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L-96-73
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 Calandar Year 1995

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 for the calendar year 1995.

Should there be any questions on this information, please contact us.

Very truly yours,

W. H. Bohlke
Vice President
St. Lucie Plant

Attachment

WHB/SL

cc: Stewart D. Ebneter, Regional Administrator, Region II, USNRC, Atlanta GA
Senior Resident Inspector, USNRC, St. Lucie Plant

IE25
111

1995

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 DHRS

Report Prepared: Peter G Bard

Report Reviewed: J L Daniels

Executive Summary

The data obtained through the St. Lucie Plant Radiological Environmental Monitoring Program verifies that the level 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 the St. Lucie Units 1 & 2, during the surveillance year, are well within "as low as reasonably achievable (ALARA)" criteria established by 10 CFR 50, Appendix I.

1995
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
ST. LUCIE PLANT - UNITS 1 & 2

TABLE OF CONTENTS

1995
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
ST. LUCIE PLANT - UNITS 1 & 2

I. INTRODUCTION

This report is submitted pursuant to Specification 6.9.1.8 of St. Lucie Unit 1 and St. Lucie Unit 2 Technical Specifications. The Annual Radiological Environmental Operating Report provides information, summaries and analytical results pertaining to the Radiological Environmental Monitoring Program for the calendar year indicated. This report covers surveillance activities meeting the requirements of Unit 1 and Unit 2 Technical Specifications.

II. RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

A. Purpose

The purpose of the radiological environmental monitoring program is to provide representative measurements of radiation and of radioactive materials in those exposure pathways and for those radionuclides which lead to the highest potential radiation exposures of members of the public resulting from station operation. The radiological environmental monitoring program also supplements the radiological effluent monitoring program by verifying that the measurable concentrations of radioactive materials and levels of radiation are not higher than expected on the basis of the effluent measurements and the modeling of the environmental exposure pathways.

B. Program Description

The Radiological Environmental Monitoring Program 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.

d. Shoreline sediment samples are collected from two locations coinciding with the locations for surface water samples. Samples are collected and analyzed semi-annually. Sediment samples are analyzed by gamma isotopic measurements.

e. Fish and invertebrate samples are collected from two locations. Samples are collected and analyzed semi-annually. Fish and invertebrate samples are analyzed by gamma isotopic measurements.

f. Broad leaf vegetation samples are collected from three locations. Samples are collected and analyzed monthly. Broad leaf vegetation samples are analyzed by gamma isotopic measurements.

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

2. **Analytical Responsibility:**

Radiological environmental monitoring for the St. Lucie Plant is conducted by the State of Florida, Department of Health and Rehabilitative Services (HRS). Samples are collected and analyzed by HRS personnel. Samples are analyzed at the HRS 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.

D. Land Use Census

A land use census out to a distance of 5 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 sixteen meteorological sectors. A summary of the land use census for the surveillance year is provided in Table 2, Land Use Census Summary.

No locations yielding a calculated dose or dose commitment greater than the values currently being calculated were identified by the land use census.

No locations yielding a calculated dose or dose commitment (via the same exposure pathway) 20% greater than locations currently being sampled in the radiological environmental monitoring program were identified by the land use census.

E. Interlaboratory Comparison Program

The State of Florida HRS Environmental Radiation Control Laboratory participates in the Environmental Radioactivity Laboratory Intercomparison Studies Program conducted by the Environmental Protection Agency. Results from the Interlaboratory Comparison Program are provided in Attachment C.

III. DISCUSSION AND INTERPRETATION OF RESULTS

A. Reporting of Results

The Annual Radiological Environmental Operating Report contains the summaries, interpretations and information required by the 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, Ra-228, and Be-7 which are common in the Florida environment.

B. Interpretation of Results

1. Direct Radiation:

The results for 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 preoperational 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 which were made during the preoperational surveillance program. Air particulate and radioiodine monitoring results are summarized in Table 1.

3. Surface Water:

The results for radioactivity measurements in surface water samples are consistent with past measurements. Tritium was reported as present in two of the weekly samples collected from Site H-15. The highest concentration was less than 1% of the reporting level specified by the Off-Site Dose Calcuation Manual, Table 3.12-2. No other nuclides attributed to station operation were detected. Results for surface water samples are summarized in Table 1.

4. Waterborne Sediment and Food Products:

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

5. Broad Leaf Vegetation:

The results for radioactivity measurements in broad leaf vegetation are consistent with past measurements and with measurements made during the preoperational surveillance program. There were no indications of any nuclides attributed to plant effluents. Results for the broad leaf vegetation samples are summarized in Table 1.

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 & 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, 1995
(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) Range	Location with Highest Annual Mean Name[c] Distance & Direction	Mean (f)[b] Range	Control Locations Mean (f)[b] Range
Exposure Rate, 105[d]	---	4.88 (101/101) 4.04 - 6.31	NW-10 10 mi., NW	6.17 (4/4) 6.04 - 6.31	5.21 (4/4) 5.07 - 5.25

Number of Nonroutine 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, 1995
(County, State)

PATHWAY: AIRBORNE
SAMPLES COLLECTED: RADIOIODINE AND PARTICULATES
UNITS: PICO - Ci/M^3

Type and Total Number of Analyses Performed	Lower Limit of Detection[a] (LLD)	All Indicator Locations Mean (f) Range	Location with Highest Annual Mean Name[c] Distance & Direction	Mean (f)[b] Range	Control Locations Mean (f)[b] Range
^{131}I, 260	0.024	<MDA	---	---	<MDA
Gross Beta, 260	0.0025	0.012 (204/208) 0.004 - 0.028	H-08 6 mi., WNW	0.013 (51/52) 0.005 - 0.025	0.011 (52/52) 0.003 - 0.020
Composite Gamma Isotopic, 20					
^{7}Be	0.0052	0.1224 (16/16) 0.0840 - 0.1484	H-34 20.5 N	0.1309 (4/4) 0.1117 - 0.1449	0.1124 (4/4) 0.0878 - 0.1281
^{210}Pb	---	0.0138 (16/16) 0.0104 - 0.0175	H-14 1 mi., SE	0.0150 (4/4) 0.0130 - 0.0175	0.0117 (4/4) 0.0121 - 0.0162
^{134}Cs	0.00069	<MDA	---	---	<MDA
^{137}Cs	0.00066	<MDA	---	---	<MDA

Number of Nonroutine 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, 1995
(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) Range	Location with Highest Annual Mean Name[c] Distance & Direction	Mean (f)[b] Range	Control Locations Mean (f)[b] Range
Tritium, 64	230	268 (2/52) 238 - 299	H-15 <1 mi., ENE/E/ESE	268 (2/52) 238 - 299	<MDA
Gamma Isotopic, 64					
^{40}K	60	319 (52/52) 216 - 383	H-15 <1 mi., ENE/E/ESE	319 (52/52) 216 - 383	306 (12/12) 107 - 383
^{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 Nonroutine 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, 1995
(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) Range	Location with Highest Annual Mean Name[c] Distance & Direction	Mean (f)[b] Range	Control Locations Mean (f)[b] Range
Gamma Isotopic, 4					
^{40}K	140	415 (2/2) 247 - 583	H-15 <1 mi. ENE/E/ESE	415 (2/2) 247 - 583	209 (2/2) 196 - 222
^{226}Ra	49	219 (2/2) 179 - 259	H-15 <1 mi. ENE/E/ESE	219 (2/2) 179 - 259	349 (2/2) 263 - 435
^{232}Th	52	73 (2/2) 48 - 98	H-15 <1 mi. ENE/E/ESE	73 (2/2) 48 - 98	114 (2/2) 104 - 125
^{58}Co	9	<MDA	---	---	<MDA
^{60}Co	12	<MDA	---	---	<MDA
^{134}Cs	14	<MDA	---	---	<MDA
^{137}Cs	12	<MDA	---	---	<MDA

Number of Nonroutine 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, 1995
(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) Range	Location with Highest Annual Mean Name[c] Distance & Direction	Mean (f)[b] Range	Control Locations Mean (f)[b] Range
Gamma Isotopic, 4					
^{40}K	130	1729 (2/2) 1487 - 1971	H-15 <1 mi., ENE/E/ESE	1729 (2/2) 1487 - 1971	1871 (2/2) 1768 - 1974
^{228}Ra	---	<MDA	---	---	139 (2/2) 104-174
^{226}Ra	---	<MDA	---	---	156 (1/2)
^{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 Nonroutine 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, 1995
(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) Range	Location with Highest Annual Mean Name[c] Distance & Direction	Mean (f)[b] Range	Control Locations Mean (f)[b] Range
Gamma Isotopic, 4					
^{40}K	130	1670 (2/2) 1562 - 1777	H-15 <1 mi., ENE/E/ESE	1670 (2/2) 1562 - 1777	2509 (2/2) 2034 - 2948
^{210}Pb	---	266(1/2)	H-15 <1 mi., ENE/E/ESE	266 (1/2)	<MDA
^{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 Nonroutine 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, 1995
(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) Range	Location with Highest Annual Mean Name[c] Distance & Direction	Mean (f)[b] Range	Control Locations Mean (f)[b] Range
Gamma Isotopic, 36					
^{7}Be	71	650 (24/24) 279 - 951	H-51 1 mi., N/NNW	754 (12/12) 279 - 951	622 (12/12) 346 - 1066
^{40}K	100	2775 (24/24) 1539 - 5205	H-52 1 mi., S/SSE	3018 (12/12) 1539 - 4752	2630 (12/12) 1516 - 3851
^{131}I	9	<MDA	---	---	<MDA
^{134}Cs	8	<MDA	---	---	<MDA
^{137}Cs	8	<MDA	---	---	<MDA

Number of Nonroutine 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, 1995
(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 are typically based upon the average net response of two TLDs. (Thermoluminescent dosimeters).

MDA refers to minimum detectable activity.

TABLE 1A

DEVIATIONS/MISSING DATA

A)

Pathway:	Direct Exposure - TLDs
Location:	SSW-5, 5 miles SSW
Date:	12/6/94 to 3/8/95
Deviation:	Failure to provide continuous monitoring.
Description of Problem:	TLDs missing upon attempted collection.
Corrective Action:	Replaced missing TLDs.

B)

Pathway:	Direct Exposure - TLDs
Location:	WNW-10, 10 miles WNW
Date:	6/6/95 to 9/12/95 and 9/12/95 to 12/12/95
Deviation:	Failure to provide monitoring.
Description of Problem:	TLDs missing upon attempted collection.
Corrective Action:	Replaced TLDs; relocated second replacement set within same general area in an attempt to lower theft.

TABLE 1B

ANALYSES WITH LLDs ABOVE TABLE 4.12-1 DETECTION CAPABILITIES
1/1/95 - 12/31/95

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

TABLE 2

LAND USE CENSUS

Distance to Nearest (a, b)

Sector	5/95 Milk (c) Animal	5/95 Residence	5/95 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	3.2/191	4.3/183
SSW	L	2.2/213	4.1/203
SW	L	1.9/236	1.9/234
WSW	4.1/257	1.9/245 (h)	3.8/258
W	4.5/263	1.9/260	2.1/275
WNW	L	2.3/281	2.6/290
NW	L	3.5/304	L
NNW	L	L (g)	L

TABLE 2

LAND USE CENSUS

NOTES

a. All categories surveyed out to 5 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. All locations specified have been verified to be <u>not</u> producing milk for human consumption.

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:

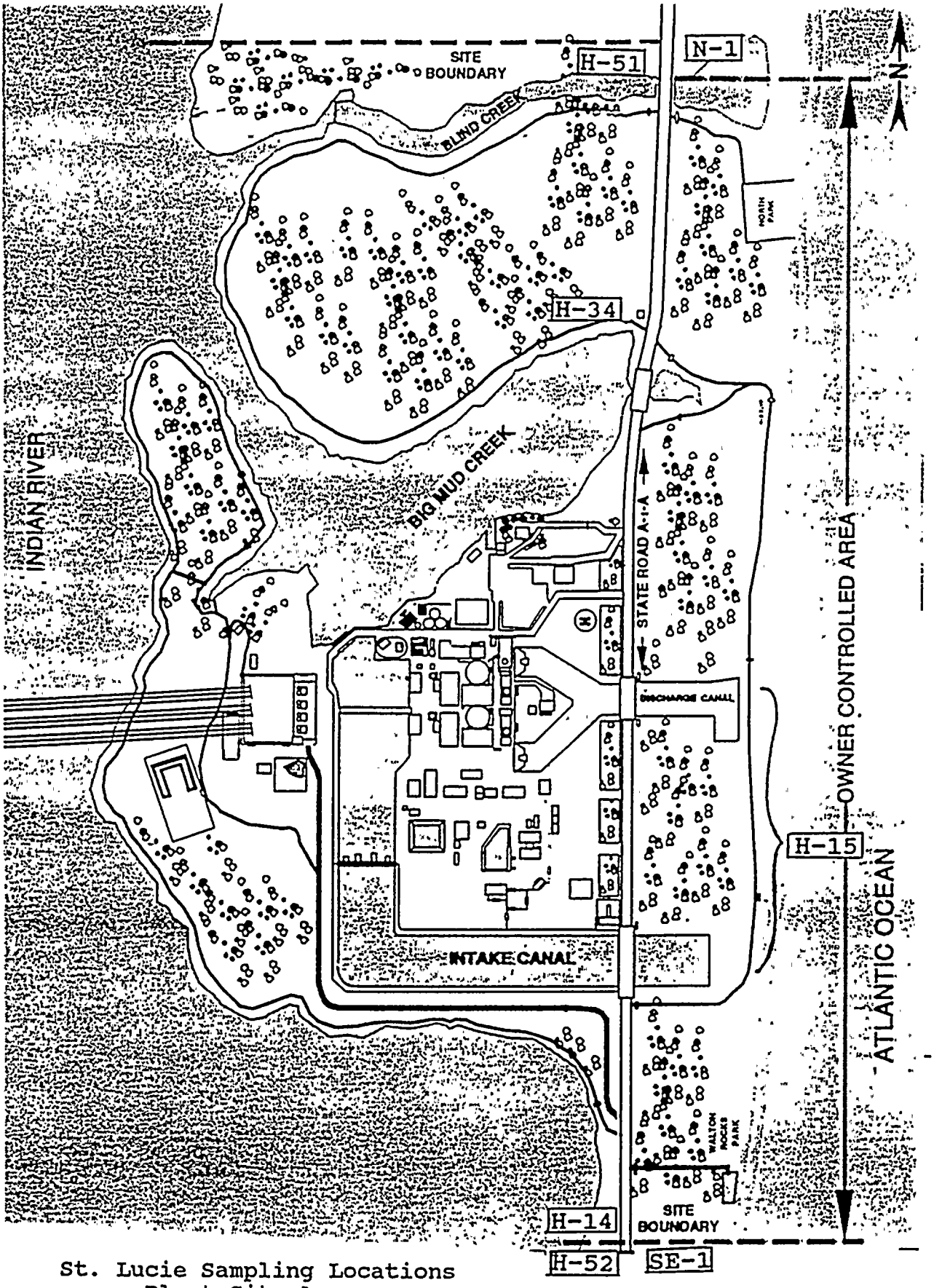
SSE - Fire Station, 1.8/149
NNW - Lifeguard station at beach, 4.6/342
SE - Lifeguard station at beach, 1.1/132

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

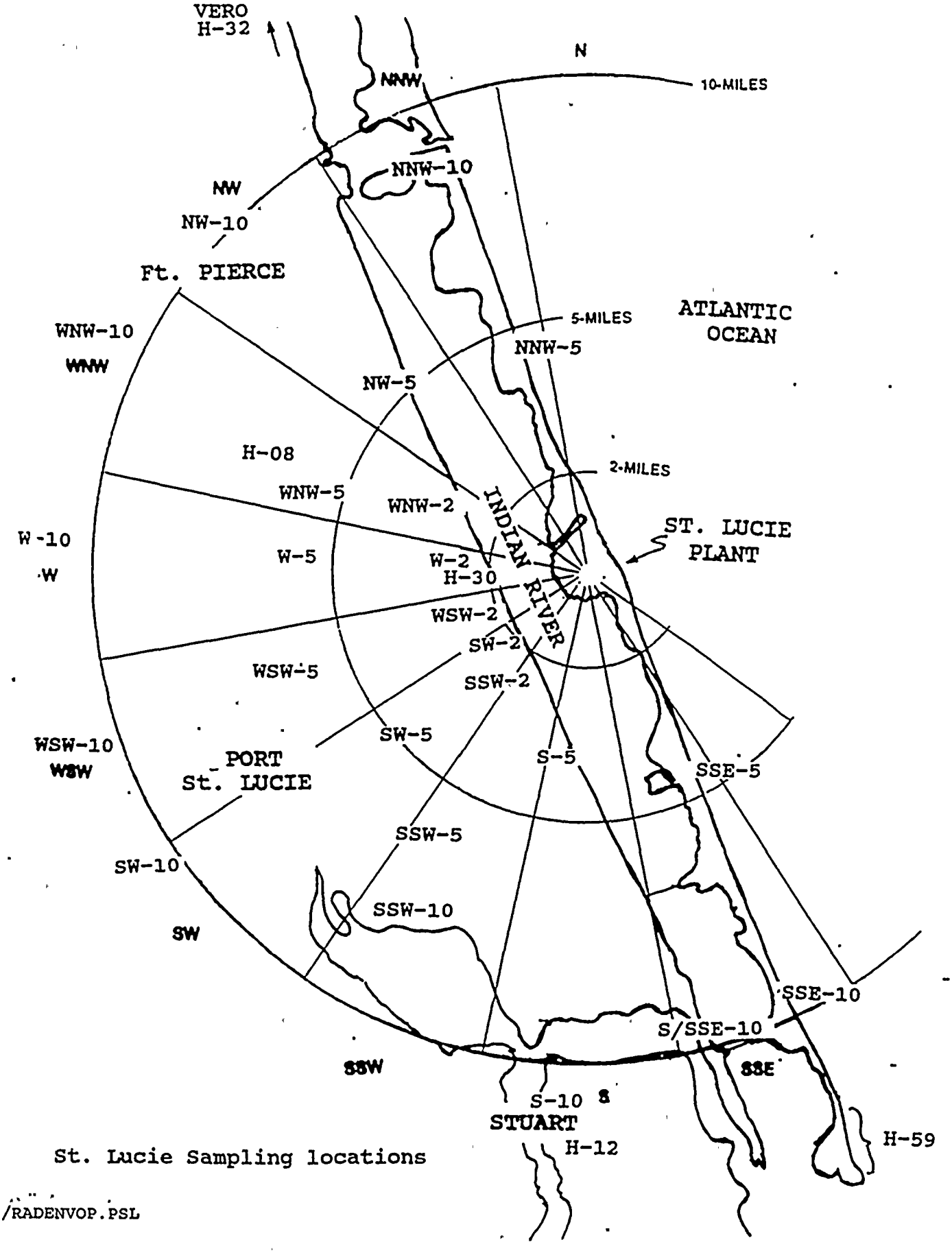
1995
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
ST. LUCIE PLANT, UNITS 1 & 2

ATTACHMENT A

KEY TO SAMPLE LOCATIONS



St. Lucie Sampling Locations
Plant Site Area



St. Lucie Sampling locations

ATTACHMENT A

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

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

ATTACHMENT A

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

Location Name	Direction Sector	Approximate Distance (miles)	Description
H-08	WNW	6	FPL Substation, Weatherby Rd.
H-14	SE	1	On-Site, Near South Property Line
H-30	W	2	Power Line, 7609 Indian River Drive
H-34	N	0.5	On-Site at Meteorology Tower
Control:			
H-12	S	12	FPL Substation, SR-76 Stuart

ATTACHMENT A

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

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

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

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

ATTACHMENT A

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

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

SAMPLES COLLECTED: BROAD LEAF VEGETATION
SAMPLE COLLECTION FREQUENCY: MONTHLY

Location Name	Direction Sector	Approximate Distance (miles)	Description
H-51	N/NNW	1	Off-site Near North Property Line
H-52	S/SSE	1	Off-Site Near South Property Line
Control:			
H-59	S/SSE	10-20	South End, Hutchinson Island

1995
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
ST. LUCIE PLANT, UNITS 1 & 2

ATTACHMENT B

1995

RADIOLOGICAL SURVEILLANCE

REPORTS

First Quarter, 1995

Second Quarter, 1995

Third Quarter, 1995

Fourth Quarter, 1995

RADIOLOGICAL SURVEILLANCE OF

FLORIDA POWER AND LIGHT COMPANY'S

ST. LUCIE SITE

First Quarter, 1995

Office of Radiation Control

Florida Department of Health
and Rehabilitative Services

ST. LUCIE SITE

Technical Specifications Sampling

First Quarter, 1995

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
1. Direct Radiation	Quarterly	27	26
2. Airborne			
2.a Air Iodines	Weekly	5	65
2.b Air Particulates	Weekly	5	69*
3. Waterborne			
3.a Surface Water	Weekly	1	13
	Monthly	1	3
3.b Shoreline Sediment	Semiannually	2	3*
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			
4.b.1 Broadleaf Vegetation	Monthly	3	9
			Total: 192

* - Includes NRC split samples.

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 "non-detectable" (ND) or 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 - (micro-R/hour)

Sample Site	Deployment 12-06-94 Collection 03-08-95	Sample Site	Deployment 12-06-94 Collection 03-08-95
N-1	4.71 ± 0.08	SW-2	4.42 ± 0.08
		SW-5	5.68 ± 0.08
NNW-5	4.92 ± 0.08	SW-10 (B)	4.83 ± 0.08
NNW-10	4.92 ± 0.08		
		SSW-2	4.64 ± 0.08
NW-5	4.77 ± 0.08	SSW-5 (C)	
NW-10	6.31 ± 0.09	SSW-10	4.98 ± 0.08
WNW-2	4.92 ± 0.08	S-5	4.52 ± 0.08
WNW-5	4.57 ± 0.08	S-10	4.86 ± 0.08
WNW-10 (A)	4.77 ± 0.18		
		S/SSE-10	4.71 ± 0.08
W-2	5.94 ± 0.08		
W-5	5.03 ± 0.08	SSE-5	4.81 ± 0.08
W-10	4.96 ± 0.08	SSE-10	4.85 ± 0.08
WSW-2	4.68 ± 0.08	SE-1	4.44 ± 0.08
WSW-5	4.90 ± 0.08		
WSW-10	4.28 ± 0.08	H-32 (D)	5.18 ± 0.08

(A) - The dosimeter for site WNW-10 was discovered to be missing on 01-18-95. A new dosimeter was deployed here on 01-31-95 at a slightly different location in an attempt to reduce the frequency of vandalism being experienced here. This result is only for the latter part of this sampling interval.

(B) - The dosimeter for site SW-10 was found lying in the street by a local resident on 02-27-95. This dosimeter was returned to the sampling site on 02-28-95.

(C) - The dosimeter for site SSW-5 was missing when collection was attempted.

(D) - The dosimeter for site H-32 was moved to a slightly different location at the beginning of this sampling interval to be at the same location as the air sampling equipment which was also moved to allow easier and safer access to this equipment.

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

Collection Date	Sample Site H08	H12	H14	H30	H34
01-04-95	<0.01	<0.01	<0.01	<0.01	<0.01
01-13-95	<0.01	<0.01	<0.01	<0.01	<0.01
01-17-95	<0.02	<0.02	<0.02	<0.02	<0.02
01-24-95	<0.02	<0.02	<0.02	<0.02	<0.02
02-01-95	<0.02	<0.03	<0.02	<0.02	<0.02
02-06-95	<0.02	<0.02	<0.03	<0.03	<0.03
02-13-95	<0.02	<0.03	<0.02	<0.02	<0.02
02-22-95	<0.01	<0.01	<0.01	<0.01	<0.01
02-28-95	<0.02	<0.02	<0.02	<0.02	<0.02
03-07-95	<0.01	<0.01	<0.01	<0.01	<0.01
03-13-95	<0.01	<0.02	<0.01	<0.01	<0.01
03-22-95	<0.01	<0.01	<0.01	<0.01	<0.01
03-27-95	<0.02	<0.03	<0.02	<0.02	<0.02

2.b AIR PARTICULATES - GROSS BETA - (pCi/m^3)

Collection Date	Sample Site H08	H12	H14	H30	H34
01-04-95	0.007 ± 0.002	0.005 ± 0.002	0.008 ± 0.002	0.009 ± 0.002	0.006 ± 0.002
01-13-95	0.015 ± 0.002	0.013 ± 0.002	0.014 ± 0.002	0.008 ± 0.001	0.012 ± 0.002
01-17-95	0.007 ± 0.002	0.006 ± 0.002	<0.009	0.006 ± 0.002	0.009 ± 0.003
01-24-95	0.019 ± 0.003	0.011 ± 0.002	0.014 ± 0.002	0.019 ± 0.002	0.016 ± 0.002
02-01-95	0.017 ± 0.002	0.020 ± 0.003	0.023 ± 0.002	0.012 ± 0.002	0.023 ± 0.002
02-06-95	0.019 ± 0.003	0.012 ± 0.002	*0.014 ± 0.003	0.014 ± 0.003	0.018 ± 0.003
02-13-95	0.015 ± 0.002	0.013 ± 0.002	*0.013 ± 0.002	0.014 ± 0.002	0.009 ± 0.002
02-22-95	0.011 ± 0.002	0.006 ± 0.001	*0.008 ± 0.002	0.005 ± 0.001	0.007 ± 0.002
02-28-95	0.010 ± 0.002	0.009 ± 0.002	*0.015 ± 0.002	0.011 ± 0.002	0.010 ± 0.002
03-07-95	0.009 ± 0.002	0.010 ± 0.002	0.007 ± 0.002	0.009 ± 0.002	0.012 ± 0.002
03-13-95	0.012 ± 0.002	0.012 ± 0.002	0.015 ± 0.002	0.010 ± 0.002	0.011 ± 0.002
03-22-95	0.010 ± 0.001	0.008 ± 0.001	0.011 ± 0.002	0.007 ± 0.001	0.011 ± 0.002
03-27-95	0.012 ± 0.002	0.011 ± 0.003	0.017 ± 0.003	0.011 ± 0.003	0.017 ± 0.003
Means:	0.013 ± 0.001	0.010 ± 0.001	0.013 ± 0.001	0.010 ± 0.001	0.012 ± 0.001

* - NRC split samples.

2.b AIR PARTICULATES - GAMMA SCANS OF QUARTERLY COMPOSITES - (pCi/m^3)

First Quarter, 1995

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
H08	0.1238 ± 0.0101	<0.0181	<0.0009	<0.0008	0.0121 ± 0.0023
H12	0.1217 ± 0.0098	<0.0199	<0.0007	<0.0010	0.0119 ± 0.0029
H14	0.1148 ± 0.0117	<0.0183	<0.0009	<0.0011	0.0142 ± 0.0026
H30	0.1288 ± 0.0114	<0.0124	<0.0012	<0.0007	0.0127 ± 0.0028
H34	0.1449 ± 0.0110	<0.0161	<0.0009	<0.0008	0.0159 ± 0.0029

3.a SURFACE WATER - (pCi/l)

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
H15	01-04-95	<130	270 ± 35	<4	<4	<9	<4	<8	<6	<6	<4	<4	<4
	01-13-95	<136	331 ± 32	<3	<3	<8	<4	<8	<6	<5	<4	<3	<5
	01-17-95	<136	335 ± 36	<4	<3	<7	<4	<10	<6	<5	<5	<3	<8
	01-25-95	<135	350 ± 34	<3	<4	<8	<4	<8	<7	<5	<4	<4	<5
	02-01-95	<135	358 ± 36	<3	<4	<8	<5	<9	<7	<7	<4	<4	<5
	02-06-95	<132	324 ± 36	<3	<4	<9	<6	<8	<6	<8	<5	<4	<5
	02-14-95	<140	289 ± 33	<3	<4	<6	<5	<8	<8	<6	<4	<5	<5
	02-21-95	<131	335 ± 33	<4	<4	<8	<4	<8	<6	<5	<3	<4	<4
	03-01-95	<138	303 ± 33	<3	<4	<9	<3	<7	<6	<6	<4	<5	<4
	03-07-95	<138	298 ± 33	<4	<4	<6	<5	<9	<5	<3	<4	<4	<5
	03-13-95	<142	353 ± 17	<2	<2	<3	<2	<4	<3	<2	<2	<2	<4
	03-22-95	<141	339 ± 30	<4	<4	<7	<4	<10	<6	<4	<4	<5	<6
	03-27-95	<139	383 ± 34	<3	<2	<7	<5	<8	<7	<4	<4	<4	<8
H59	01-04-95	<130	267 ± 39	<4	<4	<8	<4	<7	<7	<7	<4	<4	<5
	02-01-95	<135	332 ± 32	<3	<3	<6	<5	<9	<7	<7	<4	<4	<6
	03-01-95	<138	333 ± 30	<3	<3	<9	<4	<10	<7	<6	<4	<4	<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 SEDIMENT - (pCi/kg, dry weight)

Sample Site	Collection Date	Be-7	K-40	Co-58	Co-60	Cs-134	Cs-137	Ra-226	Th-232
H15*	02-01-95	<64	247 ± 38	<8	<8	<8	<7	179 ± 8	48 ± 8
H59	02-01-95	<79	196 ± 47	<7	<8	<9	<8	263 ± 9	104 ± 11

* - NRC split sample.

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

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226	Ra-228
H15	03-14-95	1971 ± 180	<18	<17	<37	<25	<37	<18	<17	ND	ND
H59	02-07-95	1974 ± 169	<19	<24	<43	<26	<39	<22	<23	ND	174 ± 30

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

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226	Ra-228
H15	02-07-95	1562 ± 173	<17	<19	<43	<27	<38	<18	<20	ND	ND
H59	02-14-95	2984 ± 222	<18	<16	<42	<26	<38	<20	<23	ND	ND

ND - Non-detectable.

4.b.1 BROADLEAF VEGETATION - Mangrove - (pCi/kg, wet weight)

Sample Site	Collection Date	Be-7	K-40	I-131	Cs-134	Cs-137	Pb-210
H51	01-04-95	791 ± 55	2048 ± 99	<12	<8	<7	ND
	02-01-95	814 ± 67	2365 ± 119	<12	<10	<11	ND
	03-01-95	817 ± 47	1828 ± 93	<10	<6	<7	ND
H52	01-03-95	894 ± 67	1539 ± 90	<14	<10	<8	ND
	02-01-95	603 ± 81	2593 ± 142	<13	<12	<13	ND
	03-01-95	470 ± 51	3518 ± 137	<10	<9	<11	ND
H59	01-04-95	599 ± 53	2928 ± 119	<12	<8	<8	ND
	02-01-95	679 ± 50	2072 ± 104	<9	<7	<9	ND
	03-01-95	611 ± 59	1516 ± 89	<11	<7	<8	ND

ND - Non-detectable.

RADIOLOGICAL SURVEILLANCE OF
FLORIDA POWER AND LIGHT COMPANY'S
ST. LUCIE SITE

Second Quarter, 1995

Office of Radiation Control

Florida Department of Health
and Rehabilitative Services

ST. LUCIE SITE

Technical Specifications Sampling

Second Quarter, 1995

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
1. Direct Radiation	Quarterly	27	27
2. Airborne			
2.a Air Iodines	Weekly	5	65
2.b Air Particulates	Weekly	5	69*
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 Food Products			
4.b.1 Broadleaf Vegetation	Monthly	3	9
			Total: 186

* - Includes NRC split samples.

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 "non-detectable" (ND) or 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 - (micro-R/hour)

Sample Site	Deployment 03-08-95 Collection 06-06-95	Sample Site	Deployment 03-08-95 Collection 06-06-95
N-1	4.93 ± 0.09	SW-2	4.39 ± 0.09
		SW-5	5.60 ± 0.09
NNW-5	4.72 ± 0.09	SW-10	4.67 ± 0.09
NNW-10	4.92 ± 0.09		
		SSW-2	4.43 ± 0.09
NW-5	4.91 ± 0.09	SSW-5	5.27 ± 0.09
NW-10	6.29 ± 0.10	SSW-10	5.06 ± 0.09
WNW-2	4.68 ± 0.09	S-5	4.61 ± 0.09
WNW-5	4.66 ± 0.09	S-10	4.82 ± 0.09
WNW-10	4.79 ± 0.09		
		S/SSE-10	4.51 ± 0.09
W-2	5.68 ± 0.10		
W-5	5.01 ± 0.09	SSE-5	4.75 ± 0.09
W-10	5.04 ± 0.09	SSE-10	4.64 ± 0.09
WSW-2	4.71 ± 0.09	SE-1	4.68 ± 0.09
WSW-5	4.75 ± 0.09		
WSW-10	4.04 ± 0.09	H-32	5.25 ± 0.09

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

Collection Date	Sample Site H08	H12	H14	H30	H34
04-04-95	<0.01	<0.01	<0.01	<0.01	<0.01
04-12-95	<0.02	<0.02	<0.02	<0.02	<0.02
04-17-95	<0.02	<0.03	<0.03	<0.02	<0.03
04-24-95	<0.02	<0.02	<0.02	<0.02	<0.02
05-02-95	<0.02	<0.02	<0.02	<0.02	<0.02
05-10-95	<0.01	<0.01	<0.01	<0.01	<0.01
05-16-95	<0.02	<0.02	<0.02	<0.02	<0.02
05-22-95	<0.01	<0.01	<0.01	<0.01	<0.01
05-31-95	<0.01	<0.01	<0.01	<0.01	<0.01
06-05-95	<0.02	<0.02	<0.02	<0.02	<0.02
06-12-95	<0.02	<0.02	<0.02	<0.02	<0.02
06-19-95	<0.02	<0.02	<0.02	<0.02	<0.02
06-27-95	<0.01	<0.01	<0.01	<0.01	<0.01

2.b AIR PARTICULATES - GROSS BETA - (pCi/m^3)

Collection Date	Sample Site H08	H12	H14	H30	H34
04-04-95	0.021 ± 0.002	0.016 ± 0.002	0.014 ± 0.002	0.016 ± 0.002	0.018 ± 0.002
04-12-95	0.010 ± 0.002	0.010 ± 0.002	0.009 ± 0.002	0.006 ± 0.001	0.009 ± 0.002
04-17-95	0.022 ± 0.003	0.013 ± 0.003	0.018 ± 0.003	0.021 ± 0.003	0.019 ± 0.003
04-24-95	0.025 ± 0.003	0.019 ± 0.003	0.016 ± 0.002	0.020 ± 0.003	0.021 ± 0.002
05-02-95	0.008 ± 0.002	0.009 ± 0.002	*0.007 ± 0.002	0.009 ± 0.002	0.009 ± 0.002
05-10-95	0.013 ± 0.002	0.011 ± 0.002	*0.011 ± 0.001	0.011 ± 0.002	0.013 ± 0.002
05-16-95	0.015 ± 0.002	0.016 ± 0.002	*0.016 ± 0.003	0.014 ± 0.002	0.015 ± 0.003
05-22-95	0.016 ± 0.002	0.012 ± 0.002	*0.013 ± 0.002	0.013 ± 0.002	0.013 ± 0.002
05-31-95	0.014 ± 0.002	0.008 ± 0.001	0.011 ± 0.002	0.014 ± 0.002	0.014 ± 0.002
06-05-95	0.010 ± 0.002	0.006 ± 0.002	0.009 ± 0.002	0.007 ± 0.002	0.011 ± 0.003
06-12-95	0.011 ± 0.002	0.008 ± 0.002	0.012 ± 0.002	0.009 ± 0.002	0.017 ± 0.002
06-19-95	0.008 ± 0.002	0.009 ± 0.002	0.011 ± 0.002	0.009 ± 0.002	0.006 ± 0.002
06-27-95	0.006 ± 0.002	0.007 ± 0.002	0.010 ± 0.002	0.009 ± 0.002	0.012 ± 0.002
Means:	0.014 ± 0.001	0.011 ± 0.001	0.012 ± 0.001	0.012 ± 0.001	0.014 ± 0.001

* - NRC split samples.

2.b AIR PARTICULATES - GAMMA SCANS OF QUARTERLY COMPOSITES - (pCi/m^3)

Second Quarter, 1995

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
H08	0.1319 ± 0.0109	<0.0187	<0.0010	<0.0008	0.0162 ± 0.0029
H12	0.1118 ± 0.0100	<0.0170	<0.0010	<0.0008	0.0129 ± 0.0032
H14	0.1306 ± 0.0093	<0.0164	<0.0007	<0.0008	0.0130 ± 0.0029
H30	0.1093 ± 0.0097	<0.0165	<0.0008	<0.0008	0.0123 ± 0.0025
H34	0.1302 ± 0.0098	<0.0157	<0.0008	<0.0008	0.0104 ± 0.0025

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	04-04-95	<131	266 ± 35	<4	<4	<7	<5	<7	<7	<7	<4	<5	<4
	04-13-95	<137	241 ± 32	<4	<3	<7	<3	<7	<6	<5	<4	<4	<4
	04-17-95	<137	312 ± 33	<4	<3	<6	<4	<8	<7	<7	<3	<5	<4
	04-25-95	<137	368 ± 35	<4	<4	<7	<5	<9	<6	<4	<4	<4	<9
	05-01-95	<137	345 ± 35	<4	<4	<9	<3	<8	<5	<5	<4	<5	<6
	05-11-95	<136	328 ± 25	<2	<3	<5	<2	<6	<4	<3	<3	<3	<6
	05-16-95	<135	216 ± 32	<4	<4	<8	<5	<8	<8	<5	<4	<4	<7
	05-24-95	<135	302 ± 35	<3	<4	<7	<4	<8	<6	<6	<5	<4	<4
	06-01-95	<140	289 ± 37	<4	<3	<7	<4	<8	<7	<5	<3	<4	<5
	06-05-95	<140	341 ± 35	<3	<4	<9	<4	<9	<6	<4	<4	<4	<7
	06-13-95	<139	278 ± 31	<4	<3	<8	<5	<9	<7	<4	<3	<3	<9
	06-20-95	<139	357 ± 36	<4	<4	<8	<4	<8	<8	<5	<4	<4	<7
	06-28-95	<139	338 ± 39	<4	<4	<7	<4	<8	<6	<4	<4	<4	<10
H59	04-13-95	<137	345 ± 37	<4	<4	<7	<5	<8	<6	<6	<4	<5	<5
	05-01-95	<137	319 ± 37	<4	<4	<7	<5	<7	<7	<5	<5	<3	<4
	06-01-95	<140	383 ± 34	<4	<4	<7	<4	<9	<5	<5	<4	<4	<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.

4.b.1 BROADLEAF VEGETATION - Mangrove - (pCi/kg, wet weight)

Sample Site	Collection Date	Be-7	K-40	I-131	Cs-134	Cs-137
H51	04-13-95	875 ± 61	2683 ± 136	<10	<9	<10
	05-02-95	737 ± 43	2390 ± 109	<8	<8	<8
	06-01-95	716 ± 55	3404 ± 148	<9	<11	<10
H52	04-13-95	573 ± 48	2980 ± 145	<10	<10	<11
	05-01-95	499 ± 46	1847 ± 95	<9	<7	<7
	06-01-95	357 ± 58	3582 ± 146	<9	<12	<10
H59	04-13-95	538 ± 49	3257 ± 124	<8	<8	<8
	05-01-95	346 ± 39	1626 ± 79	<9	<6	<7
	06-01-95	460 ± 49	2345 ± 109	<8	<9	<9

RADIOLOGICAL SURVEILLANCE OF

FLORIDA POWER AND LIGHT COMPANY'S

ST. LUCIE SITE

Third Quarter, 1995

Office of Radiation Control

Florida Department of Health
and Rehabilitative Services

ST. LUCIE SITE

Technical Specifications Sampling

Third Quarter, 1995

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
1. Direct Radiation	Quarterly	27	26
2. Airborne			
2.a Air Iodines	Weekly	5	65
2.b Air Particulates	Weekly	5	69*
3. Waterborne			
3.a Surface Water	Weekly	1	13
	Monthly	1	3
3.b Shoreline Sediment	Semiannually	2	3*
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			
4.b.1 Broadleaf Vegetation	Monthly	3	9
			Total: 192

* - Includes NRC split samples.

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 "non-detectable" (ND) or 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 - (micro-R/hour)

Sample Site	Deployment 06-06-95 Collection 09-12-95
N-1	4.79 ± 0.08
NNW-5	4.72 ± 0.08
NNW-10	4.98 ± 0.08
NW-5 (A)	4.78 ± 0.07
NW-10	6.04 ± 0.08
WNW-2	4.92 ± 0.08
WNW-5	4.70 ± 0.07
WNW-10 (B)	
W-2	5.90 ± 0.08
W-5	5.07 ± 0.08
W-10	5.06 ± 0.07
WSW-2	4.53 ± 0.07
WSW-5	4.69 ± 0.08
WSW-10	4.29 ± 0.07
SW-2	4.41 ± 0.07
SW-5	5.64 ± 0.08
SW-10	4.79 ± 0.08
SSW-2	4.70 ± 0.07
SSW-5	5.09 ± 0.07
SSW-10	5.07 ± 0.08
S-5	4.58 ± 0.07
S-10	4.77 ± 0.06
S/SSE-10	4.66 ± 0.07
SSE-5	4.81 ± 0.08
SSE-10	4.74 ± 0.08
SE-1 (A)	4.45 ± 0.08
H-32	5.33 ± 0.08

(A) - The dosimeters for sites NW-5 and SE-1 were found lying on the ground and were re-hung on 08-02-95, after the passage of Hurricane Erin.

(B) - The dosimeter for site WNW-10 was missing when this site was checked on 08-02-95, after the passage of Hurricane Erin. A new dosimeter was deployed, but it, too, was missing when collection was attempted.

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

Collection Date	Sample Site H08	H12	H14	H30	H34
07-05-95	<0.01	<0.01	<0.01	<0.01	<0.01
07-11-95	<0.02	<0.03	<0.02	<0.02	<0.02
07-17-95	<0.01	<0.01	<0.01	<0.01	<0.01
07-24-95	<0.02	<0.02	<0.02	<0.02	<0.02
08-01-95	<0.03	<0.03	<0.02	<0.02	<0.02
08-09-95	<0.01	<0.01	<0.01	<0.01	<0.01
08-16-95	<0.01	<0.01	<0.01	<0.01	<0.01
08-22-95	<0.02	<0.02	<0.02	<0.02	<0.02
08-30-95	<0.01	<0.01	<0.01	<0.01	<0.01
09-05-95	<0.02	<0.02	<0.02	<0.02	<0.02
09-11-95	<0.02	<0.02	<0.02	<0.02	<0.02
09-20-95	<0.01	<0.01	<0.01	<0.01	<0.01
09-27-95	<0.01	<0.01	<0.01	<0.01	<0.01

2.b AIR PARTICULATES - GROSS BETA - (pCi/m^3)

Collection Date	Sample Site H08	H12	H14	H30	H34
07-05-95	0.017 ± 0.002	0.010 ± 0.002	0.013 ± 0.002	0.011 ± 0.002	0.014 ± 0.002
07-11-95	0.014 ± 0.003	0.014 ± 0.003	0.014 ± 0.002	0.013 ± 0.002	0.017 ± 0.003
07-17-95	0.009 ± 0.002	0.003 ± 0.001	0.009 ± 0.002	0.010 ± 0.002	0.007 ± 0.002
07-24-95	0.009 ± 0.002	0.008 ± 0.002	0.012 ± 0.002	0.009 ± 0.002	0.013 ± 0.002
08-01-95	0.010 ± 0.002	0.010 ± 0.002	0.008 ± 0.002	0.009 ± 0.002	0.012 ± 0.002
08-09-95	0.012 ± 0.002	0.010 ± 0.001	*0.016 ± 0.002	0.009 ± 0.002	0.013 ± 0.002
08-16-95	0.011 ± 0.002	0.009 ± 0.002	*0.012 ± 0.002	0.013 ± 0.002	0.013 ± 0.002
08-22-95	0.018 ± 0.003	0.020 ± 0.003	*0.017 ± 0.003	0.018 ± 0.003	0.021 ± 0.003
08-30-95	0.013 ± 0.002	0.004 ± 0.001	*0.005 ± 0.001	0.007 ± 0.002	0.011 ± 0.002
09-05-95	0.012 ± 0.002	0.009 ± 0.002	0.012 ± 0.002	0.009 ± 0.002	0.014 ± 0.003
09-11-95	0.006 ± 0.002	0.008 ± 0.002	0.013 ± 0.002	0.006 ± 0.002	0.009 ± 0.002
09-20-95	0.007 ± 0.001	0.007 ± 0.001	0.008 ± 0.001	0.010 ± 0.002	0.008 ± 0.001
09-27-95	0.016 ± 0.002	0.011 ± 0.002	0.011 ± 0.002	0.014 ± 0.002	0.015 ± 0.002
Means:	0.012 ± 0.001	0.009 ± 0.001	0.012 ± 0.001	0.011 ± 0.001	0.013 ± 0.001

* - NRC split samples.

2.b AIR PARTICULATES - GAMMA SCANS OF QUARTERLY COMPOSITES - (pCi/m^3)

Third Quarter, 1995

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
H08	0.0840 ± 0.0091	<0.0177	<0.0009	<0.0009	0.0139 ± 0.0024
H12	0.0878 ± 0.0102	<0.0152	<0.0009	<0.0007	0.0091 ± 0.0023
H14	0.0891 ± 0.0092	<0.0177	<0.0007	<0.0008	0.0153 ± 0.0031
H30	0.0987 ± 0.0085	<0.0195	<0.0009	<0.0009	0.0144 ± 0.0028
H34	0.1117 ± 0.0084	<0.0182	<0.0008	<0.0010	0.0122 ± 0.0022

3.a SURFACE WATER - (pCi/l)

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
H15	07-05-95	<147	377 ± 35	<3	<3	<8	<4	<9	<7	<7	<4	<4	<3
	07-11-95	<152	331 ± 16	<2	<2	<3	<2	<3	<3	<2	<2	<2	<2
	07-17-95	<152	342 ± 27	<2	<3	<5	<3	<5	<4	<3	<3	<3	<3
	07-24-95	<152	309 ± 31	<4	<3	<7	<4	<10	<6	<5	<4	<4	<4
	08-01-95	<147	318 ± 40	<3	<3	<8	<4	<9	<7	<5	<4	<3	<6
	08-10-95	299 ± 48	363 ± 36	<3	<4	<7	<5	<7	<6	<5	<3	<5	<4
	08-17-95	<151	298 ± 37	<4	<3	<8	<4	<9	<6	<4	<3	<4	<9
	08-22-95	<148	287 ± 32	<3	<4	<8	<4	<9	<7	<5	<5	<4	<6
	08-30-95	<143	282 ± 32	<3	<3	<6	<4	<7	<7	<4	<4	<3	<8
	09-05-95	<144	235 ± 36	<4	<4	<9	<4	<6	<6	<6	<4	<4	<6
	09-12-95	<143	243 ± 33	<3	<4	<8	<5	<8	<7	<7	<4	<5	<5
	09-21-95	<145	341 ± 26	<3	<2	<5	<3	<6	<4	<3	<3	<3	<6
	09-27-95	<136	336 ± 28	<3	<2	<6	<4	<7	<5	<3	<3	<3	<8
H59	07-06-95	<147	332 ± 36	<3	<4	<6	<3	<7	<6	<6	<4	<4	<6
	08-10-95	<135	254 ± 38	<4	<4	<9	<3	<6	<6	<7	<4	<4	<4
	09-13-95	<143	361 ± 35	<4	<4	<7	<4	<7	<7	<7	<4	<5	<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 SEDIMENT - (pCi/kg, dry weight)

Sample Site	Collection Date	Be-7	K-40	Co-58	Co-60	Cs-134	Cs-137	Ra-226	Th-232
H15*	08-10-95	<75	583 ± 46	<7	<7	<11	<7	259 ± 9	98 ± 10
H59	08-09-95	<85	222 ± 43	<8	<9	<10	<8	435 ± 12	125 ± 14

* - NRC split sample.

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

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226	Ra-228
H15	08-31-95	1487 ± 177	<17	<15	<40	<21	<39	<19	<17	ND	ND
H59	08-21-95	1768 ± 77	<8	<8	<16	<9	<18	<9	<9	156 ± 8	104 ± 13

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

Sample Site	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Pb-210	Ra-228
H15	08-17-95	1777 ± 206	<19	<15	<37	<25	<44	<22	<22	266 ± 113	ND
H59	09-13-95	2034 ± 189	<19	<15	<41	<27	<38	<18	<23	ND	ND

ND - Non-detectable.

4.b.1 BROADLEAF VEGETATION - Mangrove - (pCi/kg, wet weight)

Sample Site	Collection Date	Be-7	K-40	I-131	Cs-134	Cs-137
H51	07-06-95	652 ± 53	1918 ± 99	<12	<11	<8
	08-09-95	951 ± 61	4424 ± 150	<10	<9	<10
	09-13-95	919 ± 63	2664 ± 134	<11	<12	<13
H52	07-06-95	438 ± 47	3902 ± 137	<13	<11	<9
	08-10-95	534 ± 53	3858 ± 157	<12	<13	<11
	09-13-95	755 ± 60	2914 ± 135	<11	<11	<11
H59	07-06-95	600 ± 61	2507 ± 116	<14	<10	<10
	08-10-95	1066 ± 77	3851 ± 160	<12	<13	<10
	09-13-95	920 ± 60	3349 ± 129	<9	<9	<9

RADIOLOGICAL SURVEILLANCE OF
FLORIDA POWER AND LIGHT COMPANY'S
ST. LUCIE SITE

Fourth Quarter, 1995

Office of Radiation Control

Florida Department of Health
and Rehabilitative Services

ST. LUCIE SITE

Technical Specifications Sampling

Fourth Quarter, 1995

Sample Type	Collection Frequency	Locations Sampled	Number of Samples
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	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 Food Products			
4.b.1 Broadleaf Vegetation	Monthly	3	9
			Total: 181

NOTE: The US NRC has discontinued their split sampling program due to budget cuts.

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 "non-detectable" (ND) or 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 - (micro-R/hour)

Sample Site	Deployment 09-12-95 Collection 12-12-95
N-1	4.68 ± 0.08
NNW-5	4.55 ± 0.08
NNW-10	4.86 ± 0.08
NW-5	5.03 ± 0.08
NW-10	6.05 ± 0.09
WNW-2	4.76 ± 0.08
WNW-5	4.84 ± 0.08
WNW-10	(A)
W-2	6.24 ± 0.09
W-5	5.06 ± 0.08
W-10	4.78 ± 0.08
WSW-2	4.53 ± 0.08
WSW-5	4.68 ± 0.08
WSW-10	4.11 ± 0.07
SW-2	4.34 ± 0.08
SW-5	5.53 ± 0.08
SW-10	4.96 ± 0.08
SSW-2	4.59 ± 0.08
SSW-5	5.36 ± 0.08
SSW-10	5.03 ± 0.08
S-5	5.13 ± 0.08
S-10	4.92 ± 0.08
S/SSE-10	4.40 ± 0.08
SSE-5	4.78 ± 0.08
SSE-10	5.01 ± 0.08
SE-1	4.44 ± 0.08
H-32	5.07 ± 0.08

(A) - The dosimeter for site WNW-10 was missing when collection was attempted. The new dosimeter for the next quarter was deployed at a different site in the same general area in an attempt to lower the high rate of vandalism being experienced at this site.

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

Collection Date	Sample Site H08	H12	H14	H30	H34
10-03-95	<0.02	<0.02	<0.02	<0.02	<0.02
10-09-95	<0.02	<0.01	<0.01	<0.02	<0.01
10-17-95	<0.02	<0.02	<0.02	<0.02	<0.02
10-23-95	<0.01	<0.01	<0.01	<0.01	<0.01
10-31-95	<0.03	<0.03	<0.03	<0.03	<0.03
11-07-95	<0.02	<0.02	<0.02	<0.02	<0.02
11-13-95	<0.02	<0.02	<0.03	<0.02	<0.03
11-20-95	<0.03	<0.03	<0.03	<0.03	<0.03
11-29-95	<0.01	<0.01	<0.01	<0.01	<0.01
12-04-95	<0.02	<0.03	<0.03	<0.02	<0.03
12-11-95	<0.02	<0.01	<0.01	<0.01	<0.01
12-19-95	<0.01	<0.01	<0.01	<0.01	<0.01
12-27-95	<0.01	<0.01	<0.01	<0.01	<0.01

2.b AIR PARTICULATES - GROSS BETA - (pCi/m^3)

Collection Date	Sample Site H08	H12	H14	H30	H34
10-03-95	0.005 ± 0.002	0.007 ± 0.002	0.007 ± 0.002	<0.006	0.005 ± 0.002
10-09-95	<0.005	0.007 ± 0.002	0.004 ± 0.002	<0.005	0.004 ± 0.002
10-17-95	0.006 ± 0.002	0.009 ± 0.002	0.005 ± 0.002	0.007 ± 0.002	0.009 ± 0.002
10-23-95	0.012 ± 0.002	0.010 ± 0.002	0.009 ± 0.002	0.011 ± 0.002	0.009 ± 0.002
10-31-95	0.010 ± 0.002	0.011 ± 0.002	0.013 ± 0.002	0.013 ± 0.002	0.012 ± 0.002
11-07-95	0.017 ± 0.002	0.015 ± 0.002	0.012 ± 0.002	0.017 ± 0.002	0.014 ± 0.002
11-13-95	0.013 ± 0.002	0.016 ± 0.002	0.014 ± 0.003	0.007 ± 0.002	0.016 ± 0.003
11-20-95	0.018 ± 0.003	0.017 ± 0.002	0.018 ± 0.002	0.016 ± 0.002	0.015 ± 0.002
11-29-95	0.020 ± 0.002	0.019 ± 0.002	0.016 ± 0.002	0.017 ± 0.002	0.018 ± 0.002
12-04-95	0.014 ± 0.002	0.016 ± 0.003	0.018 ± 0.003	0.015 ± 0.002	0.015 ± 0.002
12-11-95	0.018 ± 0.002	0.019 ± 0.002	0.019 ± 0.002	0.019 ± 0.002	0.019 ± 0.002
12-19-95	0.013 ± 0.002	0.012 ± 0.002	0.011 ± 0.002	0.010 ± 0.002	0.008 ± 0.002
12-27-95	0.020 ± 0.002	0.019 ± 0.002	0.026 ± 0.002	0.019 ± 0.002	0.028 ± 0.002
Means:	0.014 ± 0.001	0.014 ± 0.001	0.013 ± 0.001	0.014 ± 0.001	0.013 ± 0.001

2.b AIR PARTICULATES - GAMMA SCANS OF QUARTERLY COMPOSITES - (pCi/m^3)

Fourth Quarter, 1995

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
H08	0.1464 ± 0.0097	<0.0158	<0.0007	<0.0008	0.0126 ± 0.0030
H12	0.1281 ± 0.0104	<0.0163	<0.0010	<0.0009	0.0130 ± 0.0031
H14	0.1484 ± 0.0092	<0.0182	<0.0009	<0.0010	0.0175 ± 0.0028
H30	0.1287 ± 0.0111	<0.0213	<0.0007	<0.0008	0.0104 ± 0.0028
H34	0.1369 ± 0.0112	<0.0151	<0.0009	<0.0009	0.0172 ± 0.0030

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	10-03-95	<154	355 ± 35	<3	<3	<8	<5	<10	<6	<4	<4	<4	<8
	10-10-95	<140	219 ± 36	<3	<4	<8	<4	<10	<6	<5	<4	<4	<4
	10-17-95	<140	332 ± 16	<2	<2	<4	<2	<4	<3	<2	<2	<2	<3
	10-24-95	<146	328 ± 16	<2	<2	<3	<2	<4	<3	<2	<2	<2	<4
	10-31-95	<146	330 ± 34	<4	<3	<8	<4	<8	<7	<5	<4	<4	<6
	11-08-95	<145	353 ± 35	<4	<3	<8	<5	<7	<7	<7	<4	<4	<6
	11-13-95	<145	376 ± 33	<4	<3	<8	<4	<9	<6	<5	<5	<3	<4
	11-21-95	<145	325 ± 35	<3	<4	<8	<5	<8	<6	<4	<4	<4	<8
	11-28-95	<146	351 ± 32	<3	<4	<8	<4	<8	<6	<4	<4	<5	<9
	12-04-95	238 ± 51	347 ± 38	<4	<4	<7	<5	<7	<8	<4	<5	<5	<8
	12-13-95	<149	369 ± 39	<4	<3	<7	<5	<7	<6	<4	<4	<4	<5
	12-20-95	<149	297 ± 30	<3	<3	<6	<4	<6	<5	<3	<3	<3	<4
	12-28-95	<153	279 ± 38	<4	<4	<5	<4	<7	<7	<4	<5	<4	<11
H59	10-10-95	<140	107 ± 32	<4	<3	<7	<4	<8	<7	<5	<4	<4	<5
	11-01-95	<146	336 ± 33	<3	<3	<6	<4	<8	<7	<6	<4	<4	<3
	12-13-95	<149	307 ± 17	<2	<2	<3	<2	<3	<3	<2	<2	<2	<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.

4.b.1 BROADLEAF VEGETATION - Mangrove - (pCi/kg, wet weight)

Sample Site	Collection Date	Be-7	K-40	I-131	Cs-134	Cs-137
H51	10-10-95	279 ± 52	5205 ± 167	<11	<10	<10
	11-01-95	784 ± 62	3062 ± 129	<9	<11	<11
	12-13-95	717 ± 63	3597 ± 127	<9	<9	<10
H52	10-10-95	555 ± 55	2170 ± 104	<9	<9	<9
	11-01-95	400 ± 60	4752 ± 152	<11	<10	<10
	12-13-95	463 ± 47	2558 ± 118	<9	<9	<8
H59	10-10-95	556 ± 55	2623 ± 117	<9	<9	<9
	11-01-95	639 ± 53	2359 ± 127	<12	<10	<10
	12-13-95	449 ± 41	3129 ± 100	<7	<8	<7

1995
ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT
ST. LUCIE PLANT, UNITS 1 & 2

ATTACHMENT C

RESULTS FROM THE INTERLABORATORY

COMPARISON PROGRAM 1995

The results of the Interlaboratory Comparison Program are not available.

The laboratory analyzing the REMP samples has received and analyzed the samples; the results were reported to EPA's Las Vagas Laboratory. EPA's laboratory has not forwarded the results of the first period (January - June '95) and second period (July - December '95) comparisons.

An update to this report will be submitted when the results of the EPA Intercomparison Program for 1995 become available.