



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

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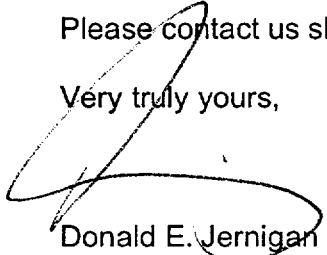
U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

RE: St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
Annual Radiological Environmental
Operating Report for Calendar Year 2001

The enclosed 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 2001.

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

Very truly yours,



Donald E. Jernigan
Vice President
St. Lucie Plant

DEJ/spt

Enclosure

IE25

2001

**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

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ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
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 Unit 1 and St. Lucie Unit 2 Offsite Dose Calculation Manual (ODCM) Control 3/4.12.1.

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

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D. Land Use Census

A land use census out to a distance of five miles 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 samples exhibited results in excess of the required LLD listed in ODCM Table 4.12-1. 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. Radioiodine 131 was reported in one crustacea sample; the level is well below a LLD extrapolated from ODCM Table 4.12-1. This result is suspected as being a false-positive or laboratory cross contamination. Review of field sampling and laboratory activities could not positively rule out the result; it is being presented to be consistent with the data in Attachment B. There were no other indications of any nuclides attributed to plant effluents. Results for the waterborne sediment, fish and crustacean samples are summarized in Table 1.

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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.

One control location sample indicated Cs-137. The level is less than 43% 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 four of the four sample results. The highest level was reported in the most recent result and exceeds the reporting level listed in ODCM Table 4.12-1. The presence of this nuclide is considered "weapons fallout"; the animal uptake is due to the foraging habits of the goat. 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. The goats identified last year have dwindled to one goat; milk sampling is continuing.

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 :

For those nuclides associated with nuclear power plant operation and using analytical methods used in the REMP, the results were acceptable for all but one matrix in one of two test sessions. The air filter matrix gamma spectroscopy results for QAP-55 were a combination of "Warning" and "Not Acceptable"; the laboratory results were high, above the limits. The gross beta analysis for the same specimen was acceptable.

Cause : The detector used was recently repaired and re-calibrated. An "end cap," used during air filter calibration and air filter counting, was improperly placed during calibration; it was properly placed during air filter counting.

Effect : Underestimated system efficiency resulting in over-estimating activity. Had there been any gamma emitters above LLD, the results would have been over-estimated; a conservative error.

The laboratory technician was counseled on the importance of maintaining consistent geometry between calibration and sample counting.

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.

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C. Conclusions

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

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

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
 Name of Facility St. Lucie Units 1 & 2, Docket No(s). 50-335 & 50-389
 Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2001
 (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, 106 ^d	---	5.0 (102/102) 4.2 - 6.5	SW-5 5 mi., SW	6.2 (4/4) 5.8 - 6.4	5.6 (4/4) 5.4 - 5.7

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, 2001
 (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, 260	0.024	<MDA	---	---	<MDA
Gross Beta, 260	0.0025	0.012 (194/208) 0.004 - 0.028	H-34 0.5 mi., N	0.014 (52/52) 0.004 - 0.027	0.014 (50/52) 0.005 - 0.029
Composite Gamma Isotopic, 20					
⁷ Be	0.0052	0.1320 (16/16) 0.0735 - 0.1810	H-34 0.5 mi., N	0.1552 (4/4) 0.1406 - 0.1810	0.1413 (4/4) 0.1276 - 0.1740
¹³⁴ Cs	0.00069	<MDA	---	---	<MDA
¹³⁷ Cs	0.00066	<MDA	---	---	<MDA
²¹⁰ Pb	---	0.0204 (7/16) 0.0147 - 0.0280	H-34 0.5 mi., N	0.0244 (2/4) 0.0208 - 0.0280	0.0208 (2/4) 0.0188 - 0.0228

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, 2001
 (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	79 (1/52)	H-15 <1 mi., ENE/E/ESE	79 (1/52)	<MDA
Gamma Isotopic, 64					
⁴⁰ K	60	352 (52/52) 275 - 475	H-15 <1 mi., ENE/E/ESE	352 (52/52) 275 - 475	364 (12/12) 319 - 412
⁵⁴ Mn	4	<MDA	---	---	<MDA
⁵⁹ Fe	8	<MDA	---	---	<MDA
⁵⁸ Co	4	<MDA	---	---	<MDA
⁶⁰ Co	4	<MDA	---	---	<MDA
⁶⁵ Zn	8	<MDA	---	---	<MDA
⁹⁵ Zr-Nb	7	<MDA	---	---	<MDA
¹³¹ I	5	<MDA	---	---	<MDA
¹³⁴ Cs	5	<MDA	---	---	<MDA
¹³⁷ Cs	5	<MDA	---	---	<MDA
¹⁴⁰ Ba-La	11	<MDA	---	---	<MDA

Number of Non-Routine Reported Measurements = 0

TABLE 1

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
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 Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2001
 (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	248 (2/2) 180 - 315	H-15 <1 mi, ENE/E/ESE	248 (2/2) 180 - 315	188 (2/2) 94 - 282
²¹⁰ Pb	---	304 (1/2)	H-15 <1 mi, ENE/E/ESE	304 (1/2)	706 (1/2)
²²⁶ Ra	49	156 (2/2) 89 - 223	H-15 <1 mi., ENE/E/ESE	156 (2/2) 89 - 223	406 (2/2) 191 - 670
²³² Th	---	<MDA	---	---	242 (1/2)
²³⁸ U	---	222 (1/2)	H-15 <1 mi., ENE/E/ESE	222 (1/2)	<MDA
⁵⁸ Co	9	<MDA	---	---	<MDA
⁶⁰ Co	12	<MDA	---	---	<MDA
¹³⁴ Cs	14	<MDA	---	---	<MDA
¹³⁷ Cs	12	<MDA	---	---	<MDA

Number of Non-Routine Reported Measurements = 0

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, 2001
 (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	1571 (2/2) 1315 - 1827	H-15 <1 mi., ENE/E/ESE	1571 (2/2) 1315 - 1827	1628 (2/2) 1218 - 2038
¹³¹ I	10	17 (1/2)	H-15 <1 mi., ENE/E/ESE	17 (1/2)	<MDA
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

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM ANNUAL SUMMARY
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 Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2001
 (County, State)

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

Type and Total Number of Analyses Performed	Lower Limit of Detection ^a (LLD)	All Indicator Locations Mean (f) ^b Range	Location with Highest Annual Mean		Control Locations Mean (f) ^b Range
			Name ^c	Mean (f) ^b	
			Distance & Direction	Range	
Gamma Isotopic, 4					
⁴⁰ K	130	2202 (2/2) 1678 - 2726	H-15 <1 mi., ENE/E/ESE	2202 (2/2) 1678 - 2726	2535 (2/2) 2416 - 2654
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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 Location of Facility St. Lucie, Florida, Reporting Period January 1 - December 31, 2001
 (County, State)

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

Type and Total Number of Analyses Performed	Lower Limit of Detection ^a (LLD)	All Indicator Locations Mean (f) ^b Range	Location with Highest Annual Mean		Control Locations Mean (f) ^b Range
			Name ^c	Mean (f) ^b	
			Distance & Direction	Range	
Gamma Isotopic, 36					
⁷ Be	71	1048 (24/24) 239 - 2797	H-52 1 mi., S/SSE	1136 (12/12) 569 - 2797	945 (12/12) 543 - 1703
⁴⁰ K	100	3809 (24/24) 2591 - 5082	H-51 1 mi., N/NNW	3983 (12/12) 2837 - 5082	3680 (12/12) 1881 - 4985
²¹⁰ Pb	---	1773 (4/24) 978 - 2939	H-52 1 mi., S/SSE	1773 (4/12) 978 - 2939	<MDA
²¹² Pb	---	25 (1/24)	H-51 1 mi., N/NNW	25 (1/12)	30 (1/2)A
¹³¹ I	9	<MDA	---	---	<MDA
¹³⁴ Cs	8	<MDA	---	---	<MDA
¹³⁷ Cs	8	<MDA	---	---	34 (1/12)

Number of Non-Routine Reported Measurements = 0

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(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		Control Locations Mean (f) ^b Range
			Name ^c	Mean (f) ^b	
			Distance & Direction	Range	
Gamma Isotopic, 4					
⁴⁰ K	60	1748 (4/4) 1511 - 2083	H-101 3.5 mi., WSW	1748 (4/4) 1511 - 2083	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	68 (4/4) 59 - 86	H-101 3.5 mi., WSWE	68 (4/4) 59 - 86	n/a

Number of Non-Routine Reported Measurements = 0

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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:	SSE-5, 5 miles south-southeast
	Dates:	First calendar quarter
	Deviation:	Failure to provide continuous monitoring
	Description of Problem:	TLD was not found when collection was attempted
	Corrective Action:	Deploy new TLD
B)	Pathway:	Direct Exposure
	Locations:	SW-10 , 10 miles southwest
	Dates:	Third calendar quarter
	Deviation:	Failure to provide continuous monitoring
	Description of Problem:	TLD was not found when collection was attempted
	Corrective Action:	Deploy new TLD

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TABLE 1B

ANALYSIS WITH LLDs ABOVE REQUIRED DETECTION CAPABILITIES
LLDs Listed in ODCM TABLE 4.12-1
1/1/2001 – 12/31/2001

A) LLD Not Achieved: I-131 in milk

Date: First quarter sample, 03/01/01

Sample Location: H-101, 3.5 miles west-southwest

Required LLD: 1 pCi/liter

Achieved LLD: 7 pCi/liter

Cause: Insufficient goat milk sample to permit chemical separation process used to achieve required LLD.
Results for I-131 reported as " < 7 pCi/liter " using gamma spectroscopy.

B) LLD Not Achieved: I-131 in milk

Date: Second quarter sample, 05/18/01

Sample Location: H-101, 3.5 miles west-southwest

Required LLD: 1 pCi/liter

Achieved LLD: 6 pCi/liter

Cause: Insufficient goat milk sample to permit chemical separation process used to achieve required LLD.
Results for I-131 reported as " < 6 pCi/liter " using gamma spectroscopy.

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

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TABLE 2

LAND USE CENSUS
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Distance to Nearest (a, b)

Sector	7/01 Milk (c) Animal	7/01 Residence	7/01 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	1.5/141 (g)	O
SSE	L (f)	3.3/153 (g)	L
S	L	3.6/190	L
SSW	L	2.3/214	L
SW	L	1.9/236	L
WSW	3.5/251 (i)	1.9/244 (h)	3.4/255 (j)
W	L	1.9/263	L
WNW	L	2.2/282	L
NW	L	3.1/304	L
NNW	L	3.4/346 (g)	L

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TABLE 2

LAND USE CENSUS
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NOTES

- a. All categories surveyed out to five miles 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 141 degrees is recorded as 1.5/141.

- 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>
SE	1.1/132	Lifeguard station at beach
SSE	1.8/149	Fire Station
NNW	2.8/348	A new community is being developed. At the current time, there are no houses available for occupancy.

- h. Several residences in this sector are located approximately 1.9 miles from the St. Lucie Plant.
- i. 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.
- j. 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.

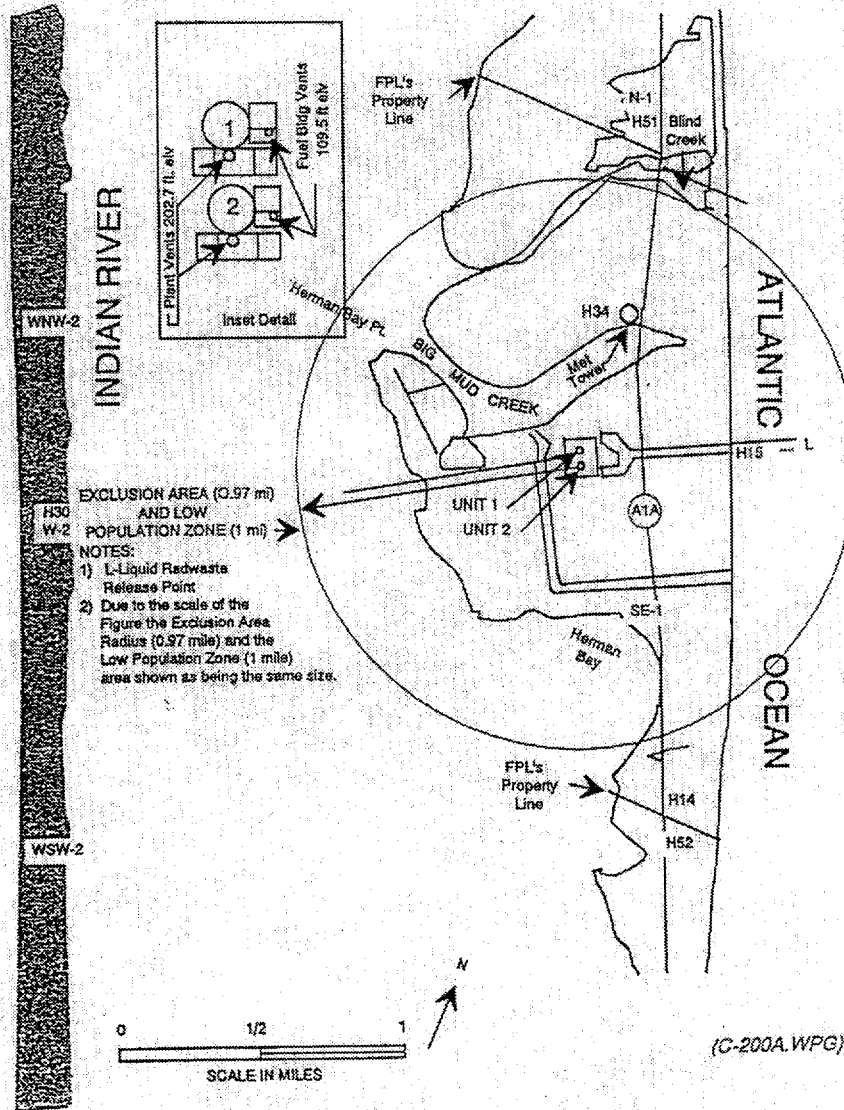
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ATTACHMENT A

KEY TO SAMPLE LOCATIONS

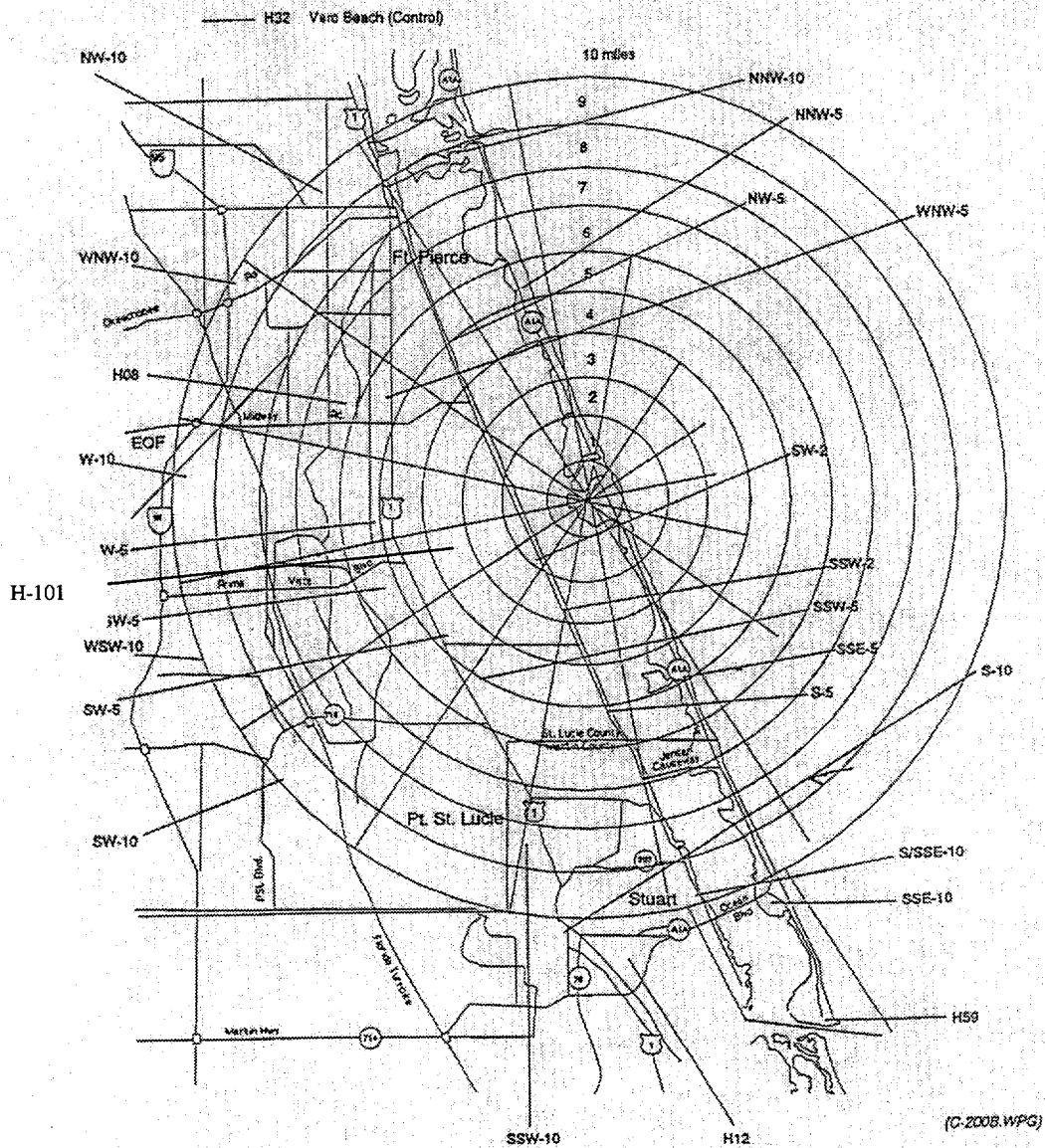
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SITE AREA MAP & ENVIRONMENTAL SAMPLE LOCATIONS



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ENVIRONMENTAL SAMPLE LOCATIONS (10 MILES)



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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

PAGE 2 OF 4

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

Control:

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

Control:

H-59	S/SSE	10-20	South End, Hutchinson Island
------	-------	-------	------------------------------

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

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

Control:

H-59	S/SSE	10-20	South End, Hutchinson Island
------	-------	-------	------------------------------

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

2001

First Quarter 2001

Second Quarter 2001

Third Quarter 2001

Fourth Quarter 2001

ST. LUCIE SITE

Technical Specifications Sampling

First Quarter, 2001

<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	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
			188
			Total: 188

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

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

<u>Sample Site</u>	<u>Deployment 19-Dec-00 Collection 27-Mar-01</u>	<u>Sample Site</u>	<u>Deployment 19-Dec-00 Collection 27-Mar-01</u>
N-1	4.9 ± 0.2	SW-2	4.9 ± 0.2
NNW-5	5.0 ± 0.2	SW-5	6.3 ± 0.2
NNW-10	5.2 ± 0.2	SW-10	5.0 ± 0.2
NW-5	5.1 ± 0.2	SSW-2	4.8 ± 0.2
NW-10	6.2 ± 0.2	SSW-5	5.1 ± 0.2
		SSW-10	5.5 ± 0.2
WNW-2	5.2 ± 0.2		
WNW-5	4.8 ± 0.2	S-5	5.2 ± 0.2
WNW-10	5.1 ± 0.2	S-10	4.8 ± 0.2
		S/SSE-10	4.8 ± 0.2
W-2	4.8 ± 0.2		
W-5	5.3 ± 0.2	SSE-5	(A)
W-10	5.5 ± 0.2	SSE-10	5.1 ± 0.2
WSW-2	4.9 ± 0.2	SE-1	4.9 ± 0.2
WSW-5	5.0 ± 0.2		
WSW-10	4.4 ± 0.2	H-32	5.7 ± 0.2

(A)-TLD from site SSE-5 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-Jan-01	<0.02	<0.01	<0.01	<0.02	<0.01
08-Jan-01	<0.02	<0.02	<0.02	<0.02	<0.02
17-Jan-01	<0.01	<0.01	<0.01	<0.01	<0.01
25-Jan-01	<0.02	<0.01	<0.01	<0.01	<0.02
30-Jan-01	<0.01	<0.01	<0.01	<0.01	<0.01
05-Feb-01	<0.03	<0.03	<0.03	<0.03	<0.03
14-Feb-01	<0.01	<0.01	<0.01	<0.01	<0.01
20-Feb-01	<0.02	<0.02	<0.02	<0.02	<0.02
01-Mar-01	<0.02	<0.02	<0.02	<0.02	<0.01
08-Mar-01	<0.02	<0.02	<0.02	<0.02	<0.02
14-Mar-01	<0.03	<0.03	<0.03	<0.03	<0.03
20-Mar-01	<0.02	<0.02	<0.02	<0.02	<0.02
27-Mar-01	<0.02	<0.02	<0.02	<0.02	<0.02

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>
03-Jan-01	0.017 ± 0.002	0.017 ± 0.002	0.013 ± 0.002	0.011 ± 0.002	0.018 ± 0.002
08-Jan-01	0.019 ± 0.003	0.021 ± 0.003	0.020 ± 0.003	0.008 ± 0.002	0.019 ± 0.003
17-Jan-01	0.013 ± 0.002	0.013 ± 0.002	0.013 ± 0.002	0.008 ± 0.001	0.016 ± 0.002
25-Jan-01	0.013 ± 0.002	0.011 ± 0.002	0.012 ± 0.002	0.004 ± 0.001	0.012 ± 0.002
30-Jan-01	0.020 ± 0.003	0.019 ± 0.003	0.012 ± 0.003	0.014 ± 0.003	0.021 ± 0.003
05-Feb-01	0.014 ± 0.002	0.019 ± 0.002	0.016 ± 0.002	0.011 ± 0.002	0.017 ± 0.002
14-Feb-01	0.015 ± 0.002	0.014 ± 0.002	0.012 ± 0.002	0.014 ± 0.002	0.011 ± 0.002
20-Feb-01	0.013 ± 0.002	0.016 ± 0.002	0.012 ± 0.002	0.009 ± 0.002	0.020 ± 0.003
01-Mar-01	0.012 ± 0.002	0.015 ± 0.002	0.010 ± 0.002	0.010 ± 0.002	0.014 ± 0.002
08-Mar-01	0.017 ± 0.002	0.014 ± 0.002	0.014 ± 0.002	0.014 ± 0.002	0.012 ± 0.002
14-Mar-01	0.017 ± 0.003	0.017 ± 0.003	0.019 ± 0.003	0.016 ± 0.003	0.016 ± 0.002
20-Mar-01	0.010 ± 0.002	0.016 ± 0.002	0.013 ± 0.002	0.009 ± 0.002	0.014 ± 0.002
27-Mar-01	0.016 ± 0.002	0.016 ± 0.002	0.012 ± 0.002	0.010 ± 0.002	0.012 ± 0.002
Mean:	0.015 ± 0.001	0.016 ± 0.001	0.014 ± 0.001	0.011 ± 0.001	0.016 ± 0.001

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

First Quarter, 2001

<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	0.1344 ± 0.0094	<0.0165	<0.0010	<0.0009	0.0172 ± 0.0036
H12	0.1284 ± 0.0090	<0.0061	<0.0007	<0.0007	0.0188 ± 0.0035
H14	0.1273 ± 0.0111	<0.0173	<0.0008	<0.0009	0.0195 ± 0.0035
H30	0.0985 ± 0.0093	<0.0202	<0.0011	<0.0006	0.0147 ± 0.0028
H34	0.1406 ± 0.0099	<0.0177	<0.0006	<0.0007	0.0208 ± 0.0034

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

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
H15	03-Jan-01	<125	475 ± 36	<3	<3	<8	<4	<8	<7	<7	<5	<4	<7
	08-Jan-01	<125	305 ± 30	<4	<4	<6	<4	<8	<6	<8	<4	<4	<6
	17-Jan-01	<124	356 ± 33	<4	<4	<8	<4	<6	<6	<5	<4	<4	<7
	25-Jan-01	<117	296 ± 33	<4	<4	<6	<4	<8	<5	<5	<4	<4	<6
	30-Jan-01	<117	392 ± 34	<3	<4	<7	<5	<9	<6	<5	<4	<4	<6
	05-Feb-01	<123	420 ± 38	<4	<3	<7	<5	<8	<6	<4	<4	<4	<8
	14-Feb-01	<123	303 ± 31	<4	<4	<9	<4	<8	<6	<4	<4	<4	<5
	20-Feb-01	<123	324 ± 34	<3	<4	<7	<4	<7	<7	<6	<4	<5	<5
	01-Mar-01	<122	324 ± 34	<4	<4	<8	<4	<9	<7	<6	<4	<4	<6
	08-Mar-01	<122	388 ± 34	<3	<4	<6	<3	<9	<6	<4	<4	<4	<9
	14-Mar-01	<122	386 ± 34	<4	<3	<6	<5	<8	<6	<4	<5	<4	<9
	20-Mar-01	<122	349 ± 37	<4	<4	<7	<4	<9	<6	<8	<5	<4	<4
	27-Mar-01	<122	342 ± 37	<4	<4	<8	<4	<7	<7	<5	<4	<4	<8
H59	18-Jan-01	<124	375 ± 36	<2	<3	<5	<3	<6	<4	<4	<3	<3	<4
	06-Feb-01	<123	366 ± 36	<4	<4	<5	<5	<6	<6	<5	<4	<4	<4
	28-Mar-01	<122	404 ± 35	<4	<4	<7	<4	<9	<5	<6	<4	<4	<4

(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	06-Feb-01	<29	315 ± 21	<3	<3	<4	<3	304 ± 100	223 ± 9	<22	222 ± 35
H59	06-Feb-01	<89	282 ± 51	<9	<9	<10	<10	706 ± 325	670 ± 34	242 ± 17	<612

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>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ra-226</u>	<u>Ra-228</u>
H15	31-Jan-01	1315 ± 145	<15	<14	<35	<22	<46	17 ± 7	<19	<20	<348	<73
H59	31-Jan-01	2038 ± 174	<17	<16	<37	<25	<39	<29	<22	<16	<358	<101

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	31-Jan-01	2726 ± 98	<8	<8	<17	<9	<18	<9	<9	<150	<34
H59	31-Jan-01	2654 ± 193	<17	<14	<42	<23	<51	<24	<16	<331	<83

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	18-Jan-01	1030 ± 57	3194 ± 139	<8	<8	<8	<697	<182
	06-Feb-01	1275 ± 70	3725 ± 159	<12	<10	<11	<974	<291
	28-Mar-01	720 ± 65	4605 ± 170	<18	<14	<12	<896	<295
H52	18-Jan-01	1115 ± 74	2776 ± 129	<6	<8	<7	978 ± 390	<166
	06-Feb-01	569 ± 67	4868 ± 174	<12	<14	<9	2939 ± 395	<243
	28-Mar-01	949 ± 63	2591 ± 126	<18	<13	<13	1524 ± 313	<280
H59	18-Jan-01	1133 ± 68	4130 ± 153	<9	<9	<10	<658	<175
	06-Feb-01	1031 ± 74	2763 ± 133	<11	<12	<14	<1065	<273
	28-Mar-01	870 ± 57	3298 ± 137	<16	<11	<13	<787	<248

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	01-Mar-01	1511 ± 62	<7	<4	62 ± 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, 2001

<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
			<hr/>
			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 - (μ R/hour)

Sample Site	Deployment 27-Mar-01 Collection 19-Jun-01	Sample Site	Deployment 27-Mar-01 Collection 19-Jun-01
N-1	4.8 \pm 0.2	SW-2	4.6 \pm 0.2
NNW-5	4.7 \pm 0.2	SW-5	5.8 \pm 0.2
NNW-10	4.9 \pm 0.2	SW-10	4.7 \pm 0.2
NW-5	4.9 \pm 0.2	SSW-2	4.7 \pm 0.2
NW-10	5.8 \pm 0.2	SSW-5	4.8 \pm 0.2
WNW-2	4.5 \pm 0.2	SSW-10	5.0 \pm 0.2
WNW-5	4.8 \pm 0.2	S-5	4.8 \pm 0.2
WNW-10	4.7 \pm 0.2	S-10	4.5 \pm 0.2
W-2	4.7 \pm 0.2	S/SSE-10	4.5 \pm 0.2
W-5	5.0 \pm 0.2	SSE-5	4.5 \pm 0.2
W-10	4.9 \pm 0.2	SSE-10	4.7 \pm 0.2
WSW-2	4.8 \pm 0.2	SE-1	4.3 \pm 0.2
WSW-5	4.6 \pm 0.2	H-32	5.4 \pm 0.2
WSW-10	4.2 \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>
05-Apr-01	<0.01	<0.01	<0.01	<0.01	<0.01
11-Apr-01	<0.02	<0.01	<0.02	<0.02	<0.02
19-Apr-01	<0.01	<0.01	<0.01	<0.01	<0.01
25-Apr-01	<0.02	<0.02	<0.02	<0.02	<0.02
02-May-01	<0.03	<0.03	<0.03	<0.03	<0.03
08-May-01	<0.03	<0.03	<0.03	<0.03	<0.03
16-May-01	<0.02	<0.02	<0.02	<0.03	<0.02
23-May-01	<0.04	<0.04	<0.04	<0.04	<0.04
30-May-01	<0.02	<0.02	<0.02	<0.02	<0.02
05-Jun-01	<0.03	<0.03	<0.03	<0.03	<0.03
12-Jun-01	<0.03	<0.03	<0.03	<0.03	<0.03
19-Jun-01	<0.02	<0.02	<0.02	<0.02	<0.02
25-Jun-01	<0.04	<0.04	<0.04	<0.04	<0.04

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

Collection Date	Sample Site				
	H08	H12	H14	H30	H34
05-Apr-01	<0.004	0.019 ± 0.002	0.010 ± 0.002	0.015 ± 0.002	0.017 ± 0.002
11-Apr-01	0.017 ± 0.002	0.018 ± 0.002	0.012 ± 0.002	0.004 ± 0.002	0.015 ± 0.002
19-Apr-01	0.010 ± 0.002	0.014 ± 0.002	0.012 ± 0.002	0.016 ± 0.002	0.016 ± 0.002
25-Apr-01	0.019 ± 0.003	0.012 ± 0.002	0.014 ± 0.002	<0.007	0.016 ± 0.002
02-May-01	0.015 ± 0.002	0.018 ± 0.002	0.018 ± 0.002	0.015 ± 0.002	0.019 ± 0.002
08-May-01	0.028 ± 0.003	0.022 ± 0.003	0.016 ± 0.002	0.014 ± 0.002	0.027 ± 0.003
16-May-01	0.014 ± 0.002	0.017 ± 0.002	0.013 ± 0.002	0.012 ± 0.002	0.019 ± 0.002
23-May-01	0.023 ± 0.002	0.017 ± 0.002	0.011 ± 0.002	0.005 ± 0.002	0.015 ± 0.002
30-May-01	0.009 ± 0.002	0.010 ± 0.002	0.012 ± 0.002	0.008 ± 0.002	0.010 ± 0.002
05-Jun-01	0.010 ± 0.002	0.016 ± 0.002	0.014 ± 0.002	0.011 ± 0.002	0.015 ± 0.002
12-Jun-01	0.011 ± 0.002	0.012 ± 0.002	0.008 ± 0.002	0.008 ± 0.002	0.010 ± 0.002
19-Jun-01	0.023 ± 0.003	0.019 ± 0.002	0.014 ± 0.002	0.014 ± 0.002	0.022 ± 0.003
25-Jun-01	0.007 ± 0.002	0.008 ± 0.002	0.009 ± 0.002	0.007 ± 0.002	0.010 ± 0.002
Mean:	<0.015	0.016 ± 0.001	0.013 ± 0.001	<0.010	0.016 ± 0.001

2.b.2. AIR PARTICULATES GAMMA ANALYSIS OF QUARTERLY COMPOSITES (pCi/m³)Second Quarter, 2001

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
H08	0.1600 ± 0.0139	<0.0299	<0.0022	<0.0009	<0.0687
H12	0.1740 ± 0.0168	<0.0324	<0.0015	<0.0013	<0.0518
H14	0.1518 ± 0.0152	<0.0317	<0.0011	<0.0014	<0.0582
H30	0.1208 ± 0.0150	<0.0325	<0.0018	<0.0014	<0.0554
H34	0.1810 ± 0.0159	<0.0290	<0.0017	<0.0010	<0.0425

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	05-Apr-01	<124	361 ± 30	<4	<4	<6	<5	<9	<6	<6	<4	<3	<4
	11-Apr-01	<124	336 ± 34	<4	<4	<8	<4	<8	<6	<4	<5	<4	<6
	19-Apr-01	<124	313 ± 42	<5	<6	<10	<6	<11	<10	<7	<6	<5	<7
	25-Apr-01	<124	377 ± 49	<6	<6	<13	<5	<11	<11	<8	<7	<5	<10
	02-May-01	<121	358 ± 43	<5	<7	<12	<6	<13	<10	<7	<7	<5	<11
	08-May-01	<121	353 ± 45	<6	<6	<11	<6	<11	<10	<7	<6	<5	<6
	16-May-01	<121	295 ± 56	<6	<6	<13	<4	<13	<10	<9	<7	<6	<7
	24-May-01	<121	337 ± 45	<5	<5	<13	<7	<11	<9	<9	<6	<6	<10
	30-May-01	<120	342 ± 50	<7	<6	<11	<6	<12	<9	<8	<7	<6	<8
	05-Jun-01	<120	368 ± 53	<7	<6	<12	<7	<14	<9	<9	<7	<6	<10
	12-Jun-01	79 ± 38	357 ± 25	<2	<3	<6	<3	<5	<5	<4	<3	<2	<3
	19-Jun-01	<119	385 ± 47	<5	<5	<11	<5	<16	<11	<6	<6	<7	<14
	25-Jun-01	<119	348 ± 46	<5	<5	<11	<7	<11	<10	<5	<7	<5	<12
H59	12-Apr-01	<124	319 ± 32	<4	<3	<7	<3	<7	<5	<4	<3	<4	<7
	23-May-01	<121	364 ± 54	<4	<6	<13	<5	<13	<9	<5	<7	<6	<12
	05-Jun-01	<120	354 ± 42	<5	<5	<11	<6	<13	<9	<10	<6	<6	<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>
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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>Ra-226</u>
H51	12-Apr-01	978 ± 68	3743 ± 145	<13	<13	<9	<859	<255
	24-May-01	993 ± 36	2862 ± 87	<7	<7	<8	<832	<157
	05-Jun-01	702 ± 89	5047 ± 226	<25	<21	<18	<1866	<350
H52	12-Apr-01	1061 ± 62	3351 ± 144	<15	<11	<10	<784	<282
	24-May-01	1476 ± 121	3525 ± 196	<15	<19	<11	<2279	<352
	05-Jun-01	959 ± 79	4035 ± 203	<18	<17	<16	<1882	<320
H59	12-Apr-01	1012 ± 79	3141 ± 141	<16	<12	<12	<893	<260
	23-May-01	665 ± 85	4039 ± 202	<16	<12	<18	<1927	<330
	05-Jun-01	812 ± 84	3310 ± 184	<21	<14	34 ± 8	<1867	<321

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	18-May-01	1773 ± 45	<6 (B)	<4	59 ± 3	<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.
- (B) - The sample volume for this analysis was smaller than usual. The individual donating the sample spilled the majority of the milk the day that BRC was picking up the sample.

ST. LUCIE SITE

Offsite Dose Calculation Manual Specification Sampling

Third Quarter, 2001

<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	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. Food Products			
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 - ($\mu\text{R}/\text{hour}$)

Sample Site	Deployment 19-Jun-01 Collection 05-Sep-01	Sample Site	Deployment 19-Jun-01 Collection 05-Sep-01
N-1	4.8 ± 0.2	SW-2	4.9 ± 0.2
NNW-5	4.7 ± 0.2	SW-5	6.1 ± 0.2
NNW-10	4.9 ± 0.2	SW-10	(A)
NW-5	4.9 ± 0.2	SSW-2	4.6 ± 0.2
NW-10	6.0 ± 0.2	SSW-5	5.1 ± 0.2
WNW-2	4.5 ± 0.2	SSW-10	5.2 ± 0.2
WNW-5	4.8 ± 0.2	S-5	4.7 ± 0.2
WNW-10	4.5 ± 0.2	S-10	5.0 ± 0.2
W-2	4.6 ± 0.2	S/SSE-10	4.8 ± 0.2
W-5	4.7 ± 0.2	SSE-5	4.5 ± 0.2
W-10	4.9 ± 0.2	SSE-10	5.4 ± 0.2
WSW-2	4.7 ± 0.2	SE-1	4.5 ± 0.2
WSW-5	4.7 ± 0.2	H-32	5.7 ± 0.2
WSW-10	4.4 ± 0.2		

(A) – Site SW-10 TLD was missing upon collection attempt. 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-Jul-01	<0.03	<0.03	<0.03	<0.03	<0.03
10-Jul-01	<0.02	<0.02	<0.02	<0.02	<0.02
18-Jul-01	<0.02	<0.02	<0.02	<0.02	<0.02
24-Jul-01	<0.02	<0.02	<0.02	<0.02	<0.02
01-Aug-01	<0.02	<0.02	<0.02	<0.02	<0.02
08-Aug-01	<0.01	<0.01	<0.01	<0.01	<0.01
14-Aug-01	<0.02	<0.02	<0.02	<0.02	<0.02
22-Aug-01	<0.01	<0.01	<0.01	<0.01	<0.01
30-Aug-01	<0.01	<0.01	<0.01	<0.01	<0.01
05-Sep-01	<0.02	<0.02	<0.01	<0.02	<0.01
11-Sep-01	<0.02	<0.02	<0.03	<0.03	<0.03
20-Sep-01	<0.02	<0.02	<0.02	<0.02	<0.02
25-Sep-01	<0.03	<0.03	<0.03	<0.03	<0.03

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

Collection Date	Sample Site				
	H08	H12	H14	H30	H34
03-Jul-01	0.010 ± 0.002	0.007 ± 0.002	0.005 ± 0.001	<0.007	0.007 ± 0.002
10-Jul-01	0.008 ± 0.002	0.009 ± 0.002	0.006 ± 0.002	0.004 ± 0.002	0.011 ± 0.002
18-Jul-01	0.010 ± 0.002	0.010 ± 0.002	0.006 ± 0.002	0.006 ± 0.002	0.010 ± 0.002
24-Jul-01	0.006 ± 0.002	0.005 ± 0.002	0.005 ± 0.002	<0.008	0.007 ± 0.002
01-Aug-01	0.008 ± 0.002	0.016 ± 0.002	0.013 ± 0.002	0.005 ± 0.001	0.015 ± 0.002
08-Aug-01	0.014 ± 0.002	0.008 ± 0.002	0.007 ± 0.002	0.005 ± 0.002	0.011 ± 0.002
14-Aug-01	0.007 ± 0.002	0.014 ± 0.002	0.011 ± 0.002	0.008 ± 0.002	0.011 ± 0.002
22-Aug-01	0.006 ± 0.002	0.012 ± 0.002	0.010 ± 0.002	<0.006	0.013 ± 0.002
30-Aug-01	0.012 ± 0.002	0.016 ± 0.002	0.010 ± 0.002	0.012 ± 0.002	0.015 ± 0.002
05-Sep-01	<0.008	0.008 ± 0.002	0.006 ± 0.002	0.006 ± 0.002	0.006 ± 0.002
11-Sep-01	0.004 ± 0.002	<0.009	0.004 ± 0.002	<0.009	0.004 ± 0.002
20-Sep-01	0.008 ± 0.002	0.008 ± 0.002	0.011 ± 0.002	<0.006	0.011 ± 0.002
25-Sep-01	0.017 ± 0.003	0.016 ± 0.003	0.012 ± 0.003	0.010 ± 0.003	0.017 ± 0.003
Mean:	<0.009	<0.011	0.008 ± 0.001	<0.007	0.011 ± 0.001

2.b.2. AIR PARTICULATES GAMMA ANALYSIS OF QUARTERLY COMPOSITES (pCi/m³)Third Quarter, 2001

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
H08	0.1109 ± 0.0127	<0.0228	<0.0016	<0.0011	0.0195 ± 0.0049
H12	0.1352 ± 0.0128	<0.0229	<0.0018	<0.0015	0.0228 ± 0.0049
H14	0.1316 ± 0.0130	<0.0236	<0.0017	<0.0012	0.0306 ± 0.0031
H30	0.0735 ± 0.0117	<0.0252	<0.0016	<0.0012	<0.0127
H34	0.1503 ± 0.0146	<0.0260	<0.0013	<0.0013	0.0280 ± 0.0065

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-01	<119	344 ± 26	<2	<3	<5	<3	<6	<5	<4	<3	<2	<3
	10-Jul-01	<119	382 ± 47	<5	<6	<14	<6	<9	<12	<7	<6	<5	<11
	18-Jul-01	<118	332 ± 49	<7	<6	<12	<7	<12	<12	<8	<6	<6	<8
	24-Jul-01	<118	364 ± 42	<5	<5	<11	<6	<12	<10	<7	<6	<6	<14
	01-Aug-01	<122	275 ± 37	<3	<4	<7	<4	<9	<8	<5	<5	<4	<4
	08-Aug-01	<122	342 ± 32	<4	<4	<6	<5	<8	<7	<5	<4	<5	<4
	14-Aug-01	<122	330 ± 32	<3	<3	<7	<5	<8	<7	<5	<4	<5	<9
	22-Aug-01	<122	340 ± 35	<4	<3	<6	<5	<7	<7	<5	<4	<5	<9
	30-Aug-01	<121	365 ± 35	<4	<4	<6	<5	<8	<6	<6	<5	<5	<5
	06-Sep-01	<121	409 ± 37	<4	<4	<8	<5	<7	<6	<6	<4	<5	<7
	11-Sep-01	<121	343 ± 33	<4	<4	<6	<4	<6	<7	<5	<4	<4	<9
	20-Sep-01	<121	309 ± 33	<4	<4	<7	<5	<9	<8	<5	<5	<5	<6
	25-Sep-01	<120	369 ± 33	<4	<4	<9	<5	<7	<7	<4	<5	<4	<9
H59	03-Jul-01	<119	410 ± 44	<5	<6	<12	<6	<11	<9	<10	<6	<6	<7
	09-Aug-01	<122	325 ± 47	<5	<6	<9	<5	<10	<6	<6	<6	<6	<7
	06-Sep-01	<121	342 ± 36	<4	<4	<11	<5	<9	<5	<7	<3	<4	<5

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

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

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

<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	09-Aug-01	<48	180 ± 31	<4	<6	<6	<5	<1813	89 ± 14	<31	<31
H59	09-Aug-01	<46	94 ± 26	<5	<4	<5	<5	<1563	141 ± 12	<31	<31

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	20-Sep-01	1827 ± 122	<13	<13	<26	<14	<29	<15	<13	<249	<61
H59	08-Aug-01	1218 ± 122	<14	<17	<32	<16	<36	<19	<20	<314	<86

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	20-Sep-01	1678 ± 208	<23	<19	<49	<24	<36	<26	<20	<402	<107
H59	21-Sep-01	2416 ± 227	<22	<19	<43	<28	<63	<21	<23	<384	<68

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	03-Jul-01	919 ± 84	3562 ± 167	<30	<14	<16	<797	<28	<384
	09-Aug-01	1125 ± 75	4864 ± 221	<12	<16	<17	<1564	25 ± 12	<342
	06-Sep-01	239 ± 56	5068 ± 184	<14	<9	<13	<801	<20	<254
H52	03-Jul-01	904 ± 75	4649 ± 196	<26	<16	<16	<920	<29	<393
	09-Aug-01	923 ± 72	3979 ± 155	<9	<12	<11	<703	<22	<289
	06-Sep-01	705 ± 56	3683 ± 148	<13	<11	<12	<730	<19	<248
H59	03-Jul-01	620 ± 113	1881 ± 162	<35	<20	<19	<2010	<30	<401
	09-Aug-01	853 ± 78	4503 ± 217	<13	<16	<18	<1532	30 ± 10	<328
	06-Sep-01	543 ± 58	4985 ± 184	<14	<12	<14	<744	<21	<282

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-Aug-01	2083 ± 95	<0.1	<7	64 ± 5	<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, 2001

<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 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 05-Sep-01 Collection 05-Dec-01	Sample Site	Deployment 05-Sep-01 Collection 05-Dec-01
N-1	5.0 ± 0.2	SW-2	5.3 ± 0.2
NNW-5	5.0 ± 0.2	SW-5	6.4 ± 0.2
NNW-10	5.4 ± 0.2	SW-10	5.2 ± 0.2
NW-5	5.3 ± 0.2	SSW-2	4.7 ± 0.2
NW-10	6.5 ± 0.2	SSW-5	5.4 ± 0.2
WNW-2	5.3 ± 0.2	SSW-10	5.6 ± 0.2
WNW-5	5.1 ± 0.2	S-5	5.2 ± 0.2
WNW-10	5.2 ± 0.2	S-10	4.9 ± 0.2
W-2	5.0 ± 0.2	S/SSE-10	5.0 ± 0.2
W-5	5.4 ± 0.2	SSE-5	4.8 ± 0.2
W-10	5.3 ± 0.2	SSE-10	(A) 5.5 ± 0.2
WSW-2	5.1 ± 0.2	SE-1	4.8 ± 0.2
WSW-5	5.1 ± 0.2	H-32	5.7 ± 0.2
WSW-10	4.6 ± 0.2		

(A) – Site SSE-10 Readings adjusted due to suspect TLD

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

<u>Collection Date</u>	<u>H08</u>	<u>H12</u>	<u>H14</u>	<u>H30</u>	<u>H34</u>
02-Oct-01	<0.02	<0.02	<0.02	<0.02	<0.02
11-Oct-01	<0.02	<0.02	<0.02	<0.02	<0.02
16-Oct-01	<0.02	<0.02	<0.02	<0.02	<0.02
23-Oct-01	<0.02	<0.02	<0.02	<0.02	<0.02
30-Oct-01	<0.02	<0.02	<0.02	<0.02	<0.02
07-Nov-01	<0.03	<0.03	<0.03	<0.03	<0.03
13-Nov-01	<0.03	<0.03	<0.03	<0.03	<0.03
20-Nov-01	<0.03	<0.03	<0.03	<0.03	<0.03
27-Nov-01	<0.03	<0.02	<0.02	<0.03	<0.02
04-Dec-01	<0.02	<0.02	<0.02	<0.02	<0.02
11-Dec-01	<0.02	<0.02	<0.02	<0.02	<0.02
17-Dec-01	<0.03	<0.03	<0.03	<0.03	<0.03
26-Dec-01	<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
02-Oct-01	0.011 ± 0.002	0.007 ± 0.002	<0.008	<0.008	0.008 ± 0.002
11-Oct-01	0.014 ± 0.002	0.013 ± 0.002	0.013 ± 0.002	0.012 ± 0.002	0.015 ± 0.002
16-Oct-01	0.013 ± 0.003	0.010 ± 0.002	0.005 ± 0.002	<0.008	0.012 ± 0.002
23-Oct-01	0.007 ± 0.002	0.005 ± 0.002	0.007 ± 0.002	<0.008	0.010 ± 0.002
30-Oct-01	0.014 ± 0.002	0.011 ± 0.002	0.007 ± 0.002	0.005 ± 0.002	0.010 ± 0.002
07-Nov-01	0.013 ± 0.002	0.016 ± 0.002	0.015 ± 0.002	0.011 ± 0.002	0.019 ± 0.002
13-Nov-01	0.027 ± 0.003	0.029 ± 0.003	0.023 ± 0.003	0.020 ± 0.003	0.026 ± 0.003
20-Nov-01	0.012 ± 0.002	0.009 ± 0.002	0.008 ± 0.002	0.008 ± 0.002	0.012 ± 0.002
27-Nov-01	0.014 ± 0.002	0.014 ± 0.002	0.015 ± 0.002	0.011 ± 0.002	0.015 ± 0.002
04-Dec-01	0.017 ± 0.002	0.012 ± 0.002	0.012 ± 0.002	0.008 ± 0.002	0.014 ± 0.002
11-Dec-01	0.004 ± 0.002	<0.008	0.006 ± 0.002	<0.007	0.006 ± 0.002
17-Dec-01	0.007 ± 0.002	0.010 ± 0.002	0.006 ± 0.002	<0.007	0.008 ± 0.002
26-Dec-01	0.021 ± 0.002	0.019 ± 0.002	0.015 ± 0.002	0.015 ± 0.002	0.018 ± 0.002
Mean:	0.013 ± 0.001	<0.013	<0.011	<0.010	0.014 ± 0.001

2.b.2. AIR PARTICULATES GAMMA ANALYSIS OF QUARTERLY COMPOSITES (pCi/m³)
Fourth Quarter, 2001

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
H08	0.1620 ± 0.0171	<0.0253	<0.0012	<0.0010	<0.0470
H12	0.1276 ± 0.0131	<0.0311	<0.0013	<0.0014	<0.0417
H14	0.1300 ± 0.0143	<0.0223	<0.0016	<0.0013	<0.0483
H30	0.0900 ± 0.0124	<0.0185	<0.0013	<0.0011	<0.0507
H34	0.1488 ± 0.0142	<0.0252	<0.0018	<0.0013	<0.0506

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

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95	I-131	Cs-134	Cs-137	Ba-140
									Nb-95 (A)				La-140 (B)
H15	02-Oct-01	<123	399 ± 35	<4	<4	<8	<5	<7	<7	<7	<4	<4	<5
	11-Oct-01	<123	352 ± 33	<3	<3	<8	<5	<9	<7	<6	<5	<4	<5
	16-Oct-01	<123	406 ± 39	<3	<3	<7	<4	<8	<7	<4	<4	<4	<9
	23-Oct-01	<123	339 ± 34	<4	<4	<8	<5	<8	<7	<4	<4	<5	<10
	30-Oct-01	<122	356 ± 35	<4	<4	<6	<4	<8	<6	<4	<4	<4	<9
	07-Nov-01	<120	341 ± 36	<4	<4	<9	<5	<8	<6	<8	<4	<4	<3
	13-Nov-01	<119	344 ± 36	<4	<4	<8	<4	<9	<6	<5	<4	<4	<6
	20-Nov-01	<122	392 ± 35	<4	<4	<6	<5	<9	<7	<11	<5	<5	<5
	27-Nov-01	<119	330 ± 35	<4	<4	<7	<5	<7	<8	<5	<4	<5	<10
	04-Dec-01	<119	316 ± 40	<4	<4	<8	<4	<10	<8	<7	<4	<4	<6
	11-Dec-01	<123	397 ± 37	<4	<4	<11	<4	<9	<9	<9	<6	<5	<8
	17-Dec-01	<123	309 ± 51	<5	<5	<8	<5	<13	<7	<5	<6	<4	<12
	26-Dec-01	<123	341 ± 24	<3	<2	<5	<3	<5	<4	<3	<3	<3	<5
H59	02-Oct-01	<123	363 ± 35	<4	<4	<8	<3	<11	<8	<7	<4	<4	<6
	08-Nov-01	<120	330 ± 34	<4	<4	<9	<4	<9	<8	<9	<4	<5	<6
	04-Dec-01	<121	412 ± 40	<4	<4	<9	<4	<8	<7	<7	<4	<5	<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)

<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	02-Oct-01	1101 ± 88	5082 ± 192	<16	<15	<13	<1027	<29	<337
	08-Nov-01	990 ± 34	2837 ± 66	<8	<6	<6	<339	<9	<132
	04-Dec-01	1449 ± 90	3208 ± 156	<14	<15	<15	<995	<30	<336
H52	02-Oct-01	1091 ± 74	4814 ± 175	<14	<14	<12	<803	<22	<303
	08-Nov-01	1088 ± 87	2674 ± 144	<18	<11	<12	<814	<23	<336
	04-Dec-01	2797 ± 101	2672 ± 140	<15	<12	<12	1650 ± 312	<24	<338
H59	02-Oct-01	1028 ± 66	4568 ± 178	<13	<13	<12	<741	<25	<310
	08-Nov-01	1703 ± 94	3373 ± 157	<21	<13	<12	<821	<22	<308
	04-Dec-01	1071 ± 82	4167 ± 166	<13	<15	<13	<792	<21	<304

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	03-Nov-01	1623 ± 71	<0.1	<5	86 ± 5	<6

(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 2001

DEPARTMENT OF ENERGY

QAP 54 , June 2001

AND

QAP 55, December 2001

DOE-QAP 54 RESULTS

Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation
Matrix: AI Air Filter Bq/filter						
AM241	0.560	0.0100	0.486	0.016	1.152	A
CO60	20.490	0.320	19.440	.0500	1.054	A
CS134	2.510	0.060	2.830	0.160	0.887	A
CS137	9.950	0.100	8.760	0.340	1.136	A
GROSS ALPHA	3.157	0.097	3.970	0.300	0.795	W
GROSS BETA	3.218	0.083	2.580	0.150	1.247	A
MN54	7.300	0.090	6.520	0.280	1.120	A
RU106	44.400	0.690	49.540	3.530	0.896	A
Matrix: SO Soil Bq/kg						
AC228	40.980	1.740	42.700	1.700	0.960	A
AM241	15.140	0.590	14.800	0.510	1.023	A
BI212	49.230	1.950	42.000	4.100	1.172	W
BI214	32.090	0.460	32.600	1.400	0.984	A
CS137	1915.780	16.970	1740.000	90.000	1.101	A
K40	489.680	6.980	468.000	25.000	1.046	A
PB212	43.570	1.330	41.500	2.200	1.050	A
PB214	20.970	1.610	34.300	1.600	0.611	N
TH234	30.310	8.260	46.600	3.500	0.650	N
Matrix: VE Vegetation Bq/kg						
AM241	5.740	0.520	6.170	0.320	0.930	A
CO60	29.320	0.700	30.400	1.200	0.964	A
CS137	846.200	3.210	842.000	42.000	1.005	A
K40	631.460	2.470	603.000	32.000	1.047	A
Matrix: WA Water Bq/L						
AM241	1.860	0.190	1.670	0.080	1.114	A
CO60	101.130	0.300	98.200	3.600	1.030	A
CS137	78.270	0.240	73.000	3.700	1.072	A
GROSS ALPHA	1698.200	27.000	1900.000	190.000	0.894	A
GROSS BETA	1045.600	2.700	1297.000	100.000	0.806	A
H3	91.580	3.040	79.300	2.000	1.155	A
SR90	3.920	0.210	4.400	0.200	0.891	A

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

DOE-QAP 55 RESULTS

Radionuclide	Reported Value	Reported Error	EML Value	EML Error	Reported EML	Evaluation
Matrix: AI Air Filter Bq/filter						
AM241	0.150	0.030	0.088	0.009	1.705	W
CO60	20.930	0.100	17.500	0.470	1.196	W
CS134	15.050	.0130	12.950	0.362	1.162	W
CS137	23.480	0.150	17.100	0.580	1.373	N
GROSS ALPHA	4.380	0.070	5.362	0.536	0.817	W
GROSS BETA	11.820	0.090	12.770	1.277	0.926	A
MN54	109.500	0.580	81.150	4.760	1.349	W
Matrix: SO Soil Bq/kg						
AC228	65.330	1.800	59.570	2.090	1.097	A
AM241	6.240	1.480	4.432	0.312	1.408	A
BI212	71.600	1.420	62.067	5.152	1.154	W
BI214	41.840	0.620	36.900	1.530	1.134	A
CS137	676.450	2.080	612.330	30.620	1.105	A
K40	669.010	4.500	623.330	33.040	1.073	A
PB212	63.130	1.370	58.330	3.130	1.082	A
PB214	44.520	0.330	39.670	1.720	1.122	A
TH234	129.940	4.680	100.067	6.204	1.299	A
U238	129.940	4.680	98.330	3.200	1.321	W
Matrix: VE Vegetation Bq/kg						
AM241	8.660	1.450	6.915	0.419	1.252	A
CO60	33.930	0.590	35.300	1.436	0.961	A
CS137	1027.600	5.550	10300.000	51.800	0.998	A
K40	900.600	16.350	898.670	48.230	1.002	A
Matrix: WA Water Bq/L						
CO60	211.120	0.720	209.000	7.590	1.010	A
CS137	48.560	0.580	45.133	2.467	1.076	A
GROSS ALPHA	1179.650	28.030	1150.000	115.000	1.026	A
GROSS BETA	7510.050	47.010	7970.000	800.000	0.942	A
H3	240.230	4.710	207.000	2.690	1.161	A
NI63	39.030	0.490	45.250	4.530	0.863	A
SR90	2.800	0.250	3.729	0.364	0.751	W

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