



April 17, 2003

L-2003-082
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 2002

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 2002.

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

Very truly yours,

A handwritten signature in black ink, appearing to read 'W. Jefferson, Jr.', written over a horizontal line.

William Jefferson, Jr.
Vice President
St. Lucie Plant

Attachment

WJ/spt

JE25

2002

ANNUAL
RADIOLOGICAL ENVIRONMENTAL
OPERATING REPORT

ST. LUCIE PLANT

UNITS 1 & 2

LICENSE NOS. DPR-67, NPF-16

DOCKET NOS. 50-335, 50-389

Data Submitted by: Florida DOH

Prepared by: Peter G. Bueh

Reviewed by: J. L. [Signature]

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ST. LUCIE PLANT – UNITS 1 & 2

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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.

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- d. Shoreline sediment samples are collected from two locations coinciding with the locations for surface water samples. Samples are collected and analyzed semi-annually. Sediment samples are analyzed by gamma isotopic measurements.
- e. Fish and invertebrate samples are collected from two locations. Samples are collected and analyzed semi-annually. Fish and invertebrate samples are analyzed by gamma isotopic measurements.
- f. Broad leaf vegetation samples are collected from three locations. Samples are collected and analyzed monthly. Broad leaf vegetation samples are analyzed by gamma isotopic measurements.
- g. 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.

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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.

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III. DISCUSSION AND INTERPRETATION OF RESULTS

A. Reporting of Results

The Annual Radiological Environmental Operating Report contains the summaries, interpretations and information required by St. Lucie Plant ODCM. Table 1 provides a summary of the measurements made for the nuclides required by ODCM, Table 4.12-1, for all samples specified by Table 3.12-1. In addition, summaries are provided for other nuclides identified in the specified samples, including those not related to station operation. These include nuclides such as K-40, Th-232, Ra-226, and Be-7 which are common in the Florida environment.

B. Interpretation of Results

1. Direct Radiation:

The results of direct radiation monitoring are consistent with past measurements for the specified locations. The exposure rate data shows no indication of any trends attributed to effluents from the plant. The measured exposure rates are consistent with exposure rates that were observed during the pre-operational surveillance program. Direct radiation monitoring results are summarized in Table 1.

2. Air Particulates/Radioiodine:

The results for radioactive air particulate and radioiodine monitoring are consistent with past measurements and indicate no trends attributed to plant effluents. All samples for radioiodine yielded no detectable I-131. Gamma isotopic measurements yielded no indication of any nuclides attributed to station operation. The results for air particulate/radioiodine samples are consistent with measurements that were made during the pre-operational surveillance program. Air particulate and radioiodine monitoring results are summarized in Table 1.

3. Surface Water:

No nuclides attributed to station operation were detected. Results for surface water samples are summarized in Table 1.

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4. Waterborne Sediment and Food Products:

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

5. Broad Leaf Vegetation:

The results of radioactivity measurements in broad leaf vegetation are consistent with past measurements and with measurements made during the pre-operational surveillance program. Cs-137 was indicated at 4 out of 24 indicator locations. The highest level is less than 58% of the required LLD listed in ODCM Table 4.12-1. 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 identified in all four of the sample results. 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 150 pCi/liter. Samples of the wild vegetation consumed by the "pet goat" (Brazilian Pepper) indicates the presence of Cs-137. The State, Department of Health, has 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. Note that the bearing changed for virtually all locations, the range changed slightly for some. The locations have not changed, just their range and bearing relative to the plant. This is the result of using a Global Positioning System, polar north as datum, to refine the locations determined from maps and use of a compass (magnetic north). 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.

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8. Interlaboratory Comparison Program:

For those nuclides associated with nuclear power plant operation and using analytical methods used in the REMP, the results are listed in Attachment C. The air filter matrix results for QAP-56 included "warning" and "not acceptable"; laboratory results specifically for Co-60 and Mn-54 were high, above the limits. Both Cs-137 and gross beta analysis for the same specimen were acceptable. The laboratory technician performing the analysis entered an incorrect 'sample collection date'; causing an overcompensation for radioactive decay. Upon discovery of the problem and cause, the results were recalculated. The corrected results are within the acceptable range. The vegetation matrix results for QAP-56 were all "not acceptable"; the laboratory results were low by an order of magnitude. The laboratory technician performing the analysis entered a "typical sample mass" rather than the actual sample mass which happened to be one-tenth of a typical sample mass; causing an underestimation of activity concentration. Upon discovery of the problem and cause, the results were recalculated. The corrected results are within the acceptable range.

The laboratory has enhanced the Laboratory Instruction to include additional details concerning the review of the data used for calculating the results.

The results for QAP-57 had one "warning" for Uranium in Soil; all other results were acceptable. No action is required because uranium in soil is not a nuclide-matrix assay that is part of the Radiological Environmental Monitoring Program.

C. Conclusions

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

The measurements verify that the dose or dose commitment to members of the public, due to operation of St. Lucie Units 1 and 2, during the surveillance year, are well within "as low as reasonably achievable (ALARA)" criteria established by 10 CFR 50, Appendix I.

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
 Name of Facility St. Lucie Units 1 & 2, Docket No(s). 50-335 & 50-389
 Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2002
 (County, State)

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

Type and Total Number of Analyses Performed	Lower Limit of Detection ^a (LLD)	All Indicator Locations Mean (f) ^b Range	Location with Highest Annual Mean		Control Locations Mean (f) ^b Range
			Name ^c	Mean (f) ^b	
			Distance & Direction	Range	
Exposure Rate, 107 ^d	---	5.1 (103/103) 4.3 - 6.8	NW-10 10 mi., NW	6.4 (4/4) 5.8 - 6.8	5.5 (4/4) 5.5 - 5.6

Number of Non-Routine Reported Measurements = 0

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 Name of Facility St. Lucie Units 1 & 2, Docket No(s). 50-335 & 50-389
 Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2002
 (County, State)

PATHWAY: AIRBORNE
 SAMPLES COLLECTED: RADIOIODINE AND PARTICULATES
 UNITS: PICO - Ci/M³

Type and Total Number of Analyses Performed	Lower Limit of Detection ^a (LLD)	All Indicator Locations Mean (f) ^b Range	Location with Highest Annual Mean		Control Locations Mean (f) ^b Range
			Name ^c	Mean (f) ^b	
			Distance & Direction	Range	
¹³¹ I, 265	0.024	<MDA	---	---	<MDA
Gross Beta, 265	0.0025	0.014 (212/212) 0.001 - 0.030	H-34 0.5 mi., N	0.015 (53/53) 0.005 - 0.030	0.014 (53/53) 0.007 - 0.030
Composite Gamma Isotopic, 20					
⁷ Be	0.0052	0.1350 (16/16) 0.0923 - 0.1755	H-34 0.5 mi., N	0.1484 (4/4) 0.1197 - 0.1693	0.1259 (4/4) 0.0962 - 0.1626
¹³⁴ Cs	0.00069	<MDA	---	---	<MDA
¹³⁷ Cs	0.00066	<MDA	---	---	<MDA
²¹⁰ Pb	---	0.0202 (5/16) 0.0120 - 0.0362	H-30 2 mi., W	0.0259 (2/4) 0.0155 - 0.0362	0.0177 (2/4) 0.0085 - 0.0268

Number of Non-Routine Reported Measurements = 0

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 Name of Facility St. Lucie Units 1 & 2, Docket No(s). 50-335 & 50-389
 Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2002
 (County, State)

PATHWAY: WATERBORNE
 SAMPLES COLLECTED: SURFACE WATER
 UNITS: PICO - Ci/LITER

Type and Total Number of Analyses Performed	Lower Limit of Detection ^a (LLD)	All Indicator Locations Mean (f) ^b Range	Location with Highest Annual Mean		Control Locations Mean (f) ^b Range
			Name ^c	Mean (f) ^b	
			Distance & Direction	Range	
Tritium, 64	230	< MDA	---	---	<MDA
Gamma Isotopic, 64					
⁴⁰ K	60	341 (53/53) 266 - 430	H-15 <1 mi., ENE/E/ESE	341 (53/53) 266 - 430	350 (12/12) 286 - 394
⁵⁴ Mn	4	<MDA	---	---	<MDA
⁵⁹ Fe	8	<MDA	---	---	<MDA
⁵⁸ Co	4	<MDA	---	---	<MDA
⁶⁰ Co	4	<MDA	---	---	<MDA
⁶⁵ Zn	8	<MDA	---	---	<MDA
⁹⁵ Zr-Nb	7	<MDA	---	---	<MDA
¹³¹ I	5	<MDA	---	---	<MDA
¹³⁴ Cs	5	<MDA	---	---	<MDA
¹³⁷ Cs	5	<MDA	---	---	<MDA
¹⁴⁰ Ba-La	11	<MDA	---	---	<MDA

Number of Non-Routine Reported Measurements = 0

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 (County, State)

PATHWAY: WATERBORNE
 SAMPLES COLLECTED: SHORELINE SEDIMENT
 UNITS: PICO - Ci/Kg, DRY

Type and Total Number of Analyses Performed	Lower Limit of Detection ^a (LLD)	All Indicator Locations Mean (f) ^b Range	Location with Highest Annual Mean		Control Locations Mean (f) ^b Range
			Name ^c	Mean (f) ^b	
			Distance & Direction	Range	
Gamma Isotopic, 4					
⁴⁰ K	140	236 (2/2) 129 - 344	H-15 <1 mi, ENE/E/ESE	236 (2/2) 129 - 344	199 (2/2) 179 - 219
²¹⁰ Pb	---	< MDA	---	---	< MDA
²²⁶ Ra	49	188 (1/2)	H-15 <1 mi., ENE/E/ESE	188 (1/2)	150 (1/2)
²³² Th	---	80 (2/2) 61 - 100	H-15 <1 mi., ENE/E/ESE	80 (2/2) 61 - 100	53 (1/2)
²³⁸ U	---	< MDA	---	---	<MDA
⁵⁸ Co	9	<MDA	---	---	<MDA
⁶⁰ Co	12	<MDA	---	---	<MDA
¹³⁴ Cs	14	<MDA	---	---	<MDA
¹³⁷ Cs	12	<MDA	---	---	<MDA

Number of Non-Routine Reported Measurements = 0

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 (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	Mean (f) ^b	
			Distance & Direction	Range	
Gamma Isotopic, 4					
⁴⁰ K	130	1674 (2/2) 968 - 2380	H-15 <1 mi., ENE/E/ESE	1674 (2/2) 968 - 2380	1316 (2/2) 963 - 1669
²²⁶ Ra	---	<MDA	---	---	437 (1/2)
²²⁸ Ra	---	113 (1/2)	H-15 <1 mi., ENE/E/ESE	113 (1/2)	<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

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
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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	Mean (f) ^b	
			Distance & Direction	Range	
Gamma Isotopic, 4					
⁴⁰ K	130	2401 (2/2) 2214 - 2588	H-15 <1 mi., ENE/E/ESE	2401 (2/2) 2214 - 2588	2376 (2/2) 2009 - 2742
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
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PATHWAY: INGESTION
 SAMPLES COLLECTED: BROAD LEAF VEGETATION
 UNITS: PICO - Ci/Kg, WET

Type and Total Number of Analyses Performed	Lower Limit of Detection ^a (LLD)	All Indicator Locations Mean (f) ^b Range	Location with Highest Annual Mean		Control Locations Mean (f) ^b Range
			Name ^c	Mean (f) ^b	
			Distance & Direction	Range	
Gamma Isotopic, 36					
⁷ Be	71	905 (24/24) 468 - 1517	H-52 1 mi., S/SSE	914 (12/12) 468 - 1517	820 (12/12) 585 - 1164
⁴⁰ K	100	3622 (24/24) 2279 - 5120	H-51 1 mi., N/NNW	3862 (12/12) 2959 - 5120	3688 (12/12) 2900 - 4681
¹³¹ I	9	<MDA	---	---	<MDA
¹³⁴ Cs	8	<MDA	---	---	<MDA
¹³⁷ Cs	8	34 (4/24) 16 - 46	H-52 1 mi., S/SSE	40 (1/2)	< MDA
²¹⁰ Pb	---	< MDA	---	---	<MDA
²¹² Pb	---	< MDA	---	---	< MDA
²²⁶ Ra	---	257 (1/24)	H-52 1 mi., S/SSE	257 (1/12)	< MDA

Number of Non-Routine Reported Measurements = 0

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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		Control Locations Mean (f) ^b Range
			Name ^c	Mean (f) ^b	
			Distance & Direction	Range	
Gamma Isotopic, 4					
⁴⁰ K	60	1562 (4/4) 855 - 1985	H-101 3.5 mi., WSW	1562 (4/4) 855 - 1985	n/a ^e
⁹⁰ Sr	0.9	2.3 (2/4) 1.1 - 3.5	H-101 3.5 mi., WSW	2.3 (2/4) 1.1 - 3.5	n/a
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	81 (4/4) 26 - 150	H-101 3.5 mi., WSWE	81 (4/4) 26 - 150	n/a

Number of Non-Routine Reported Measurements = 0

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY

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Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2002
(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:	Direct Exposure
	Location:	WNW-10 , 10 miles west-north-west
	Dates:	Fourth calendar quarter
	Deviation:	Failure to provide continuous monitoring
	Description of Problem:	TLD was not found when collection was attempted; utility pole used for mount also missing.
	Corrective Action:	Deploy new TLD on new mount very close (yards) to prior location.

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TABLE 1B

ANALYSIS WITH LLDs ABOVE THE REQUIRED DETECTION CAPABILITIES
(LLDs) Listed in ODCM TABLE 4.12-1
1/1/2002 – 12/31/2002

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

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TABLE 2

LAND USE CENSUS
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Distance to Nearest (a, b)

Sector	7/02 Milk (c) Animal	7/02 Residence	7/02 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

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TABLE 2

LAND USE CENSUS
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NOTES

a. All categories surveyed out to a 5-mile radius from the St. Lucie Plant.

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

distance (miles)/bearing (degrees)

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

c. Potential milk animal locations.

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

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

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

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

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

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.

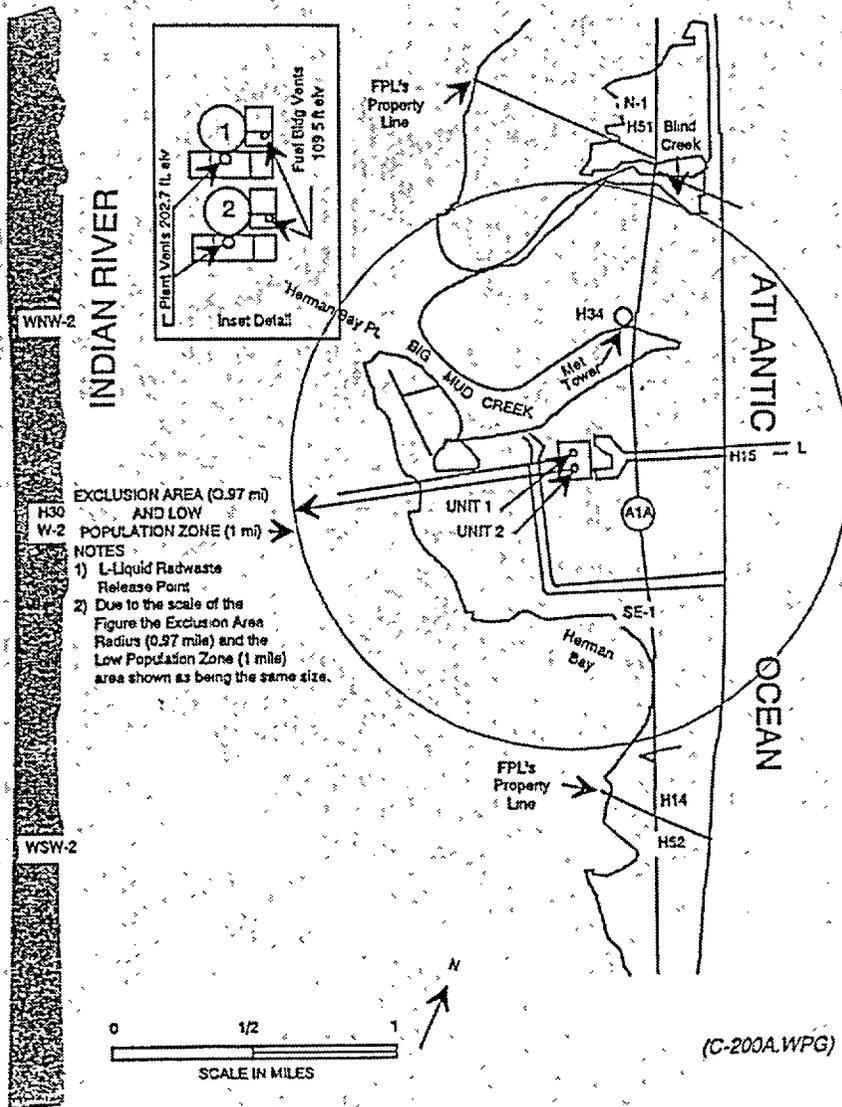
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ATTACHMENT A

KEY TO SAMPLE LOCATIONS

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SITE AREA MAP & ENVIRONMENTAL SAMPLE LOCATIONS



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ATTACHMENT A

PAGE 1 OF 4

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

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

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ATTACHMENT A

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

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

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ATTACHMENT A

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PATHWAY: WATERBORNE

SAMPLES COLLECTED: SURFACE WATER (OCEAN)

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

<u>Location Name</u>	<u>Direction Sector</u>	<u>Approximate Distance (miles)</u>	<u>Description</u>
H-15	ENE/E/SSE	<1	Atlantic Ocean, Public Beaches East Side A1A
<u>Control:</u>			
H-59	S/SSE	10-20	South End, Hutchinson Island

SAMPLES COLLECTED: SHORELINE SEDIMENT

SAMPLE COLLECTION FREQUENCY: SEMI-ANNUALLY

<u>Location Name</u>	<u>Direction Sector</u>	<u>Approximate Distance (miles)</u>	<u>Description</u>
H-15	ENE/E/ESE	<1	Atlantic Ocean, Public Beaches East Side A1A
<u>Control:</u>			
H-59	S/SSE	10-20	South End, Hutchinson Island

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ATTACHMENT A

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PATHWAY: INGESTION

SAMPLES COLLECTED: CRUSTACEA AND FISH

SAMPLE COLLECTION FREQUENCY: SEMI-ANNUALLY

<u>Location Name</u>	<u>Direction Sector</u>	<u>Approximate Distance (miles)</u>	<u>Description</u>
H-15	ENE/E/ESE	<1	Ocean Side, Vicinity of St. Lucie Plant

Control:

H-59	S/SSE	10-20	South End, Hutchinson Island
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SAMPLES COLLECTED: BROAD LEAF VEGETATION

SAMPLE COLLECTION FREQUENCY: MONTHLY

<u>Location Name</u>	<u>Direction Sector</u>	<u>Approximate Distance (miles)</u>	<u>Description</u>
H-51	N/NNW	1	Off-Site Near North Property Line
H-52	S/SSE	1	Off-Site Near South Property Line

Control:

H-59	S/SSE	10-20	South End, Hutchinson Island
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SAMPLES COLLECTED: MILK

SAMPLE COLLECTION FREQUENCY: QUARTERLY

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

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ATTACHMENT B

RADIOLOGICAL SURVEILLANCE OF
FLORIDA POWER AND LIGHT COMPANY

ST. LUCIE SITE

2002

First Quarter 2002

Second Quarter 2002

Third Quarter 2002

Fourth Quarter 2002

ST. LUCIE SITE

Technical Specifications Sampling

First Quarter, 2002

<u>Sample Type</u>	<u>Collection Frequency</u>	<u>Locations Sampled</u>	<u>Number of Samples</u>
1. Direct Radiation	Quarterly	27	27
2. Airborne			
2.a. Air Iodines	Weekly	5	65
2.b. Air Particulates	Weekly	5	65
3. Waterborne			
3.a. Surface Water	Weekly	1	13
	Monthly	1	3
3.b. Shoreline Sediment	Semiannually	2	2
4. Ingestion			
4.a. Fish and Invertebrates			
4.a.1. Crustacea	Semiannually	2	2
4.a.2. Fish	Semiannually	2	2
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 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 - (μ R/hour)

Sample Site	Deployment 05-Dec-01 Collection 12-Mar-02	Sample Site	Deployment 05-Dec-01 Collection 12-Mar-02
N-1	5.3 \pm 0.2	SW-2	4.9 \pm 0.2
NNW-5	5.0 \pm 0.2	SW-5	5.9 \pm 0.2
NNW-10	5.4 \pm 0.2	SW-10	5.6 \pm 0.2
NW-5	5.1 \pm 0.2	SSW-2	4.7 \pm 0.2
NW-10	6.6 \pm 0.2	SSW-5	5.1 \pm 0.2
		SSW-10	5.5 \pm 0.2
WNW-2	5.2 \pm 0.2		
WNW-5	5.1 \pm 0.2	S-5	5.1 \pm 0.2
WNW-10	5.3 \pm 0.2	S-10	4.8 \pm 0.2
		S/SSE-10	5.1 \pm 0.2
W-2	4.9 \pm 0.2		
W-5	5.6 \pm 0.2	SSE-5	4.6 \pm 0.2
W-10	5.5 \pm 0.2	SSE-10	5.5 \pm 0.2
WSW-2	5.2 \pm 0.2	SE-1	4.7 \pm 0.2
WSW-5	5.5 \pm 0.2		
WSW-10	4.7 \pm 0.2	H-32	5.5 \pm 0.2

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

<u>Collection Date</u>	<u>H08</u>	<u>H12</u>	<u>H14</u>	<u>H30</u>	<u>H34</u>
02-Jan-02	<0.04	<0.04	<0.04	<0.04	<0.04
08-Jan-02	<0.03	<0.03	<0.03	<0.03	<0.03
15-Jan-02	<0.03	<0.03	<0.03	<0.03	<0.03
22-Jan-02	<0.03	<0.03	<0.02	<0.03	<0.02
29-Jan-02	<0.03	<0.03	<0.03	<0.03	<0.03
05-Feb-02	<0.02	<0.02	<0.02	<0.02	<0.02
11-Feb-02	<0.02	<0.02	<0.02	<0.02	<0.02
19-Feb-02	<0.02	<0.02	<0.02	<0.02	<0.02
27-Feb-02	<0.01	<0.01	<0.01	<0.01	<0.01
06-Mar-02	<0.03	<0.03	<0.03	<0.03	<0.03
12-Mar-02	<0.03	<0.03	<0.03	<0.03	<0.03
19-Mar-02	<0.02	<0.02	<0.02	<0.02	<0.02
26-Mar-02	<0.03	<0.03	<0.03	<0.03	<0.03

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

<u>Collection Date</u>	<u>Sample Sites</u>				
	<u>H08</u>	<u>H12</u>	<u>H14</u>	<u>H30</u>	<u>H34</u>
02-Jan-02	0.025 ± 0.003	0.030 ± 0.003	0.014 ± 0.002	0.017 ± 0.002	0.025 ± 0.003
08-Jan-02	0.019 ± 0.003	0.016 ± 0.002	0.011 ± 0.002	0.013 ± 0.002	0.016 ± 0.002
15-Jan-02	0.019 ± 0.002	0.017 ± 0.002	0.012 ± 0.002	0.015 ± 0.002	0.015 ± 0.002
22-Jan-02	0.017 ± 0.002	0.014 ± 0.002	0.016 ± 0.002	0.012 ± 0.002	0.013 ± 0.002
29-Jan-02	0.011 ± 0.002	0.010 ± 0.002	0.007 ± 0.002	0.005 ± 0.002	0.010 ± 0.002
05-Feb-02	0.010 ± 0.002	0.013 ± 0.002	0.012 ± 0.002	0.006 ± 0.002	0.014 ± 0.002
11-Feb-02	0.018 ± 0.003	0.018 ± 0.003	0.023 ± 0.003	0.016 ± 0.003	0.014 ± 0.002
19-Feb-02	0.025 ± 0.002	0.020 ± 0.002	0.020 ± 0.002	0.020 ± 0.002	0.020 ± 0.002
27-Feb-02	0.019 ± 0.002	0.019 ± 0.002	0.017 ± 0.002	0.021 ± 0.002	0.022 ± 0.002
06-Mar-02	0.023 ± 0.003	0.020 ± 0.002	0.020 ± 0.002	0.021 ± 0.002	0.022 ± 0.002
12-Mar-02	0.010 ± 0.002	0.011 ± 0.002	0.010 ± 0.002	0.010 ± 0.002	0.012 ± 0.002
19-Mar-02	0.021 ± 0.002	0.023 ± 0.003	0.020 ± 0.003	0.019 ± 0.002	0.021 ± 0.003
26-Mar-02	0.015 ± 0.002	0.016 ± 0.002	0.014 ± 0.002	0.020 ± 0.002	0.018 ± 0.002
Mean:	0.018 ± 0.001	0.017 ± 0.001	0.015 ± 0.001	0.015 ± 0.001	0.017 ± 0.001

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

<u>Sample Site</u>	<u>Be-7</u>	<u>K-40</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>
H08	0.1636 ± 0.0146	<0.0282	<0.0014	<0.0012	<0.0553
H12	0.1626 ± 0.0130	<0.0131	<0.0009	<0.0011	0.0268 ± 0.0048
H14	0.1557 ± 0.0146	<0.0304	<0.0017	<0.0008	<0.0503
H30	0.1656 ± 0.0132	<0.0182	<0.0012	<0.0011	0.0362 ± 0.0042
H34	0.1538 ± 0.0128	<0.0237	<0.0018	<0.0012	<0.0449

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

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95	I-131	Cs-134	Cs-137	Ba-140
									Nb-95 (A)				La-140 (B)
H15	02-Jan-02	<120	282 ± 45	<4	<7	<14	<8	<11	<10	<12	<6	<5	<10
	08-Jan-02	<120	315 ± 44	<6	<5	<14	<6	<11	<10	<12	<6	<6	<9
	15-Jan-02	<120	279 ± 26	<2	<2	<5	<2	<5	<4	<3	<3	<3	<4
	22-Jan-02	<120	371 ± 36	<4	<5	<10	<5	<9	<7	<9	<4	<5	<6
	29-Jan-02	<120	319 ± 36	<4	<4	<8	<4	<9	<8	<7	<5	<4	<5
	05-Feb-02	<120	400 ± 44	<4	<5	<10	<6	<13	<11	<6	<7	<5	<15
	11-Feb-02	<119	367 ± 37	<4	<4	<8	<4	<8	<7	<5	<5	<4	<9
	19-Feb-02	<119	398 ± 43	<6	<6	<9	<6	<13	<12	<7	<6	<5	<9
	27-Feb-02	<119	266 ± 36	<4	<4	<8	<4	<8	<6	<5	<4	<4	<9
	06-Mar-02	<121	314 ± 32	<4	<4	<9	<4	<8	<7	<6	<3	<4	<4
	13-Mar-02	<114	288 ± 50	<5	<6	<12	<7	<6	<10	<7	<7	<7	<9
	19-Mar-02	<113	333 ± 34	<3	<4	<9	<4	<8	<6	<7	<4	<4	<7
26-Mar-02	<113	346 ± 45	<3	<5	<12	<6	<17	<11	<7	<6	<6	<14	
H59	03-Jan-02	<120	394 ± 45	<6	<6	<12	<5	<11	<11	<10	<8	<5	<8
	27-Feb-02	<119	337 ± 31	<3	<4	<8	<5	<9	<6	<6	<4	<4	<5
	12-Mar-02	<114	340 ± 30	<3	<4	<8	<4	<8	<5	<4	<4	<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)

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>	<u>Ra-226</u>	<u>Th-232</u>	<u>U-238</u>
H15	29-Jan-02	<48	129 ± 31	<5	<5	<6	<6	<2292	188 ± 16	100 ± 7	<819
H59	29-Jan-02	<68	219 ± 46	<6	<9	<9	<7	<1356	150 ± 9	<45	<342

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>K-40</u>	<u>Mn-54</u>	<u>Co-58</u>	<u>Fe-59</u>	<u>Co-60</u>	<u>Zn-65</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ra-226</u>	<u>Ra-228</u>
H15	06-Mar-02	2380 ± 157	<20	<18	<37	<21	<39	<23	<20	<378	<97
H59	20-Feb-02	1669 ± 195	<20	<22	<45	<29	<55	<26	<22	<445	<107

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>K-40</u>	<u>Mn-54</u>	<u>Co-58</u>	<u>Fe-59</u>	<u>Co-60</u>	<u>Zn-65</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ra-226</u>	<u>Ra-228</u>
H15	19-Feb-02	2214 ± 239	<25	<27	<45	<35	<57	<35	<33	<627	<137
H59	13-Mar-02	2742 ± 221	<25	<16	<48	<26	<41	<27	<25	<386	<87

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>	<u>Ra-226</u>
H51	03-Jan-02	936 ± 87	2959 ± 191	<24	<19	<15	<2150	<372
	27-Feb-02	1027 ± 89	4433 ± 208	<24	<20	<16	<1837	<333
	13-Mar-02	871 ± 81	4193 ± 197	<17	<16	<17	<1757	<331
H52	03-Jan-02	1048 ± 91	3371 ± 192	<25	<17	<13	<1788	<359
	27-Feb-02	1517 ± 99	2279 ± 152	<23	<17	<17	<1990	<323
	13-Mar-02	1280 ± 75	3962 ± 156	<12	<12	<12	<878	<286
H59	03-Jan-02	789 ± 108	2900 ± 190	<24	<16	<12	<1993	<354
	27-Feb-02	950 ± 74	4264 ± 166	<18	<16	<15	<801	<301
	12-Mar-02	602 ± 80	3362 ± 178	<18	<15	<19	<1763	<360

4.c. MILK - (pCi/L)

<u>Sample Site</u>	<u>Collection Date</u>	<u>K-40</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ba-140</u> <u>La-140</u> (A)
H101	11-Feb-02	1789 ± 72	<0.1	<5	45 ± 5	<5

(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, 2002

<u>Sample Type</u>	<u>Collection Frequency</u>	<u>Locations Sampled</u>	<u>Number of Samples</u>
1. Direct Radiation	Quarterly	27	27
2. Airborne			
2.a. Air Iodines	Weekly	5	65
2.b. Air Particulates	Weekly	5	65
3. Waterborne			
3.a. Surface Water	Weekly	1	13
	Monthly	1	3
3.b. Shoreline Sediment	Semiannually	0	0
4. Ingestion			
4.a. Fish and Invertebrates			
4.a.1. Crustacea	Semiannually	0	0
4.a.2. Fish	Semiannually	0	0
4.b. Broadleaf Vegetation	Monthly	3	9
4.c. Milk	Quarterly	1	1
			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 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 - ($\mu\text{R}/\text{hour}$)

Sample Site	Deployment 12-Mar-02 Collection 12-Jun-02	Sample Site	Deployment 12-Mar-02 Collection 12-Jun-02
N-1	4.9 \pm 0.2	SW-2	4.8 \pm 0.2
NNW-5	5.2 \pm 0.2	SW-5	6.0 \pm 0.2
NNW-10	5.3 \pm 0.2	SW-10	5.1 \pm 0.2
NW-5	5.2 \pm 0.2	SSW-2	4.6 \pm 0.2
NW-10	6.3 \pm 0.2	SSW-5	5.7 \pm 0.2
WNW-2	5.0 \pm 0.2	SSW-10	5.4 \pm 0.2
WNW-5	4.9 \pm 0.2	S-5	5.1 \pm 0.2
WNW-10	5.1 \pm 0.2	S-10	4.9 \pm 0.2
W-2	5.1 \pm 0.2	S/SSE-10	5.1 \pm 0.2
W-5	5.3 \pm 0.2	SSE-5	4.6 \pm 0.2
W-10	5.4 \pm 0.2	SSE-10	5.7 \pm 0.2
WSW-2	5.0 \pm 0.2	SE-1	4.7 \pm 0.2
WSW-5	5.0 \pm 0.2	H-32	5.5 \pm 0.2
WSW-10	4.4 \pm 0.2		

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

<u>Collection Date</u>	<u>H08</u>	<u>H12</u>	<u>H14</u>	<u>H30</u>	<u>H34</u>
04-Apr-02	<0.01	<0.01	<0.01	<0.01	<0.01
11-Apr-02	<0.01	<0.01	<0.01	<0.01	<0.01
18-Apr-02	<0.02	<0.02	<0.02	<0.02	<0.02
25-Apr-02	<0.02	<0.02	<0.02	<0.02	<0.02
30-Apr-02	<0.02	<0.02	<0.02	<0.02	<0.02
09-May-02	<0.01	<0.01	<0.01	<0.01	<0.01
16-May-02	<0.02	<0.02	<0.02	<0.02	<0.02
23-May-02	<0.02	<0.02	<0.02	<0.02	<0.02
30-May-02	<0.01	<0.01	<0.01	<0.01	<0.01
04-Jun-02	<0.02	<0.02	<0.02	<0.02	<0.02
12-Jun-02	<0.01	<0.01	<0.01	<0.01	<0.01
20-Jun-02	<0.01	<0.01	<0.01	<0.01	<0.01
27-Jun-02	<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
04-Apr-02	0.014 ± 0.002	0.012 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.019 ± 0.002
11-Apr-02	0.023 ± 0.002	0.019 ± 0.002	0.023 ± 0.002	0.018 ± 0.002	0.016 ± 0.002
18-Apr-02	0.013 ± 0.002	0.011 ± 0.002	0.014 ± 0.002	0.012 ± 0.002	0.010 ± 0.002
25-Apr-02	0.015 ± 0.002	0.014 ± 0.002	0.009 ± 0.002	0.014 ± 0.002	0.016 ± 0.002
30-Apr-02	0.011 ± 0.003	0.016 ± 0.003	0.016 ± 0.003	0.019 ± 0.003	0.024 ± 0.003
09-May-02	0.020 ± 0.002	0.014 ± 0.002	0.015 ± 0.002	0.013 ± 0.002	0.018 ± 0.002
16-May-02	0.009 ± 0.002	0.012 ± 0.002	0.021 ± 0.002	0.011 ± 0.002	0.013 ± 0.002
23-May-02	0.013 ± 0.002	0.008 ± 0.002	0.010 ± 0.002	0.010 ± 0.002	0.013 ± 0.002
30-May-02	0.010 ± 0.002	0.012 ± 0.002	0.014 ± 0.002	0.017 ± 0.002	0.009 ± 0.002
04-Jun-02	0.008 ± 0.002	0.010 ± 0.002	0.007 ± 0.002	0.010 ± 0.002	0.010 ± 0.002
12-Jun-02	0.014 ± 0.002	0.014 ± 0.002	0.013 ± 0.002	0.015 ± 0.002	0.018 ± 0.002
20-Jun-02	0.008 ± 0.002	0.007 ± 0.001	0.008 ± 0.001	0.004 ± 0.001	0.005 ± 0.001
27-Jun-02	0.009 ± 0.002	0.009 ± 0.002	0.010 ± 0.002	0.006 ± 0.002	0.008 ± 0.002
Mean:	0.013 ± 0.001	0.012 ± 0.001	0.013 ± 0.001	0.012 ± 0.001	0.014 ± 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	0.1353 ± 0.0092	<0.0169	<0.0008	<0.0009	0.0120 ± 0.0027
H12	0.1120 ± 0.0096	<0.0139	<0.0010	<0.0009	0.0085 ± 0.0029
H14	0.1123 ± 0.0174	<0.0268	<0.0017	<0.0015	<0.0549
H30	0.1171 ± 0.0108	<0.0161	<0.0011	<0.0009	0.0155 ± 0.0025
H34	0.1693 ± 0.0159	<0.0247	<0.0017	<0.0013	<0.0625

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

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95	I-131	Cs-134	Cs-137	Ba-140
									Nb-95 (A)				La-140 (B)
H15	04-Apr-02	<118	268 ± 46	<5	<5	<9	<6	<12	<8	<6	<6	<6	<14
	11-Apr-02	<124	394 ± 47	<5	<5	<12	<6	<10	<8	<7	<6	<6	<9
	18-Apr-02	<124	370 ± 29	<4	<4	<6	<4	<9	<6	<5	<5	<3	<6
	25-Apr-02	<123	396 ± 37	<4	<4	<8	<4	<8	<6	<6	<4	<3	<6
	30-Apr-02	<123	410 ± 33	<3	<3	<6	<4	<7	<5	<4	<4	<3	<9
	09-May-02	<123	420 ± 33	<3	<4	<6	<4	<5	<6	<6	<4	<4	<5
	16-May-02	<117	316 ± 36	<4	<3	<6	<3	<9	<6	<5	<4	<4	<5
	23-May-02	<117	362 ± 31	<3	<3	<6	<3	<6	<7	<4	<5	<4	<10
	30-May-02	<123	385 ± 33	<4	<3	<9	<4	<8	<6	<4	<4	<4	<9
	04-Jun-02	<123	311 ± 39	<4	<6	<12	<7	<13	<10	<6	<6	<6	<12
	11-Jun-02	<122	293 ± 50	<6	<6	<14	<6	<15	<8	<9	<5	<5	<7
	20-Jun-02	<122	348 ± 18	<2	<2	<3	<2	<4	<3	<2	<2	<2	<2
	27-Jun-02	<122	387 ± 35	<4	<3	<7	<3	<6	<6	<4	<4	<4	<10
H59	11-Apr-02	<124	368 ± 34	<3	<4	<6	<5	<9	<7	<5	<4	<4	<6
	09-May-02	<117	286 ± 31	<3	<4	<8	<4	<8	<7	<7	<4	<3	<5
	04-Jun-02	<123	343 ± 34	<3	<3	<7	<4	<8	<5	<4	<3	<4	<8

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

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

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

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

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

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

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

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

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>	<u>Pb-212</u>	<u>Ra-226</u>
H51	11-Apr-02	1336 ± 79	3144 ± 183	<12	<14	<11	<1674	<46	<302
	09-May-02	638 ± 54	3324 ± 195	<11	<14	16 ± 4	<1772	<46	<297
	04-Jun-02	492 ± 58	2962 ± 134	<11	<12	34 ± 5	<599	<30	<190
H52	11-Apr-02	920 ± 67	2873 ± 131	<13	<10	<12	<734	<28	<240
	09-May-02	665 ± 74	4357 ± 173	<12	<12	<11	<709	<35	257 ± 116
	04-Jun-02	905 ± 87	2494 ± 177	<16	<18	<17	<1734	<45	<307
H59	11-Apr-02	1077 ± 92	3060 ± 195	<14	<16	<18	<1917	<47	<315
	09-May-02	585 ± 59	4681 ± 174	<13	<11	<16	<653	<35	<252
	04-Jun-02	810 ± 74	3862 ± 168	<21	<13	<12	<1480	<38	<280

4.c. MILK - (pCi/L)

<u>Sample Site</u>	<u>Collection Date</u>	<u>K-40</u>	<u>Sr-90</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ba-140</u> <u>La-140</u> (A)
H101	22-May-02	1985 ± 28	3.5 ± 0.4	<0.2	<2	150 ± 2	<4

(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, 2002

<u>Sample Type</u>	<u>Collection Frequency</u>	<u>Locations Sampled</u>	<u>Number of Samples</u>
1. Direct Radiation	Quarterly	27	27
2. Airborne			
2.a. Air Iodines	Weekly	5	65
2.b. Air Particulates	Weekly	5	65
3. Waterborne			
3.a. Surface Water	Weekly	1	13
	Monthly	1	3
3.b. Shoreline Sediment	Semiannually	2	2
4. Ingestion			
4.a. Fish and Invertebrates			
4.a.1. Crustacea	Semiannually	2	1
4.a.2. Fish	Semiannually	2	2
4.b. Broadleaf Vegetation	Monthly	3	9
4.c. Milk	Quarterly	1	1

 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 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 - (μ R/hour)

Sample Site	Deployment 12-Jun-02 Collection 09-Sep-02	Sample Site	Deployment 12-Jun-02 Collection 09-Sep-02
N-1	4.6 \pm 0.2	SW-2	4.8 \pm 0.2
NNW-5	4.8 \pm 0.2	SW-5	6.2 \pm 0.2
NNW-10	4.6 \pm 0.2	SW-10	5.0 \pm 0.2
NW-5	5.7 \pm 0.2	SSW-2	4.7 \pm 0.2
NW-10	5.8 \pm 0.2	SSW-5	5.9 \pm 0.2
WNW-2	4.3 \pm 0.2	SSW-10	5.1 \pm 0.2
WNW-5	4.5 \pm 0.2	S-5	5.2 \pm 0.2
WNW-10	4.7 \pm 0.2	S-10	5.2 \pm 0.2
W-2	4.5 \pm 0.2	S/SSE-10	4.8 \pm 0.2
W-5	5.2 \pm 0.2	SSE-5	4.6 \pm 0.2
W-10	5.1 \pm 0.2	SSE-10	5.5 \pm 0.2
WSW-2	5.0 \pm 0.2	SE-1	4.4 \pm 0.2
WSW-5	4.8 \pm 0.2	H-32	5.6 \pm 0.2
WSW-10	4.6 \pm 0.2		

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

<u>Collection Date</u>	<u>H08</u>	<u>H12</u>	<u>H14</u>	<u>H30</u>	<u>H34</u>
03-Jul-02	<0.01	<0.01	<0.01	<0.01	<0.01
09-Jul-02	<0.03	<0.03	<0.03	<0.03	<0.03
17-Jul-02	<0.02	<0.02	<0.02	<0.02	<0.02
25-Jul-02	<0.02	<0.02	<0.02	<0.02	<0.02
01-Aug-02	<0.04	<0.04	<0.04	<0.04	<0.04
08-Aug-02	<0.03	<0.03	<0.02	<0.03	<0.03
15-Aug-02	<0.03	<0.03	<0.02	<0.03	<0.02
22-Aug-02	<0.02	<0.02	<0.02	<0.02	<0.02
29-Aug-02	<0.02	<0.02	<0.02	<0.02	<0.02
03-Sep-02	<0.03	<0.03	<0.03	<0.03	<0.03
09-Sep-02	<0.03	<0.03	<0.03	<0.03	<0.03
17-Sep-02	<0.02	<0.02	<0.02	<0.02	<0.02
24-Sep-02	<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
03-Jul-02	0.005 ± 0.002	0.008 ± 0.002	0.010 ± 0.002	0.006 ± 0.002	0.010 ± 0.002
09-Jul-02	0.007 ± 0.002	0.010 ± 0.002	0.006 ± 0.002	0.010 ± 0.002	0.007 ± 0.002
17-Jul-02	0.006 ± 0.002	0.012 ± 0.002	0.010 ± 0.002	0.014 ± 0.002	0.014 ± 0.002
25-Jul-02	0.012 ± 0.002	0.014 ± 0.002	0.013 ± 0.002	0.012 ± 0.002	0.012 ± 0.002
01-Aug-02	0.014 ± 0.002	0.013 ± 0.002	0.017 ± 0.002	0.017 ± 0.002	0.017 ± 0.002
08-Aug-02	0.012 ± 0.002	0.015 ± 0.002	0.014 ± 0.002	0.013 ± 0.002	0.014 ± 0.002
15-Aug-02	0.009 ± 0.002	0.009 ± 0.002	0.008 ± 0.002	0.011 ± 0.002	0.010 ± 0.002
22-Aug-02	0.005 ± 0.002	0.009 ± 0.002	0.009 ± 0.002	0.008 ± 0.002	0.009 ± 0.002
29-Aug-02	0.020 ± 0.002	0.018 ± 0.002	0.015 ± 0.002	0.015 ± 0.002	0.020 ± 0.002
03-Sep-02	0.008 ± 0.002	0.008 ± 0.002	0.005 ± 0.002	0.009 ± 0.002	0.005 ± 0.002
09-Sep-02	0.010 ± 0.002	0.013 ± 0.002	0.011 ± 0.002	0.005 ± 0.002	0.012 ± 0.002
17-Sep-02	0.011 ± 0.002	0.008 ± 0.002	0.010 ± 0.002	0.008 ± 0.002	0.011 ± 0.002
24-Sep-02	0.009 ± 0.002	0.011 ± 0.002	0.012 ± 0.002	0.005 ± 0.002	0.007 ± 0.002
Mean	0.010 ± 0.001	0.011 ± 0.001	0.011 ± 0.001	0.010 ± 0.001	0.011 ± 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	0.0923 ± 0.0134	<0.0296	<0.0015	<0.0015	<0.0662
H12	0.0962 ± 0.0119	<0.0309	<0.0013	<0.0014	<0.0586
H14	0.1086 ± 0.0106	<0.0289	<0.0014	<0.0012	<0.0593
H30	0.1008 ± 0.0125	<0.0264	<0.0015	<0.0010	<0.0581
H34	0.1197 ± 0.0132	<0.0307	<0.0017	<0.0013	<0.0592

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

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95	I-131	Cs-134	Cs-137	Ba-140
									Nb-95 (A)				La-140 (B)
H15	03-Jul-02	<123	355 ± 21	<2	<3	<6	<3	<6	<4	<3	<3	<3	<5
	09-Jul-02	<123	326 ± 41	<5	<5	<11	<8	<13	<9	<6	<6	<6	<11
	17-Jul-02	<123	368 ± 56	<4	<6	<15	<6	<12	<11	<8	<6	<6	<4
	25-Jul-02	<123	363 ± 45	<5	<5	<10	<7	<13	<9	<6	<5	<6	<14
	01-Aug-02	<117	282 ± 43	<5	<6	<12	<7	<13	<10	<7	<5	<7	<10
	08-Aug-02	<127	353 ± 47	<6	<6	<10	<7	<11	<9	<7	<7	<6	<9
	16-Aug-02	<127	273 ± 54	<5	<6	<10	<5	<12	<10	<7	<6	<6	<12
	22-Aug-02	<127	307 ± 39	<5	<5	<8	<6	<12	<9	<7	<6	<4	<13
	29-Aug-02	<127	284 ± 49	<5	<5	<14	<5	<12	<11	<8	<6	<6	<9
	03-Sep-02	<122	284 ± 40	<5	<6	<11	<5	<13	<8	<9	<7	<5	<10
	10-Sep-02	<122	317 ± 54	<5	<5	<11	<6	<11	<7	<7	<6	<5	<8
	17-Sep-02	<128	388 ± 48	<6	<6	<13	<7	<14	<10	<8	<7	<6	<8
	24-Sep-02	<122	349 ± 49	<5	<5	<10	<6	<14	<9	<6	<6	<6	<13
H59	10-Jul-02	<123	347 ± 40	<6	<5	<12	<7	<12	<10	<5	<6	<5	<12
	01-Aug-02	<117	359 ± 46	<6	<7	<12	<7	<12	<10	<8	<6	<5	<7
	10-Sep-02	<122	361 ± 46	<5	<4	<12	<7	<10	<10	<6	<6	<6	<11

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

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

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>	<u>Ra-226</u>	<u>Th-232</u>	<u>U-238</u>
H15	22-Aug-02	<63	344 ± 61	<8	<8	<8	<7	<1958	<207	61 ± 13	<379
H59	22-Aug-02	<68	179 ± 52	<7	<7	<8	<8	<2030	<196	53 ± 12	<343

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>K-40</u>	<u>Mn-54</u>	<u>Co-58</u>	<u>Fe-59</u>	<u>Co-60</u>	<u>Zn-65</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ra-226</u>	<u>Ra-228</u>
H15	24-Sep-02	968 ± 129	<16	<15	<26	<16	<33	<19	<17	<308	113 ± 30
H59	This sample has not yet been collected.										

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>K-40</u>	<u>Mn-54</u>	<u>Co-58</u>	<u>Fe-59</u>	<u>Co-60</u>	<u>Zn-65</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ra-226</u>	<u>Ra-228</u>
H15	16-Aug-02	2588 ± 269	<30	<22	<61	<29	<70	<30	<32	<646	<95
H59	16-Aug-02	2009 ± 251	<25	<25	<61	<26	<54	<35	<29	<591	<158

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>	<u>Pb-212</u>	<u>Ra-226</u>
H51	10-Jul-02	692 ± 83	3297 ± 191	<15	<16	<14	<1878	<47	<343
	01-Aug-02	1365 ± 86	4887 ± 220	<17	<20	<15	<1977	<51	<339
	10-Sep-02	866 ± 79	5120 ± 215	<14	<18	<18	<1816	<48	<307
H52	10-Jul-02	656 ± 76	2947 ± 176	<17	<16	<14	<1788	<37	<296
	01-Aug-02	1025 ± 78	3948 ± 208	<20	<18	<20	<1980	<45	<318
	10-Sep-02	795 ± 83	4343 ± 192	<12	<17	<14	<1509	<44	<293
H59	10-Jul-02	673 ± 76	2962 ± 186	<16	<14	<16	<1785	<45	<337
	01-Aug-02	1033 ± 86	3572 ± 188	<21	<21	<16	<1779	<46	<261
	10-Sep-02	965 ± 89	4296 ± 241	<16	<19	<19	<1974	<53	<337

4.c. MILK - (pCi/L)

<u>Sample Site</u>	<u>Collection Date</u>	<u>K-40</u>	<u>Sr-90</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ba-140</u> <u>La-140</u> (A)
H101	14-Aug-02	1618 ± 87	1.1 ± 0.4	<0.1	<7	103 ± 6	<8

(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, 2002

<u>Sample Type</u>	<u>Collection Frequency</u>	<u>Locations Sampled</u>	<u>Number of Samples</u>
1. Direct Radiation	Quarterly	27	26
2. Airborne			
2.a. Air Iodines	Weekly	5	70
2.b. Air Particulates	Weekly	5	70
3. Waterborne			
3.a. Surface Water	Weekly	1	13
	Monthly	1	3
3.b. Shoreline Sediment	Semiannually	0	0
4. Ingestion			
4.a. Fish and Invertebrates			
4.a.1. Crustacea	Semiannually	1	1
4.a.2. Fish	Semiannually	0	0
4.b. Broadleaf Vegetation	Monthly	3	9
4.c. Milk	Quarterly	1	1
			Total: 193

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

Sample Site	Deployment 09-Sep-02 Collection 03-Dec-02	Sample Site	Deployment 09-Sep-02 Collection 03-Dec-02
N-1	5.0 ± 0.2	SW-2	4.9 ± 0.2
NNW-5	4.9 ± 0.2	SW-5	6.5 ± 0.3
NNW-10	5.1 ± 0.2	SW-10	5.1 ± 0.2
NW-5	5.1 ± 0.2	SSW-2	4.8 ± 0.2
NW-10	6.8 ± 0.3	SSW-5	5.9 ± 0.2
WNW-2	5.0 ± 0.2	SSW-10	5.5 ± 0.2
WNW-5	4.8 ± 0.2	S-5	5.2 ± 0.2
WNW-10	(A)	S-10	4.9 ± 0.2
W-2	4.8 ± 0.2	S/SSE-10	4.9 ± 0.2
W-5	5.4 ± 0.2	SSE-5	4.6 ± 0.2
W-10	5.4 ± 0.2	SSE-10	5.4 ± 0.2
WSW-2	5.2 ± 0.2	SE-1	4.7 ± 0.2
WSW-5	5.4 ± 0.2	H-32	5.5 ± 0.2
WSW-10	4.3 ± 0.2		

(A) – TLD at site WNW-10 was missing when collection was attempted. A new TLD was deployed.

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

<u>Collection Date</u>	<u>H08</u>	<u>H12</u>	<u>H14</u>	<u>H30</u>	<u>H34</u>
03-Oct-02	<0.02	<0.02	<0.02	<0.02	<0.02
08-Oct-02	<0.04	<0.04	<0.04	<0.04	<0.04
17-Oct-02	<0.01	<0.01	<0.01	<0.01	<0.01
22-Oct-02	<0.03	<0.02	<0.03	<0.02	<0.03
31-Oct-02	<0.02	<0.02	<0.02	<0.02	<0.02
07-Nov-02	<0.01	<0.01	<0.02	<0.02	<0.01
14-Nov-02	<0.02	<0.02	<0.02	<0.02	<0.02
20-Nov-02	<0.02	<0.01	<0.02	<0.02	<0.02
26-Nov-02	<0.04	<0.03	<0.03	<0.04	<0.03
03-Dec-02	<0.02	<0.02	<0.02	<0.02	<0.02
09-Dec-02	<0.05	<0.05	<0.04	<0.05	<0.05
17-Dec-02	<0.02	<0.02	<0.02	<0.02	<0.02
23-Dec-02	<0.03	<0.03	<0.03	<0.03	<0.03
30-Dec-02	<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
03-Oct-02	0.010 ± 0.002	0.011 ± 0.002	0.009 ± 0.002	0.010 ± 0.002	0.011 ± 0.002
08-Oct-02	0.026 ± 0.003	0.027 ± 0.003	0.026 ± 0.003	0.026 ± 0.003	0.030 ± 0.003
17-Oct-02	0.008 ± 0.001	0.007 ± 0.001	0.006 ± 0.001	0.010 ± 0.002	0.012 ± 0.002
22-Oct-02	0.020 ± 0.003	0.017 ± 0.003	0.019 ± 0.003	0.023 ± 0.003	0.023 ± 0.003
31-Oct-02	0.005 ± 0.001	0.007 ± 0.001	0.003 ± 0.001	0.006 ± 0.001	0.005 ± 0.001
07-Nov-02	0.019 ± 0.002	0.025 ± 0.002	0.016 ± 0.002	0.019 ± 0.002	0.025 ± 0.003
14-Nov-02	0.015 ± 0.002	0.012 ± 0.002	0.014 ± 0.002	0.014 ± 0.002	0.016 ± 0.002
20-Nov-02	0.015 ± 0.002	0.011 ± 0.002	0.015 ± 0.003	0.015 ± 0.002	0.018 ± 0.003
26-Nov-02	0.010 ± 0.002	0.012 ± 0.002	0.011 ± 0.002	0.015 ± 0.002	0.016 ± 0.002
03-Dec-02	0.018 ± 0.002	0.021 ± 0.003	0.011 ± 0.002	0.022 ± 0.002	0.020 ± 0.002
09-Dec-02	0.013 ± 0.002	0.013 ± 0.002	0.015 ± 0.002	0.013 ± 0.002	0.014 ± 0.002
17-Dec-02	0.012 ± 0.002	0.012 ± 0.002	0.015 ± 0.002	0.011 ± 0.002	0.013 ± 0.002
23-Dec-02	0.023 ± 0.003	0.023 ± 0.003	0.022 ± 0.003	0.025 ± 0.003	0.024 ± 0.003
30-Dec-02	0.016 ± 0.002	0.017 ± 0.002	0.010 ± 0.002	0.016 ± 0.002	0.012 ± 0.002
Mean:	0.015 ± 0.001	0.015 ± 0.001	0.014 ± 0.001	0.016 ± 0.001	0.017 ± 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	0.1224 ± 0.0131	<0.0336	<0.0019	<0.0014	<0.0576
H12	0.1328 ± 0.0132	<0.0315	<0.0015	<0.0010	<0.0516
H14	0.1171 ± 0.0091	<0.0098	<0.0007	<0.0010	0.0188 ± 0.0044
H30	0.1755 ± 0.0155	<0.0150	<0.0016	<0.0016	<0.0656
H34	0.1506 ± 0.0037	<0.0060	<0.0003	<0.0003	0.0183 ± 0.0013

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

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95	I-131	Cs-134	Cs-137	Ba-140
									Nb-95 (A)				La-140 (B)
H15	03-Oct-02	<127	339 ± 45	<5	<5	<13	<6	<12	<7	<6	<6	<5	<14
	08-Oct-02	<127	310 ± 47	<7	<6	<16	<6	<10	<10	<10	<7	<7	<9
	17-Oct-02	<127	295 ± 43	<5	<6	<12	<6	<12	<11	<6	<6	<6	<15
	22-Oct-02	<126	377 ± 24	<2	<3	<5	<3	<6	<5	<4	<3	<3	<4
	31-Oct-02	<120	350 ± 35	<4	<3	<8	<4	<7	<5	<4	<3	<4	<10
	07-Nov-02	<125	340 ± 60	<5	<5	<10	<6	<13	<8	<8	<6	<7	<7
	14-Nov-02	<125	332 ± 50	<6	<7	<12	<8	<14	<10	<10	<6	<6	<8
	19-Nov-02	<125	321 ± 39	<3	<4	<7	<3	<8	<6	<5	<5	<4	<7
	26-Nov-02	<124	369 ± 36	<4	<4	<8	<5	<8	<7	<6	<4	<4	<6
	03-Dec-02	<124	353 ± 37	<3	<3	<9	<4	<8	<6	<5	<5	<5	<4
	10-Dec-02	<118	430 ± 35	<4	<4	<10	<5	<10	<6	<5	<5	<4	<9
	17-Dec-02	<122	383 ± 41	<4	<3	<6	<5	<7	<6	<4	<5	<4	<8
	23-Dec-02	<122	366 ± 34	<4	<4	<7	<4	<9	<6	<5	<4	<4	<6
	30-Dec-02	<122	343 ± 35	<3	<4	<8	<4	<7	<6	<6	<4	<3	<4
H59	09-Oct-02	<127	349 ± 18	<1	<2	<4	<2	<4	<3	<3	<2	<2	<2
	13-Nov-02	<125	340 ± 31	<4	<3	<8	<5	<8	<7	<8	<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)

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

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>K-40</u>	<u>Mn-54</u>	<u>Co-58</u>	<u>Fe-59</u>	<u>Co-60</u>	<u>Zn-65</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ra-226</u>	<u>Ra-228</u>
H59	09-Oct-02	963 ± 156	<18	<15	<37	<23	<37	<23	<20	437 ± 149	<109

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

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

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>	<u>Pb-212</u>	<u>Ra-226</u>
H51	09-Oct-02	1313 ± 73	3119 ± 143	<23	<9	46 ± 7	<908	<33	<260
	13-Nov-02	644 ± 54	3787 ± 159	<11	<11	<13	<783	<29	<271
	03-Dec-02	780 ± 92	5120 ± 231	<20	<18	<17	<2642	<52	<379
H52	09-Oct-02	1051 ± 97	3493 ± 200	<29	<18	40 ± 15	<2821	<53	<373
	13-Nov-02	640 ± 63	3055 ± 173	<17	<18	<14	<2288	<47	<335
	03-Dec-02	468 ± 25	3460 ± 76	<7	<6	<6	<842	<17	<121
H59	09-Oct-02	1164 ± 100	3006 ± 176	<27	<14	<19	<2535	<44	<342
	13-Nov-02	598 ± 78	3947 ± 197	<14	<20	<18	<2404	<50	<290
	03-Dec-02	596 ± 23	4339 ± 63	<5	<4	<4	<238	<10	<84

4.c. MILK - (pCi/L)

<u>Sample Site</u>	<u>Collection Date</u>	<u>K-40</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ba-140</u> <u>La-140</u> (A)
H101	10-Dec-02	855 ± 43	<0.8	<6	26 ± 3	<13

(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.

ATTACHMENT C

RESULTS FROM THE INTERLABORATORY

COMPARISON PROGRAM 2002

DEPARTMENT OF ENERGY

QAP 56 , June 2002

AND

QAP 57, December 2002

DOE-QAP 56 RESULTS

Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation
Matrix: AI Air Filter Bq/filter						
AM241	0.110	0.026	0.088	0.005	1.246	A
CO60	34.370	0.180	30.520	0.652	1.126	W
CS137	29.210	0.160	28.230	0.701	1.035	A
GROSS ALPHA	0.440	0.020	0.534	0.053	0.824	W
GROSS BETA	1.220	0.030	1.300	0.130	0.936	A
MN54	87.870	0.290	38.530	0.867	2.281	N
Matrix: SO Soil Bq/kg						
AC228	47.200	0.820	51.167	1.941	0.922	A
AM241	0.650	0.010	10.927	0.373	0.059	N
BI212	59.570	3.280	53.430	5.215	1.115	A
BI214	49.850	0.400	53.933	2.249	0.924	A
CS137	1327.000	4.000	1326.670	66.510	1.000	A
K40	603.500	4.160	621.670	33.860	0.971	A
PB212	48.110	0.990	51.100	2.753	0.941	A
PB214	53.840	1.170	54.367	2.249	0.990	A
Matrix: VE Vegetation Bq/kg						
AM241	0.283	0.038	2.228	0.216	0.127	N
CO60	1.092	0.027	11.230	0.677	0.097	N
CS137	30.770	0.220	313.667	15.910	0.098	N
K40	82.940	1.480	864.330	47.220	0.096	N
Matrix: WA Water Bq/L						
AM241	1.920	0.250	1.474	0.021	1.303	W
CO60	345.100	0.420	347.330	12.400	0.994	A
CS134	3.440	0.160	3.357	0.200	1.025	A
CS137	57.300	0.230	56.067	2.929	1.022	A
GROSS BETA	1177.970	14.830	1030.000	103.000	1.144	A
H3	301.560	5.140	283.700	3.380	1.063	A
SR90	6.470	0.310	7.579	0.176	0.854	A

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

DOE-QAP 56 CORRECTED RESULTS

Radionuclide	EML Value	Initial Lab Results		Corrected lab Results	
		Reported Value	<u>Reported EML</u>	Reported Value	<u>Reported EML</u>
Matrix: AI Air Filter Bq/filter					
AM241	0.088	0.110	1.246	Not Applicable, was "A"	
CO60	30.520	34.370	1.126	30.200	0.989
CS137	28.230	29.210	1.035	Not Applicable, was "A"	
GROSS ALPHA	0.534	0.440	0.824	Not a REMP analysis	
GROSS BETA	1.300	1.220	0.936	Not Applicable, was "A"	
MN54	38.530	87.870	2.281	40.100	1.040
Matrix: VE Vegetation Bq/kg					
AM241	2.228	0.283	0.127	2.830	1.270
CO60	11.230	1.092	0.097	10.920	0.972
CS137	313.667	30.770	0.098	307.700	0.981
K40	864.330	82.940	0.096	829.400	0.960

corrected ratios are in the acceptable range.

DOE-QAP 57 RESULTS

Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation
Matrix: AI Air Filter Bq/filter						
AM241	0.220	0.010	0.190	0.004	1.154	A
CO60	24.650	3.100	23.000	0.059	1.072	A
CS137	36.310	0.740	32.500	0.777	1.117	A
MN54	58.590	1.070	52.200	1.170	1.122	A
 Matrix: SO Soil Bq/kg						
AC228	41.950	1.020	42.300	1.560	0.992	A
AM241	6.340	0.310	6.767	0.301	0.937	A
BI212	47.280	2.540	45.930	4.510	1.029	A
BI214	33.090	0.860	33.630	1.560	0.984	A
Bq U	97.210	5.100	87.210	7.300	1.115	W
CS137	884.300	19.380	829.330	41.580	1.066	A
K40	686.860	18.550	637.670	34.260	1.077	A
PB212	44.610	1.290	43.430	2.710	1.027	A
PB214	37.280	0.820	35.200	1.510	1.059	A
 Matrix: VE Vegetation Bq/kg						
AM241	2.600	0.200	2.253	0.100	1.154	A
CO60	9.200	0.300	9.660	0.630	0.952	A
CS137	294.000	6.000	300.670	15.250	0.978	A
K40	1463.000	40.000	1480.000	77.800	0.989	A
 Matrix: WA Water Bq/L						
AM241	3.340	0.490	3.043	0.082	1.097	A
CO60	276.300	0.590	268.670	9.710	1.028	A
CS134	59.010	0.310	60.200	1.860	0.980	A
CS137	86.050	0.500	81.430	4.280	1.057	A
GROSS BETA	744.630	10.940	900.000	90.000	0.827	A
H3	255.080	4.760	227.300	5.615	1.122	A
SR90	7.840	0.320	8.690	0.420	0.902	A

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