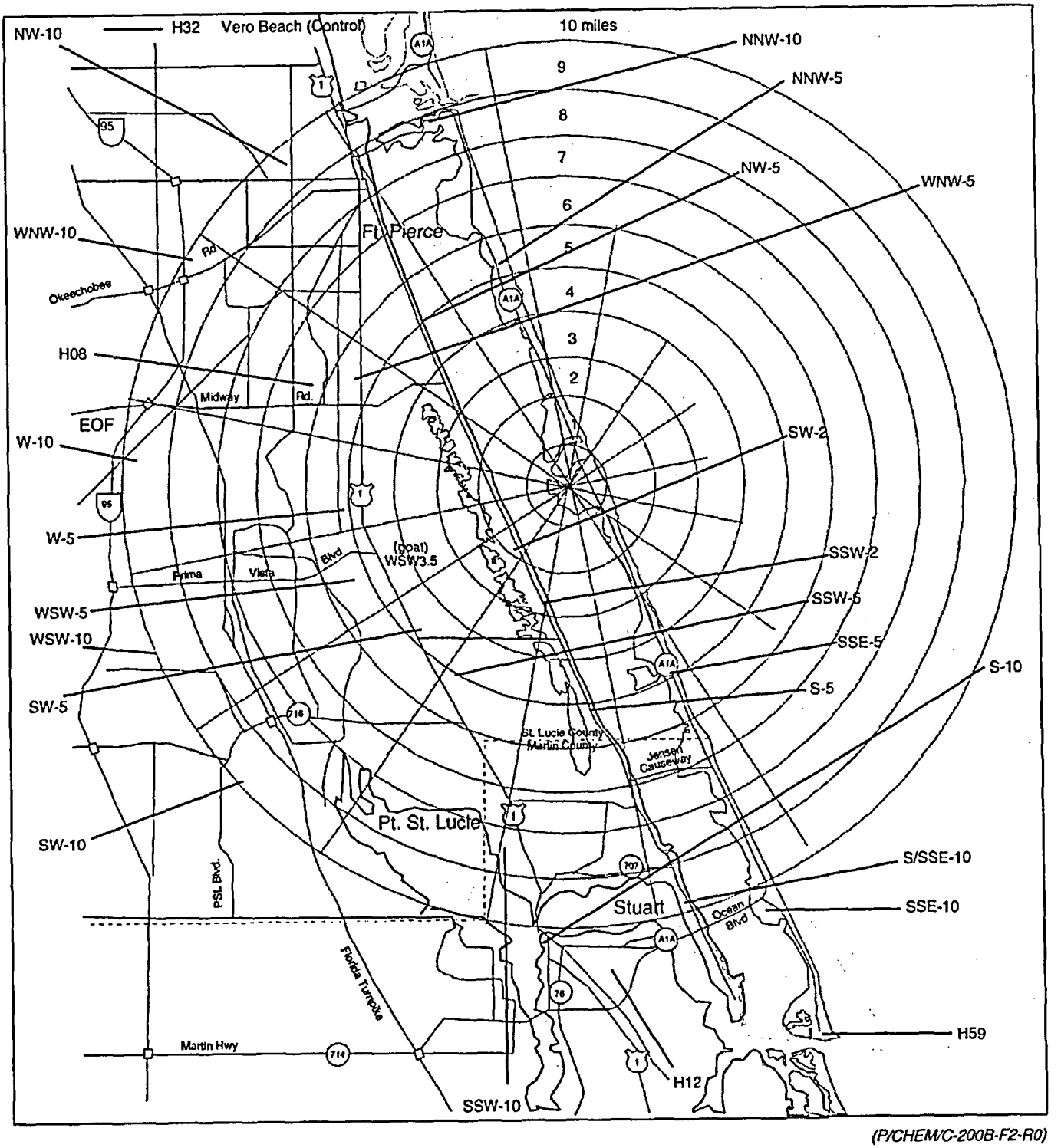
ENVIRONMENTAL SAMPLE LOCATIONS (10 MILES)



(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	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

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, Weatherby 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

ATTACHMENT A

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	South End, 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	South End, 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	South End, 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	South End, Hutchinson Island

SAMPLES COLLECTED: MILK
SAMPLE COLLECTION FREQUENCY: QUARTERLY

Location Name	Direction Sector	Approximate Distance (miles)	Description
H-101	WSW	3.5	One Goat, Private Residence, Spanish Lakes, East of US1
Control:			
None : Not found any fresh goats with similar grazing activities (backyard grass & wild vegetation)			

2003
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
ST. LUCIE PLANT - UNITS 1 & 2

ATTACHMENT B

RADIOLOGICAL SURVEILLANCE OF

FLORIDA POWER AND LIGHT COMPANY

ST. LUCIE SITE

2003

First Quarter 2003

Second Quarter 2003

Third Quarter 2003

Fourth Quarter 2003

ST. LUCIE SITE

Technical Specifications Sampling

First Quarter, 2003

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
4.c. Milk	Quarterly	1	1
			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.

1. DIRECT RADIATION - TLDs - (μR/hour)

Sample Site	Deployment 03-Dec-02 Collection 04-Mar-03	Sample Site	Deployment 03-Dec-02 Collection 04-Mar-03
N-1	5.1 ± 0.2	SW-2	4.9 ± 0.2
NNW-5	4.8 ± 0.2	SW-5	5.8 ± 0.2
NNW-10	5.2 ± 0.2	SW-10	5.3 ± 0.2
NW-5	5.6 ± 0.2	SSW-2	5.0 ± 0.2
NW-10	6.4 ± 0.2	SSW-5	5.8 ± 0.2
		SSW-10	5.6 ± 0.2
WNW-2	4.7 ± 0.2		
WNW-5	5.0 ± 0.2	S-5	5.0 ± 0.2
WNW-10	6.0 ± 0.2	S-10	5.3 ± 0.2
		S/SSE-10	5.1 ± 0.2
W-2	4.9 ± 0.2		
W-5	5.6 ± 0.2	SSE-5	4.7 ± 0.2
W-10	5.7 ± 0.2	SSE-10	5.4 ± 0.2
WSW-2	5.1 ± 0.2	SE-1	4.9 ± 0.2
WSW-5	4.6 ± 0.2		
WSW-10	4.5 ± 0.2	H-32	5.6 ± 0.2

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

Collection Date	H08	H12	H14	H30	H34
07-Jan-03	<0.01	<0.01	<0.01	<0.01	<0.01
13-Jan-03	<0.02	<0.02	<0.02	<0.02	<0.02
22-Jan-03	<0.01	<0.01	<0.01	<0.01	<0.01
28-Jan-03	<0.02	<0.02	<0.02	<0.02	<0.02
06-Feb-03	<0.02	<0.02	<0.02	<0.02	<0.02
11-Feb-03	<0.02	<0.02	<0.02	<0.02	<0.02
17-Feb-03	<0.02	<0.02	<0.02	<0.02	<0.02
26-Feb-03	<0.01	<0.01	<0.01	<0.01	<0.01
04-Mar-03	<0.02	<0.02	<0.01	<0.01	<0.01
13-Mar-03	<0.02	<0.02	<0.02	<0.02	<0.02
20-Mar-03	<0.02	<0.02	<0.02	<0.02	<0.02
25-Mar-03	<0.03	<0.03	<0.03	<0.03	<0.03
31-Mar-03	<0.02	<0.02	<0.02	<0.02	<0.02

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

Collection Date	Sample Sites				
	H08	H12	H14	H30	H34
07-Jan-03	0.019 ± 0.002	0.015 ± 0.002	0.016 ± 0.002	0.018 ± 0.002	0.023 ± 0.002
13-Jan-03	0.018 ± 0.003	0.015 ± 0.002	0.016 ± 0.003	0.019 ± 0.003	0.020 ± 0.003
22-Jan-03	0.019 ± 0.002	0.015 ± 0.002	0.022 ± 0.002	0.024 ± 0.002	0.028 ± 0.002
28-Jan-03	0.018 ± 0.003	0.014 ± 0.002	0.012 ± 0.002	0.015 ± 0.003	0.021 ± 0.003
06-Feb-03	0.013 ± 0.002	0.011 ± 0.002	0.014 ± 0.002	0.013 ± 0.002	0.013 ± 0.002
11-Feb-03	0.011 ± 0.003	0.008 ± 0.002	0.012 ± 0.002	0.011 ± 0.003	0.014 ± 0.003
17-Feb-03	0.016 ± 0.002	0.017 ± 0.002	0.013 ± 0.002	0.017 ± 0.002	0.016 ± 0.002
26-Feb-03	0.010 ± 0.001	0.011 ± 0.002	0.010 ± 0.001	0.008 ± 0.001	0.011 ± 0.002
04-Mar-03	0.005 ± 0.002	0.006 ± 0.002	0.007 ± 0.002	0.008 ± 0.002	0.009 ± 0.002
13-Mar-03	0.011 ± 0.002	0.010 ± 0.002	0.007 ± 0.001	0.010 ± 0.002	0.012 ± 0.002
20-Mar-03	0.011 ± 0.002	0.008 ± 0.002	0.009 ± 0.002	0.011 ± 0.002	0.010 ± 0.002
25-Mar-03	0.019 ± 0.003	0.017 ± 0.003	0.018 ± 0.003	0.016 ± 0.003	0.016 ± 0.003
31-Mar-03	0.016 ± 0.003	0.015 ± 0.002	0.012 ± 0.002	0.015 ± 0.002	0.017 ± 0.003
Mean:	0.014 ± 0.001	0.012 ± 0.001	0.013 ± 0.001	0.014 ± 0.001	0.016 ± 0.001

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

First Quarter, 2003

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
H08	0.1211 ± 0.0151	<0.0284	<0.0016	<0.0016	<0.0628
H12	0.1081 ± 0.0145	<0.0274	<0.0015	<0.0015	<0.0555
H14	0.1454 ± 0.0108	<0.0169	<0.0005	<0.0010	0.0242 ± 0.0040
H30	0.1409 ± 0.0140	<0.0306	<0.0016	<0.0014	<0.0634
H34	0.1062 ± 0.0144	<0.0268	<0.0014	<0.0016	<0.0660

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-Jan-03	<129	149 ± 38	<6	<6	<12	<7	<12	<11	<9	<7	<7	<8
	13-Jan-03	<129	362 ± 36	<3	<3	<8	<5	<9	<7	<4	<3	<3	<9
	22-Jan-03	<125	403 ± 36	<3	<4	<6	<4	<8	<5	<5	<4	<4	<6
	28-Jan-03	<125	333 ± 50	<6	<6	<11	<7	<12	<9	<7	<6	<6	<9
	05-Feb-03	<129	350 ± 56	<6	<7	<15	<7	<12	<11	<9	<7	<5	<4
	11-Feb-03	<129	243 ± 33	<3	<3	<9	<4	<8	<6	<4	<3	<4	<10
	17-Feb-03	<129	403 ± 34	<4	<4	<6	<4	<8	<7	<7	<4	<4	<6
	26-Feb-03	115 ± 41	363 ± 14	<1	<1	<2	<1	<2	<2	<1	<1	<1	<2
	05-Mar-03	<127	411 ± 16	<1	<2	<3	<2	<4	<2	<2	<2	<2	<4
	13-Mar-03	686 ± 31	360 ± 36	<4	<3	<9	<4	<8	<6	<6	<4	<4	<5
	20-Mar-03	<127	353 ± 34	<4	<4	<6	<5	<7	<6	<4	<4	<4	<9
	25-Mar-03	<127	281 ± 30	<4	<3	<7	<4	<8	<6	<4	<4	<3	<8
	31-Mar-03	<127	326 ± 20	<2	<2	<4	<2	<4	<3	<3	<2	<2	<3
H59	08-Jan-03	<129	137 ± 28	<4	<3	<8	<5	<6	<6	<5	<4	<4	<9
	06-Feb-03	<129	357 ± 43	<6	<6	<11	<6	<12	<12	<8	<7	<6	<11
	05-Mar-03	<127	451 ± 52	<6	<4	<13	<7	<13	<10	<7	<6	<6	<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	U-238
H15	22-Jan-03	<100	507 ± 56	<10	<11	<12	<10	<540	325 ± 14	<57	361 ± 142
H59	23-Jan-03	<70	173 ± 43	<7	<7	<10	<8	<2049	159 ± 9	48 ± 12	353 ± 118

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	This sample has not yet been collected.										
H59	This sample has not yet been collected.										

4.a.2. FISH - (Barracuda, 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	23-Jan-03	3631 ± 119	<14	<25	<83	<14	<32	<13	<12	<225	<53
H59	08-Jan-03	3281 ± 136	<15	<13	<32	<17	<32	<15	<16	<283	<65

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
H51	08-Jan-03	831 ± 77	3565 ± 191	<16	<16	21 ± 7	<2669	<350
	05-Feb-03	1022 ± 72	2979 ± 140	<15	<13	<11	<650	<246
	05-Mar-03	867 ± 108	3680 ± 207	<17	<20	74 ± 7	<2544	<378
H52	08-Jan-03	732 ± 83	3558 ± 188	<16	<18	52 ± 8	<2348	<323
	05-Feb-03	1180 ± 76	2864 ± 181	<21	<17	<17	<2271	<339
	05-Mar-03	667 ± 65	4006 ± 163	<12	<13	24 ± 5	<771	<268
H59	08-Jan-03	1094 ± 92	2304 ± 154	<17	<19	<21	<2536	<350
	06-Feb-03	1123 ± 43	3761 ± 95	<9	<8	<7	<1208	<167
	05-Mar-03	792 ± 97	2748 ± 182	<15	<18	50 ± 12	<2531	<369

4.c. MILK - (pCi/L)

Sample Site	Collection Date	K-40	I-131	Cs-134	Cs-137	Ba-140 La-140 (A)
H101	12-Mar-03	1708 ± 77	<0.2	<6	22 ± 3	<9

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

ST. LUCIE SITE

Technical Specifications Sampling

Second Quarter, 2003

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
1. Direct Radiation	Quarterly	27	27
2. Airborne			
2.a. Air Iodines	Weekly	5	60
2.b. Air Particulates	Weekly	5	60
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	0	2
4.a.2. Fish	Semiannually	0	0
4.b. Broadleaf Vegetation	Monthly	3	9
4.c. Milk	Quarterly	1	1
			Total: 175

NOTE: Measurement results having magnitudes that are significantly above the background of the measurement system are reported as net values plus or minus a one-standard-deviation error term. Measurement results that are not significantly above background 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.

1. DIRECT RADIATION - TLDs - (μR/hour)

Sample Site	Deployment Collection 04-Mar-03 03-Jun-03	Sample Site	Deployment Collection 04-Mar-03 03-Jun-03
N-1	4.8 ± 0.2	SW-2	4.6 ± 0.2
NNW-5	4.9 ± 0.2	SW-5	5.6 ± 0.2
NNW-10	4.9 ± 0.2	SW-10	5.2 ± 0.2
NW-5	5.1 ± 0.2	SSW-2	4.7 ± 0.2
NW-10	6.4 ± 0.2	SSW-5	5.4 ± 0.2
WNW-2	5.0 ± 0.2	SSW-10	5.3 ± 0.2
WNW-5	4.9 ± 0.2	S-5	5.1 ± 0.2
WNW-10	5.9 ± 0.2	S-10	5.0 ± 0.2
W-2	5.0 ± 0.2	S/SSE-10	4.9 ± 0.2
W-5	5.4 ± 0.2	SSE-5	4.5 ± 0.2
W-10	5.2 ± 0.2	SSE-10	5.3 ± 0.2
WSW-2	4.6 ± 0.2	SE-1	4.4 ± 0.2
WSW-5	4.8 ± 0.2	H-32	5.2 ± 0.2
WSW-10	4.7 ± 0.2		

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

Collection Date	H08	H12	H14	H30	H34
09-Apr-03	<0.02	<0.02	<0.02	<0.02	<0.02
14-Apr-03	<0.03	<0.03	<0.03	<0.03	<0.03
23-Apr-03	<0.01	<0.01	<0.01	<0.01	<0.01
01-May-03	<0.02	<0.02	<0.01	<0.01	<0.01
07-May-03	<0.01	<0.01	<0.01	<0.01	<0.01
12-May-03	<0.02	<0.02	<0.02	<0.02	<0.02
21-May-03	<0.01	<0.01	<0.01	<0.01	<0.01
28-May-03	<0.02	<0.02	<0.02	<0.02	<0.02
04-Jun-03	<0.02	<0.02	<0.02	<0.02	<0.02
11-Jun-03	<0.01	<0.01	<0.01	<0.01	<0.01
18-Jun-03	<0.01	<0.01	<0.01	<0.01	<0.01
24-Jun-03	<0.02	<0.02	<0.02	<0.02	<0.02

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

Collection Date	Sample Site H08	H12	H14	H30	H34
09-Apr-03	0.008 ± 0.001	0.014 ± 0.002	0.015 ± 0.002	0.014 ± 0.002	0.010 ± 0.002
14-Apr-03	0.011 ± 0.003	0.016 ± 0.003	0.015 ± 0.003	0.014 ± 0.003	0.009 ± 0.002
23-Apr-03	0.016 ± 0.002	0.014 ± 0.002	0.012 ± 0.002	0.013 ± 0.002	0.013 ± 0.002
01-May-03	0.013 ± 0.002	0.011 ± 0.002	0.012 ± 0.002	0.012 ± 0.002	0.012 ± 0.002
07-May-03	0.010 ± 0.002	0.012 ± 0.002	0.011 ± 0.002	0.012 ± 0.002	0.017 ± 0.002
12-May-03	0.011 ± 0.003	0.013 ± 0.003	0.009 ± 0.002	0.009 ± 0.002	0.016 ± 0.003
21-May-03	0.011 ± 0.002	0.011 ± 0.002	0.009 ± 0.002	0.009 ± 0.002	0.011 ± 0.002
28-May-03	0.011 ± 0.002	0.009 ± 0.002	0.011 ± 0.002	0.010 ± 0.002	0.007 ± 0.002
04-Jun-03	0.012 ± 0.002	0.019 ± 0.002	0.025 ± 0.003	0.022 ± 0.003	0.025 ± 0.003
11-Jun-03	0.004 ± 0.001	0.005 ± 0.002	0.008 ± 0.002	0.009 ± 0.002	0.007 ± 0.001
18-Jun-03	0.005 ± 0.002	0.009 ± 0.002	0.006 ± 0.002	0.004 ± 0.001	0.007 ± 0.002
24-Jun-03	0.005 ± 0.002	0.007 ± 0.002	0.006 ± 0.002	0.006 ± 0.002	0.010 ± 0.002
Mean:	0.010 ± 0.001	0.012 ± 0.001	0.012 ± 0.001	0.011 ± 0.001	0.012 ± 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	0.0810 ± 0.0097	<0.0228	<0.0017	<0.0012	<0.0507
H12	0.1315 ± 0.0110	<0.0285	<0.0015	<0.0015	<0.0469
H14	0.1117 ± 0.0115	<0.0280	<0.0014	<0.0010	<0.0539
H30	0.0981 ± 0.0122	<0.0231	<0.0015	<0.0014	<0.0537
H34	0.1182 ± 0.0113	<0.0296	<0.0016	<0.0010	0.0463 ± 0.0142

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	09-Apr-03	230 ± 24	321 ± 42	<5	<5	<11	<6	<13	<9	<9	<5	<5	<9
	14-Apr-03	81 ± 22	321 ± 35	<5	<5	<12	<5	<11	<9	<9	<5	<6	<8
	23-Apr-03	79 ± 39	298 ± 31	<3	<3	<7	<4	<9	<6	<4	<3	<4	<9
	01-May-03	<120	369 ± 47	<7	<7	<12	<9	<16	<12	<8	<7	<7	<10
	07-May-03	<120	305 ± 34	<4	<3	<5	<4	<8	<5	<4	<4	<3	<7
	12-May-03	<120	335 ± 30	<4	<3	<6	<4	<7	<6	<4	<3	<4	<9
	21-May-03	<120	350 ± 32	<3	<3	<8	<5	<7	<6	<4	<3	<3	<9
	28-May-03	<120	385 ± 36	<4	<4	<11	<5	<10	<9	<5	<5	<5	<10
	03-Jun-03	<122	418 ± 43	<6	<6	<13	<8	<14	<11	<7	<6	<6	<13
	11-Jun-03	<121	367 ± 35	<3	<3	<8	<4	<7	<6	<5	<4	<4	<8
	18-Jun-03	<121	331 ± 27	<2	<2	<6	<4	<7	<5	<4	<3	<3	<5
	24-Jun-03	<121	307 ± 35	<3	<3	<7	<4	<7	<5	<4	<4	<3	<8
H59	01-Apr-03	<121	348 ± 32	<3	<4	<9	<4	<7	<5	<8	<4	<4	<5
	01-May-03	<120	390 ± 43	<6	<7	<13	<8	<17	<11	<9	<8	<7	<11
	03-Jun-03	<122	411 ± 25	<3	<3	<5	<3	<6	<5	<3	<3	<3	<5

(A) - These tabulated LLD values for Zr/Nb-95 are the higher of the individual parent or daughter LLDs.
(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity for a given sample.

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

Sample Site	Collection Date	Be-7	K-40	Co-58	Co-60	Cs-134	Cs-137	Pb-210	Ra-226	Th-232	U-238

These samples were previously collected.

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

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226	Ra-228
H15	22-Apr-03	1469 ± 153	<18	<18	<37	<22	<39	<21	<19	<363	<90
H59	09-Apr-03	1337 ± 144	<16	<17	<36	<19	<45	<18	<16	537 ± 155	<81

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

These samples were 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
H51	01-Apr-03	1158 ± 41	4135 ± 105	<12	<8	<8	<1192	<20	<137
	01-May-03	575 ± 58	5043 ± 174	<16	<13	<13	<732	<32	<242
	03-Jun-03	843 ± 73	4069 ± 206	<16	<20	<18	<2297	<50	<303
H52	01-Apr-03	674 ± 28	6354 ± 82	<8	<5	<5	528 ± 138	<14	<102
	01-May-03	1593 ± 40	4224 ± 92	<8	<7	<7	<983	<18	<143
	03-Jun-03	547 ± 81	3347 ± 197	<15	<20	<19	<2588	<53	<294
H59	01-Apr-03	706 ± 75	4129 ± 161	<19	<13	<11	<664	<31	<243
	01-May-03	1051 ± 99	3558 ± 195	<19	<18	<17	<2215	<42	<337
	03-Jun-03	997 ± 75	4372 ± 175	<11	<12	<12	<733	<34	<235

4.c. MILK - (pCi/L)

Sample Site	Collection Date	K-40	I-131	Cs-134	Cs-137	Ba-140 La-140 (A)
H101	24-May-03	1650 ± 53	<0.5	<5	37 ± 4	<7

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

ST. LUCIE SITE

Technical Specifications Sampling

Third Quarter, 2003

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	14
	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
4.c. Milk	Quarterly	1	1
			Total: 189

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.

1. DIRECT RADIATION - TLDs - (μR/hour)

Sample Site	Deployment 03-Jun-03 Collection 23-Sep-03	Sample Site	Deployment 03-Jun-03 Collection 23-Sep-03
N-1	5.2 ± 0.2	SW-2	4.2 ± 0.2
NNW-5	4.5 ± 0.2	SW-5	5.6 ± 0.2
NNW-10	4.9 ± 0.2	SW-10	4.7 ± 0.2
NW-5	4.6 ± 0.2	SSW-2	4.5 ± 0.2
NW-10	6.0 ± 0.2	SSW-5	5.3 ± 0.2
WNW-2	4.8 ± 0.2	SSW-10	4.9 ± 0.2
WNW-5	4.7 ± 0.2	S-5	4.6 ± 0.2
WNW-10	5.5 ± 0.2	S-10	4.6 ± 0.2
W-2	4.3 ± 0.2	S/SSE-10	4.4 ± 0.2
W-5	4.8 ± 0.2	SSE-5	4.3 ± 0.2
W-10	4.6 ± 0.2	SSE-10	5.1 ± 0.2
WSW-2	4.4 ± 0.2	SE-1	4.0 ± 0.2
WSW-5	4.4 ± 0.2	H-32	5.4 ± 0.2
WSW-10	4.0 ± 0.2		

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

Collection Date	H08	H12	H14	H30	H34
09-Jul-03	<0.05	<0.04	<0.04	<0.05	<0.04
15-Jul-03	<0.02	<0.02	<0.02	<0.02	<0.02
24-Jul-03	<0.01	<0.01	<0.01	<0.01	<0.01
30-Jul-03	<0.04	<0.04	<0.04	<0.04	<0.04
05-Aug-03	<0.02	<0.02	<0.01	<0.02	<0.01
14-Aug-03	<0.01	<0.01	<0.01	<0.01	<0.01
20-Aug-03	<0.02	<0.02	<0.02	<0.02	<0.02
28-Aug-03	<0.01	<0.01	<0.01	<0.01	<0.01
04-Sep-03	<0.01	<0.01	<0.01	<0.01	<0.01
10-Sep-03	<0.02	<0.02	<0.02	<0.02	<0.03
16-Sep-03	<0.03	<0.03	<0.02	<0.02	<0.02
23-Sep-03	<0.01	<0.01	<0.01	<0.01	<0.01
30-Sep-03	<0.01	<0.01	<0.01	<0.01	<0.01

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

Collection Date	Sample Site H08	H12	H14	H30	H34
09-Jul-03	0.010 ± 0.002	0.008 ± 0.002	0.008 ± 0.002	0.007 ± 0.001	0.011 ± 0.002
15-Jul-03	0.006 ± 0.002	0.010 ± 0.002	0.008 ± 0.002	0.010 ± 0.002	0.011 ± 0.002
24-Jul-03	0.009 ± 0.002	0.009 ± 0.002	0.012 ± 0.002	0.010 ± 0.002	0.009 ± 0.002
30-Jul-03	0.006 ± 0.002	0.007 ± 0.002	0.007 ± 0.002	0.004 ± 0.002	0.008 ± 0.002
05-Aug-03	0.005 ± 0.002	0.013 ± 0.002	0.008 ± 0.002	0.005 ± 0.002	0.007 ± 0.002
14-Aug-03	0.005 ± 0.001	0.007 ± 0.001	0.005 ± 0.001	0.005 ± 0.001	0.005 ± 0.001
20-Aug-03	0.007 ± 0.002	0.005 ± 0.002	0.008 ± 0.002	0.006 ± 0.002	0.009 ± 0.002
28-Aug-03	0.006 ± 0.002	0.009 ± 0.002	0.007 ± 0.002	0.010 ± 0.002	0.009 ± 0.002
04-Sep-03	0.004 ± 0.001	0.011 ± 0.002	0.010 ± 0.002	0.009 ± 0.002	0.011 ± 0.002
10-Sep-03	0.004 ± 0.002	0.006 ± 0.002	0.005 ± 0.002	0.005 ± 0.002	0.007 ± 0.002
16-Sep-03	0.012 ± 0.002	0.013 ± 0.002	0.008 ± 0.002	0.012 ± 0.002	0.011 ± 0.002
23-Sep-03	0.010 ± 0.002	0.011 ± 0.002	0.011 ± 0.002	0.015 ± 0.002	0.017 ± 0.002
30-Sep-03	0.005 ± 0.002	0.003 ± 0.001	0.008 ± 0.002	0.014 ± 0.002	0.015 ± 0.002
Mean	0.007 ± 0.001	0.009 ± 0.001	0.008 ± 0.001	0.009 ± 0.001	0.010 ± 0.001

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

Third Quarter, 2003

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
H08	0.0765 ± 0.0127	<0.0274	<0.0016	<0.0014	<0.0558
H12	0.0766 ± 0.0089	<0.0173	<0.0011	<0.0012	0.0068 ± 0.0034
H14	0.0809 ± 0.0134	<0.0346	<0.0017	<0.0012	<0.0624
H30	0.0945 ± 0.0087	<0.0194	<0.0013	<0.0011	0.0131 ± 0.0031
H34	0.0854 ± 0.0148	<0.0290	<0.0016	<0.0012	<0.0585

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	01-Jul-03	<115	386 ± 40	<5	<5	<10	<7	<12	<9	<6	<5	<4	<10
	09-Jul-03	<115	385 ± 25	<2	<3	<5	<3	<6	<4	<3	<3	<3	<5
	15-Jul-03	<115	421 ± 42	<5	<5	<11	<6	<12	<9	<6	<6	<5	<9
	24-Jul-03	<115	338 ± 27	<3	<3	<7	<4	<6	<5	<4	<3	<3	<4
	30-Jul-03	<118	401 ± 34	<3	<3	<6	<5	<9	<6	<4	<5	<4	<6
	05-Aug-03	<121	340 ± 34	<4	<3	<6	<4	<9	<7	<5	<4	<4	<7
	14-Aug-03	<121	324 ± 32	<4	<4	<8	<4	<8	<5	<6	<4	<4	<5
	20-Aug-03	<117	314 ± 31	<3	<3	<8	<4	<7	<6	<4	<3	<3	<9
	28-Aug-03	<117	287 ± 29	<3	<3	<5	<3	<6	<5	<3	<3	<2	<8
	04-Sep-03	<117	336 ± 30	<3	<3	<7	<4	<8	<5	<4	<4	<3	<7
	10-Sep-03	<120	361 ± 23	<2	<3	<6	<3	<5	<5	<4	<3	<3	<4
	17-Sep-03	<119	341 ± 33	<3	<4	<8	<4	<8	<6	<6	<4	<4	<6
	23-Sep-03	<119	354 ± 26	<3	<2	<5	<3	<7	<5	<3	<3	<3	<5
	30-Sep-03	<120	369 ± 25	<2	<2	<4	<3	<5	<4	<3	<3	<3	<7
H59	09-Jul-03	<115	370 ± 25	<3	<2	<6	<3	<5	<4	<3	<3	<3	<5
	05-Aug-03	<121	370 ± 40	<4	<4	<9	<3	<9	<8	<4	<4	<5	<5
	17-Sep-03	<119	309 ± 37	<5	<5	<8	<5	<11	<8	<6	<6	<5	<6

(A) - These tabulated LLD values for Zr/Nb-95 are the higher of the individual parent or daughter LLDs.
(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La-140, whichever method yields the greater sensitivity for a given sample.

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

Sample Site	Collection Date	Be-7	K-40	Co-58	Co-60	Cs-134	Cs-137	Pb-210	Ra-226	Th-232	U-238
H15	15-Aug-03	<71	308 ± 53	<8	<8	<12	<10	<655	338 ± 12	150 ± 13	<472
H59	15-Aug-03	<36	124 ± 22	<3	<3	<4	<4	330 ± 117	257 ± 5	70 ± 6	381 ± 90

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	14-Aug-03	1658 ± 216	<25	<17	<51	<27	<50	<28	<22	<423	<158
H59	15-Aug-03	1374 ± 156	<17	<19	<43	<25	<43	<20	<24	<364	<93

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 has not yet been collected										
H59	15-Aug-03	3454 ± 248	<25	<20	<51	<30	<49	<30	<20	<519	<120

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
H51	09-Jul-03	1028 ± 83	4815 ± 212	<17	<17	<16	<2478	<49	<301
	05-Aug-03	991 ± 88	4754 ± 214	<14	<17	<15	<2235	<49	<341
	17-Sep-03	806 ± 96	4056 ± 193	<19	<18	<13	<2352	<47	<327
H52	09-Jul-03	527 ± 62	4798 ± 169	<15	<12	<11	<898	<37	<294
	05-Aug-03	995 ± 83	4614 ± 214	<16	<18	17 ± 6	<2530	<50	<292
	17-Sep-03	779 ± 62	5894 ± 192	<14	<13	<15	<796	<32	<284
H59	09-Jul-03	781 ± 73	6084 ± 194	<15	<13	<12	<889	<41	<318
	05-Aug-03	628 ± 61	4122 ± 158	<11	<10	<9	<726	<33	<253
	17-Sep-03	689 ± 61	4542 ± 166	<15	<12	<12	<700	<34	<264

4.c. MILK - (pCi/L)

Sample Site	Collection Date	K-40	I-131	Cs-134	Cs-137	Ba-140 La-140 (A)
H101	14-Aug-03	1779 ± 27	<0.1	<2	59 ± 1	<3

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

ST. LUCIE SITE

Technical Specifications Sampling

Fourth Quarter, 2003

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	0	0
4. Ingestion			
4.a. Fish and Invertebrates			
4.a.1. Crustacea	Semiannually	1	0
4.a.2. Fish	Semiannually	0	1
4.b. Broadleaf Vegetation	Monthly	3	9
4.c. Milk	Quarterly	1	10
			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.

1. DIRECT RADIATION - TLDs - (μR/hour)

Sample Site	Deployment 23-Sep-03 Collection 02-Dec-03	Sample Site	Deployment 23-Sep-03 Collection 02-Dec-03
N-1	4.8 ± 0.2	SW-2	4.6 ± 0.2
NNW-5	4.8 ± 0.2	SW-5	5.8 ± 0.2
NNW-10	4.8 ± 0.2	SW-10	4.7 ± 0.2
NW-5	5.1 ± 0.2	SSW-2	4.4 ± 0.2
NW-10	6.2 ± 0.3	SSW-5	5.4 ± 0.2
WNW-2	5.0 ± 0.2	SSW-10	5.4 ± 0.2
WNW-5	5.0 ± 0.2	S-5	4.8 ± 0.2
WNW-10	5.7 ± 0.2	S-10	4.4 ± 0.2
W-2	4.9 ± 0.2	S/SSE-10	4.6 ± 0.2
W-5	5.0 ± 0.2	SSE-5	4.4 ± 0.2
W-10	5.0 ± 0.2	SSE-10	5.5 ± 0.2
WSW-2	4.8 ± 0.2	SE-1	4.6 ± 0.2
WSW-5	4.8 ± 0.2	H-32	5.6 ± 0.2
WSW-10	4.1 ± 0.2		

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

Collection Date	H08	H12	H14	H30	H34
07-Oct-03	<0.02	<0.02	<0.02	<0.02	<0.02
15-Oct-03	<0.02	<0.01	<0.01	<0.01	<0.01
22-Oct-03	<0.02	<0.02	<0.02	<0.02	<0.02
29-Oct-03	<0.01	<0.01	<0.01	<0.01	<0.01
04-Nov-03	<0.02	<0.02	<0.01	<0.02	<0.02
12-Nov-03	<0.01	<0.01	<0.01	<0.01	<0.01
18-Nov-03	<0.02	<0.02	<0.01	<0.02	<0.02
25-Nov-03	<0.01	<0.01	<0.01	<0.01	<0.01
02-Dec-03	<0.02	<0.02	<0.02	<0.02	<0.02
09-Dec-03	<0.02	<0.02	<0.02	<0.02	<0.02
15-Dec-03	<0.02	<0.02	<0.02	<0.02	<0.02
22-Dec-03	<0.02	<0.02	<0.01	<0.01	<0.01
29-Dec-03	<0.01	<0.01	<0.01	<0.01	<0.01

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

Collection Date	Sample Site H08	H12	H14	H30	H34
07-Oct-03	0.022 ± 0.003	0.014 ± 0.002	0.020 ± 0.002	0.026 ± 0.003	0.022 ± 0.003
15-Oct-03	0.012 ± 0.002	0.011 ± 0.002	0.014 ± 0.002	0.013 ± 0.002	0.011 ± 0.002
22-Oct-03	0.013 ± 0.002	0.018 ± 0.002	0.015 ± 0.002	0.015 ± 0.002	0.013 ± 0.002
29-Oct-03	0.017 ± 0.002	0.023 ± 0.002	0.021 ± 0.002	0.019 ± 0.002	0.022 ± 0.002
04-Nov-03	0.007 ± 0.002	0.007 ± 0.002	0.008 ± 0.002	0.007 ± 0.002	0.009 ± 0.002
12-Nov-03	0.004 ± 0.001	0.005 ± 0.001	0.005 ± 0.001	0.005 ± 0.001	0.007 ± 0.002
18-Nov-03	0.019 ± 0.003	0.017 ± 0.002	0.013 ± 0.002	0.015 ± 0.002	0.015 ± 0.002
25-Nov-03	0.012 ± 0.002	0.016 ± 0.002	0.013 ± 0.002	0.013 ± 0.002	0.018 ± 0.002
02-Dec-03	0.015 ± 0.002	0.015 ± 0.002	0.015 ± 0.002	0.011 ± 0.002	0.013 ± 0.002
09-Dec-03	0.007 ± 0.002	0.016 ± 0.002	0.011 ± 0.002	0.014 ± 0.002	0.014 ± 0.002
15-Dec-03	0.016 ± 0.002	0.012 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.017 ± 0.002
22-Dec-03	0.009 ± 0.002	0.010 ± 0.002	0.015 ± 0.002	0.014 ± 0.002	0.018 ± 0.002
29-Dec-03	0.019 ± 0.002	0.015 ± 0.002	0.014 ± 0.002	0.017 ± 0.002	0.015 ± 0.002
Mean:	0.013 ± 0.001	0.014 ± 0.001	0.014 ± 0.001	0.014 ± 0.001	0.015 ± 0.001

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

	Fourth Quarter, 2003				
Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
H08	0.1506 ± 0.0106	<0.0200	<0.0012	<0.0009	0.0199 ± 0.0039
H12	0.1206 ± 0.0108	<0.0204	<0.0010	<0.0008	0.0202 ± 0.0038
H14	0.1386 ± 0.0107	<0.0171	<0.0008	<0.0008	0.0248 ± 0.0042
H30	0.1355 ± 0.0114	<0.0184	<0.0013	<0.0011	0.0212 ± 0.0050
H34	0.1498 ± 0.0122	<0.0178	<0.0011	<0.0011	0.0184 ± 0.0042

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-Oct-03	<120	335 ± 32	<3	<4	<8	<4	<7	<6	<4	<4	<5	<9
	15-Oct-03	<119	345 ± 27	<3	<4	<6	<4	<6	<6	<4	<4	<4	<7
	22-Oct-03	<113	345 ± 24	<3	<3	<5	<3	<6	<5	<3	<3	<3	<7
	29-Oct-03	<122	416 ± 36	<4	<3	<7	<4	<8	<5	<4	<4	<3	<8
	04-Nov-03	210 ± 24	350 ± 50	<5	<5	<9	<7	<12	<8	<7	<5	<6	<11
	12-Nov-03	<126	339 ± 39	<4	<5	<9	<5	<10	<7	<5	<5	<5	<14
	18-Nov-03	<126	317 ± 32	<4	<3	<7	<3	<8	<7	<5	<3	<3	<6
	25-Nov-03	<114	293 ± 35	<4	<4	<8	<4	<7	<7	<6	<4	<3	<5
	02-Dec-03	<114	319 ± 44	<7	<6	<13	<7	<11	<10	<6	<7	<5	<10
	09-Dec-03	<115	324 ± 35	<3	<4	<7	<5	<8	<7	<4	<4	<4	<9
	15-Dec-03	<113	357 ± 15	<2	<1	<3	<2	<4	<3	<2	<2	<2	<2
	22-Dec-03	<113	354 ± 32	<3	<4	<9	<4	<8	<7	<8	<3	<5	<6
	29-Dec-03	<113	325 ± 36	<3	<4	<5	<4	<8	<7	<6	<5	<4	<4
H59	07-Oct-03	<120	327 ± 34	<4	<4	<8	<4	<9	<6	<5	<4	<4	<9
	12-Nov-03	<126	262 ± 47	<5	<6	<13	<5	<14	<11	<6	<6	<6	<14
	02-Dec-03	61 ± 17	296 ± 31	<4	<3	<8	<4	<7	<6	<5	<4	<4	<7
	03-Dec-02	<124	372 ± 45	<6	<4	<15	<9	<13	<11	<9	<6	<5	<12

(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	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226	Ra-228
H15	These samples were previously collected.										
H59	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	These samples were previously collected.										
H59	These samples were 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	14-Oct-03	1824 ± 143	<15	<14	<30	<18	<34	<15	<17	<251	<55
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
H51	07-Oct-03	1003 ± 63	3971 ± 152	<11	<13	<13	<867	<38	<257
	12-Nov-03	1679 ± 100	3868 ± 211	<17	<17	<21	<2665	<58	<384
	03-Dec-03	1156 ± 79	5983 ± 198	<14	<14	<14	<920	<44	<316
H52	07-Oct-03	793 ± 67	4032 ± 160	<12	<13	<12	<786	<37	<271
	12-Nov-03	835 ± 83	3181 ± 198	<17	<18	<17	<2674	<44	<353
	03-Dec-03	1475 ± 112	4927 ± 231	<16	<18	<18	<2506	<55	<363
H59	07-Oct-03	1526 ± 91	4247 ± 188	<13	<16	<14	<2453	<40	<319
	12-Nov-03	1571 ± 82	4623 ± 170	<14	<13	<14	<853	<41	<316
	03-Dec-03	2033 ± 134	3163 ± 194	<20	<18	<18	<3224	<54	<346

4.c. MILK - (pCi/L)

Sample Site	Collection Date	K-40	I-131	Cs-134	Cs-137	Ba-140 La-140 (A)
H101	There was no sample available during the quarter.					

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

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ATTACHMENT C

RESULTS FROM THE INTERLABORATORY

COMPARISON PROGRAM 2003

DEPARTMENT OF ENERGY

QAP 58 , June 2003

AND

QAP 59, December 2003

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DOE-QAP 58 RESULTS

Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation
Matrix: AI Air Filter Bq/filter						
AM241	0.350	0.030	0.340	0.040	1.029	A
CO60	34.530	0.150	33.500	0.870	1.031	A
CS137	109.350	0.200	99.700	2.300	1.097	A
GROSS ALPHA	0.810	0.030	1.170	0.120	0.692	N
GROSS BETA	1.660	0.040	1.500	0.150	1.107	A
MN54	48.380	0.180	43.800	1.130	1.105	A
Matrix: SO Soil Bq/kg						
AC228	57.000	1.000	57.600	2.500	0.990	A
AM241	13.100	0.800	15.600	1.000	0.840	W
BI212	62.600	4.400	60.600	4.000	1.033	A
BI214	59.000	1.000	67.000	2.300	0.881	A
CS137	1491.000	3.000	1450.000	73.000	1.028	A
K40	661.000	8.000	636.000	33.000	1.039	A
PB212	61.200	1.000	57.900	2.900	1.057	A
PB214	66.000	1.000	71.100	2.300	0.928	A
TH234	124.400	5.200	127.000	7.100	0.980	A
U238	120.000	7.000	125.000	0.300	0.960	A
Matrix: VE Vegetation Bq/kg						
AM241	4.900	0.700	3.510	0.130	1.396	A
CO60	13.500	0.600	12.100	0.700	1.116	A
CS137	497.000	2.000	444.000	22.000	1.119	A
K40	1254.000	20.000	1120.000	60.000	1.120	A
Matrix: WA Water Bq/L						
AM241	3.000	0.580	2.130	0.150	1.408	W
CO60	233.400	0.580	234.000	8.400	0.997	A
CS134	28.200	0.240	30.500	1.090	0.925	A
CS137	64.260	0.480	63.800	3.400	1.007	A
GROSS BETA	750.840	8.410	627.500	10.000	1.197	A
H3	421.310	6.100	390.000	3.400	1.080	A
SR90	3.710	0.200	4.340	0.200	0.855	A

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

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DOE-QAP 59 RESULTS

Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported / EML	Evaluation
Matrix: Al Air Filter Bq/filter						
MN54	63.600	0.200	58.000	1.300	1.097	A
CO60	56.430	0.200	55.100	1.100	1.024	A
CS137	59.500	0.200	54.800	1.100	1.086	A
AM241	0.470	0.030	0.435	0.043	1.080	A
Gross Alpha	4.770	0.090	3.110	0.310	1.534	N
Gross Beta	4.470	0.060	3.890	0.390	1.149	A
Matrix: SO Soil Bq/kg						
K40	420.00	7.000	488.000	26.000	0.861	W
CS137	1671.000	3.000	1973.000	99.000	0.847	W
BI212	47.800	4.200	53.900	4.300	0.887	A
PB212	46.600	1.400	50.700	2.700	0.919	A
BI214	27.000	1.000	34.400	1.400	0.785	W
PB214	30.000	1.000	35.200	1.500	0.852	W
AC228	43.000	1.000	50.800	1.800	0.846	W
TH234	93.000	4.400	116.000	7.100	0.802	W
Bq U	102.000	7.000	127.100	2.300	0.803	W
AM241	15.500	0.800	18.400	1.800	0.842	W
Matrix: VE Vegetation Bq/kg						
No Sample Provided by DOE EML.						
The person that prepares this sample retired, and a trained/qualified replacement was not available within this evaluation cycle						
Matrix: WA Water Bq/L						
H3	492.570	6.470	446.300	2.200	1.104	A
CO60	488.900	1.100	513.000	18.000	0.953	A
SR90	5.670	0.300	7.040	0.330	0.805	W
CS134	56.200	0.500	63.000	2.000	0.892	W
CS137	78.920	0.640	80.300	4.100	0.983	A
AM241	8.980	0.920	8.760	0.880	1.025	A
GROSS ALPHA	502.510	10.810	622.000	62.000	0.808	A
GROSS BETA	1988.740	14.640	1948.000	195.000	1.021	A

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