



May 11, 2026

L-2026-072
10 CFR 50.4
10 CFR 50.36

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

Re: St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
Renewed Facility Operating Licenses DPR-67 and NPF-16

Annual Radiological Environmental Operating Report for Calendar Year 2025

The enclosed report is being submitted pursuant to Technical Specification 5.6.1. The Annual Radiological Environmental Operating Report provides information summaries and analytical results of the Radiological Environmental Monitoring Program (REMP) for calendar year 2025.

If you have any questions regarding this submittal, please contact Maribel Valdez at 561-904-5164.

Sincerely,



Kenneth A. Mack
Director, Licensing and Regulatory Compliance
Florida Power & Light Company

Enclosure: 2025 Annual Radiological Environmental Operating Report

cc: USNRC Regional Administrator, Region II
USNRC Project Manager, St. Lucie Nuclear Plant
USNRC Resident Inspector, St. Lucie Nuclear Plant
Mr. Clark Eldredge, Florida Department of Health

L-2026-072
Attachment

ATTACHMENT

2025 Annual Radiological Environmental Operating Report
(97 pages follow)



St. Lucie Nuclear Power Plant



Annual Radiological Environmental Operating Report 2025

LICENSE NOS. DPR-67, NPF-16
DOCKET NOS. 50-335, 50-389

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1.0 LIST OF ACRONYMS AND DEFINITIONS

1. Airborne Activity Sampling: Continuous sampling of air through the collection of particulates and radionuclides on filter media.
2. ARERR: Annual Radioactive Effluent Release Report
3. AREOR: Annual Radiological Environmental Operating Report
4. BWR: Boiling Water Reactor
5. Composite Sample: A series of single collected portions (aliquots) analyzed as one sample. The aliquots making up the sample are collected at time intervals that are very short compared to the composite period.
6. Control: A sampling station in a location not likely to be affected by plant effluents due to its distance and/or direction from the station.
7. Curie (Ci): A measure of radioactivity; equal to 3.7×10^{10} disintegrations per second, or 2.22×10^{12} disintegrations per minute.
8. Direct Radiation Monitoring: The measurement of radiation dose at various distances from the plant is assessed using Thermoluminescent Dosimeters (TLD), Optically Stimulated Luminescence Dosimeters (OSLD) and pressurized ionization chambers.
9. EPA: Environmental Protection Agency
10. GPI: Groundwater Protection Initiative
11. Grab Sample: A single discrete sample drawn at one point in time.
12. Indicator: A sampling location that is likely to be affected by plant effluents due to its proximity and/or direction from the plant.
13. Ingestion Pathway: The ingestion pathway includes milk, fish, drinking water and garden produce. Also sampled (under special circumstances) are other media such as vegetation or animal products when additional information about particular radionuclides is needed.
14. ISFSI: Independent Spent Fuel Storage Installation
15. Lower Limit of Detection (LLD): An *a priori* measure of the detection capability of a radiochemistry measurement based on instrument setup, calibration, background, decay time, and sample volume. An LLD is expressed as an activity concentration. The MDA is used for reporting results. LLD are specified by a regulator, such as the NRC and are typically listed in the ODCM.

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16. MDA: Minimum Detectable Activity. For radiochemistry instruments, the MDA is the *a posteriori* minimum concentration that a counting system detects. The smallest concentration or activity of radioactive material in a sample that will yield a net count above instrument background and that is detected with 95% probability, with only five % probability of falsely concluding that a blank observation represents a true signal.
17. MDC: Minimum Detectable Concentration. Essentially synonymous with MDA for the purposes of radiological monitoring.
18. Mean: The sum of all of the values in a distribution divided by the number of values in the distribution, synonymous with average.
19. Microcurie: 3.7×10^4 disintegrations per second, or 2.22×10^6 disintegrations per minute.
20. N/A: Not Applicable
21. NEI: Nuclear Energy Institute
22. NIST: National Institute of Standards and Technology.
23. NRC: Nuclear Regulatory Commission
24. ODCM: Offsite Dose Calculation Manual
25. OSLD: Optically Stimulated Luminescence Dosimeter
26. pCi/L: picocuries / Liter
27. PWR: Pressurized Water Reactor
28. REMP: Radiological Environmental Monitoring Program
29. TLD: Thermoluminescent Dosimeter

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2.0 EXECUTIVE SUMMARY

The St. Lucie Plant Radiological Environmental Monitoring Program (REMP) was established prior to the station becoming operational to provide information on background radiation present in the area. The goal of Site REMP is to evaluate the impact of the station on the environment. Environmental samples from different media are monitored as part of the program in accordance with specifications detailed in the Offsite Dose Calculation Manual (ODCM) and Technical Specifications. The program compares data from Indicator locations near the plant, to Control locations farther away from the site to assess operation impacts.

The Annual Radiological Environmental Operating Report (AREOR) provides data obtained through analyses of environmental samples collected at Site for the reporting period of January 1st through December 31st, 2025. During that time period 1759 analysis were performed on 763 samples. The radiological environmental monitoring program also supplements the radioactive effluents monitoring program by verifying that the measurable concentrations of radioactive materials and levels of radiation are not higher than expected based on the effluent measurements and the modeling of the environmental exposure pathways.

2.1 Summary of Conclusions:

No measurable activities above background levels were detected. All values were consistent with historical results which indicate no adverse radiological environmental impacts associated with the operation of Site. Naturally occurring radionuclides are present in the Earth's crust and atmosphere and exists in detectable quantities throughout the world. It is common to detect naturally occurring radionuclides in many of the samples collected for REMP. Some examples of naturally occurring radionuclides that are frequently seen in samples are potassium-40, beryllium-7, thorium-232, actinium-228 (present as a decay product of radium-228), and radium-226. Additionally, some relatively long-lived anthropogenic radioisotopes, such as strontium-90 and cesium-137, are also seen in some REMP samples; these radionuclides exist in measurable quantities throughout the world as a result of fallout from historic atmospheric nuclear weapons testing. Detailed information on the exposure of the U.S. population to ionizing radiation can be found in NCRP Report No. 160 [1].

3.0 INTRODUCTION

The Radiological Environmental Monitoring Program (REMP) provides data on measurable levels of radiation and radioactive materials in the environment. This program also evaluates the relationship between quantities of radioactive materials released from the plant and resultant doses to individuals from principal pathways of exposure. In this capacity, REMP provides a check on the effluent release program and dispersion modeling to ensure that concentrations in the environment due to radioactive effluents conform to the "As Low as Is Reasonably Achievable" (ALARA) design objectives of 10 CFR 50, Appendix I [2], and implements the requirements of Section IV.B.2 and IV.B.3 of Appendix I. REMP is designed to conform to the Nuclear Regulatory Commission (NRC) Regulatory Guide 4.1 [3], NUREG 1301/1302 [4] [5], and the 1979 NRC Branch Technical Position [6].

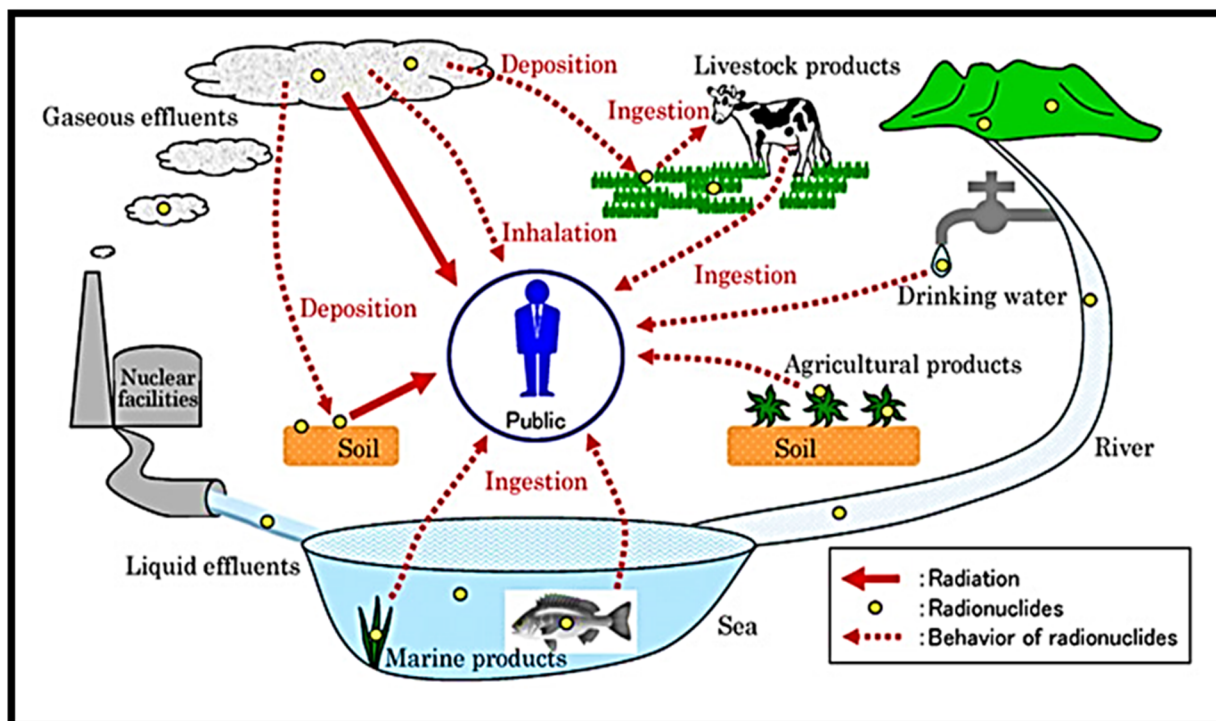


Figure 1, Potential exposure pathways to Members of the Public due to Plant Operations [7]

Quality assurance aspects of the sampling program and TLD data collection are conducted in accordance with Regulatory Guides 4.15 [8] and 4.13 [9]. REMP also adheres to the requirements of Florida, Site Technical Specifications, and Offsite Dose Calculation Manual (ODCM). These governing documents dictate the environmental sampling, sample analysis protocols, data reporting and quality assurance requirements for the environmental monitoring program.

The Annual Radiological Environmental Operating Report provides summaries of the environmental data from exposure pathways, interpretations of the data, and analyses of trends of the results. Routinely monitored pathways include ingestion, inhalation, and direct radiation. Routes of exposure are based on site specific information such as meteorology, receptor locations, and water usage around the plant.

4.0 SITE DESCRIPTION AND SAMPLE LOCATIONS

St. Lucie Plant is a commercial nuclear power plant that achieved initial criticality in 1976 for Unit 1 and 1983 for Unit 2. The St. Lucie Plant sits on Hutchinson Island, a narrow Atlantic barrier island in St. Lucie County, Florida, approximately 8 miles southeast of Fort Pierce. The plant is flanked by the Atlantic Ocean to the east and the Indian River Lagoon (Intracoastal Waterway) to the west, making it geographically isolated on a thin strip of coastal land. The area is relatively sparsely populated near the plant itself due to its barrier island setting, but grows substantially moving inland:

- 2-mile zone — Very low permanent population; primarily the plant site itself and limited island residential areas
- 5-mile zone — Modest population; includes portions of Hutchinson Island with some residential/condominium development
- 10-mile EPZ — Significantly more populated, encompassing parts of Fort Pierce, Port St. Lucie, and Stuart. Per NRC population analysis data, Area 5 alone (which includes much of Port St. Lucie) accounts for roughly 55,000 residents within the 10-mile radius. St. Lucie County's total population was approximately 329,000 as of the 2020 Census, and population within the EPZ has grown by roughly 12–13% since 2010 per NRC reports.

Site sampling media is selected based on site specific information such as meteorology, receptor locations, and water usage around the plant. Sampling and analysis frequencies are documented in the Offsite Dose Calculation Manual and site procedures. Required sampling, analysis frequencies and location of samples collected are captured in the following tables and figures:

- Table 1, Radiological Environmental Monitoring Program – Direct Radiation
- Table 2, Radiological Environmental Monitoring Program – Airborne
- Table 3, Radiological Environmental Monitoring Program – Waterborne
- Table 4, Radiological Environmental Monitoring Program – Ingestion
- Table 5, REMP Sampling Locations – Direct Radiation
- Figure 2, REMP Sample Locations (Near Field/Site Boundary)
- Figure 3, REMP Sample Locations (Far Field)
- Figure 4, REMP Sample Locations (Onsite)

5.0 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM REQUIREMENTS

Table 1, Radiological Environmental Monitoring Program – Direct Radiation

Requirement	Sample Location Description, Distance, and Direction	Sampling Collection/ Frequency	Type and Frequency of Analyses
<p><u>Direct Radiation</u> 27 Monitoring Locations</p>	<p>See Table 5</p>	<p>Continuous monitoring with sample collection quarterly</p>	<p>Gamma exposure rate - quarterly</p>

Table 2, Radiological Environmental Monitoring Program – Airborne

Requirement	Sample Location Description, Distance, and Direction	Sampling Collection/ Frequency	Type and Frequency of Analyses
<u>Airborne Radioiodine and Particulates</u> Samples from 5 locations:	See Below	Continuous sampler operation with sample collection weekly or more frequently if required by dust loading.	Radioiodine filter: I-131 analysis weekly Particulate Filter: Gross beta radioactivity analysis ≥ 24 hours following a filter change Gamma isotopic analysis of composite (by location) quarterly

Radiological Environmental Monitoring Program – Airborne cont.

Location Name	Direction Sector	Approximate Distance (Miles)	Description
H34	N	0.5	On-Site - At Meteorological Tower
H14	SE	1	On-Site - Near South Property Line
H30	W	2	Power Line - 7609 Indian River Drive
H08	WNW	6	FPL Substation – Weatherbee Road
H12 (Control)	S	12	FPL Substation, SR-76 Stuart

Table 3, Radiological Environmental Monitoring Program – Waterborne

Requirement	Sample Location Description, Distance, and Direction	Sampling Collection/ Frequency	Type and Frequency of Analyses
Surface Water	Atlantic Ocean, in the vicinity of the public beaches along the eastern shore of Hutchinson Island near the St. Lucie Plant (grab sample)	Weekly	Gamma isotopic & tritium analyses weekly
Surface Water	Atlantic Ocean, at a location beyond influence from plant effluents (grab sample).	Monthly	Gamma isotopic & tritium analyses monthly
Sediment from Shoreline 2 Locations	Atlantic Ocean Public Beaches, East Side A1A Near South End of Hutchinson Island	Semiannually	Gamma isotopic analyses semiannually
Groundwater 10 indicator locations	See Table 3a below	Quarterly	Gamma isotopic & tritium analyses quarterly

Table 3a, Radiological Environmental Monitoring Program – Waterborne

State ID	PSL ID		Location Description
H70	GIS-MW-ES	27°21'01.26"N 80°14'38.48"W	West of A1A; between the discharge canal and Gate "B"
H71	GIS-MW-EI	27°21'01.23"N 80°14'30.45"W	West of A1A; between the discharge canal and Gate "B"
H72	GIS-MW-SI	27°20'31.97"N 80°14'31.19"W	South of Intake canal and the adjacent access road
H73	GIS-MW-SWS	27°20'28.90"N 80°14'42.73"W	S/W corner of Intake canal and the adjacent access road
H74	GIS-MW-SWI	27°20'28.92"N 80°14'42.59"W	S/W corner of Intake canal and the adjacent access road
H75	GIS-MW-WI	27°20'44.27"N 80°14'53.75"W	West of plant site and intake canal; South of switchyard
H76	H76	27°21'01.68"N 80°14'51.25"W	North of Simulator; South of Big Mud Creek
H77	H77	27°21'03.53"N 80°14'50.26"W	East of Barge Slip; By LU bldg
H78	H78	27°21'04.47"N 80°14'43.24"W	South of North Warehouse
H79	H79	27°20'54.05"N 80°14'33.43"W	West of A1A and East of Parking Lot

Table 4, Radiological Environmental Monitoring Program – Ingestion

Requirement	Sample Location Description, Distance, and Direction	Sampling Collection/Frequency	Type and Frequency of Analyses
Fish and Crustacea:	H15, Ocean side vicinity of St. Lucie Plant, <1 mile, ENE/E/ESE (Note 1) H59(Control sample), Near south end of Hutchinson Island, 10-20 miles, S/SSE	Semi-Annually Semi-Annually	Gamma isotopic
Broad Leaf Vegetation	H51, Offsite near north property line, 1mile, N/NNW H52, Offsite near north property line, 1mile, S/SSE H59(Control sample), Near south end of Hutchinson Island, 10-20 miles, S/SSE	Monthly	Gamma isotopic

Note 1 - These samples may be collected from or supplemented by samples collected from the plant intake canal if the required analyses are unable to be performed due to unavailability or inadequate quantity of sample from the ocean side location.

Table 5, REMP Sampling Locations – Direct Radiation

Location Name	Direction Sector	Approximate Distance (Miles)	Description
N-1	N	1	North of Blind Creek (A1A)
SE-1	SE	1	South of Cooling Canal
WSW-2	WSW	1.8	8503 Indian River Drive
W-2	W	2	Power Line - 77609 Indian River Drive
SW-2	SW	2	9205 Indian River Drive
WNW-2	WNW	2.3	Cemetery South of 7107 Indian River Drive
SSW-2	SSW	2.6	10307 Indian River Drive
SW-5	SW	4.5	FPL Walton Service Center
NNW-5	NNW	4.8	Frederick Douglas Beach Entrance
WNW-5	WNW	5.1	US-1 at SR 712
SSE-5	SSE	5.1	North of Entrance to Miramar
S-5	S	5.2	13189 Indian River Drive
NW-5	NW	5.4	Indian River Drive at Rio Vista Drive
W-5	W	5.4	Oleander and Sager Streets
WSW-5	WSW	5.6	Prima Vista Blvd. at Yacht Club
SSW-5	SSW	6	Port St. Lucie Blvd. and US-1
SSW-10	SSW	8	Pine Valley and Westmoreland Roads
NNW-10	NNW	8.7	Coast Guard Station
NW-10	NW	9.6	Intersection of SR 68 and 33rd St (FPL Facility)
S/SSE-10	SSE	9.9	Indian River Drive and Quail Run Lane
WNW-10	WNW	10	SR 70, Just West of I-95
WSW-10	WSW	10	Del Rio and Davis Streets
SW-10	SW	10.2	Port St. Lucie Blvd. and Cairo Road
SSE-10	SSE	10.2	Elliot Museum
W-10	W	10.3	I-95 and SR 709
S-10	S	10.8	US 1 and Palm City Ave
H32 (Control)	NNW	18.1	U. of Florida - IFAS Entomology Lab Vero Beach

6.0 MAPS OF COLLECTION SITES

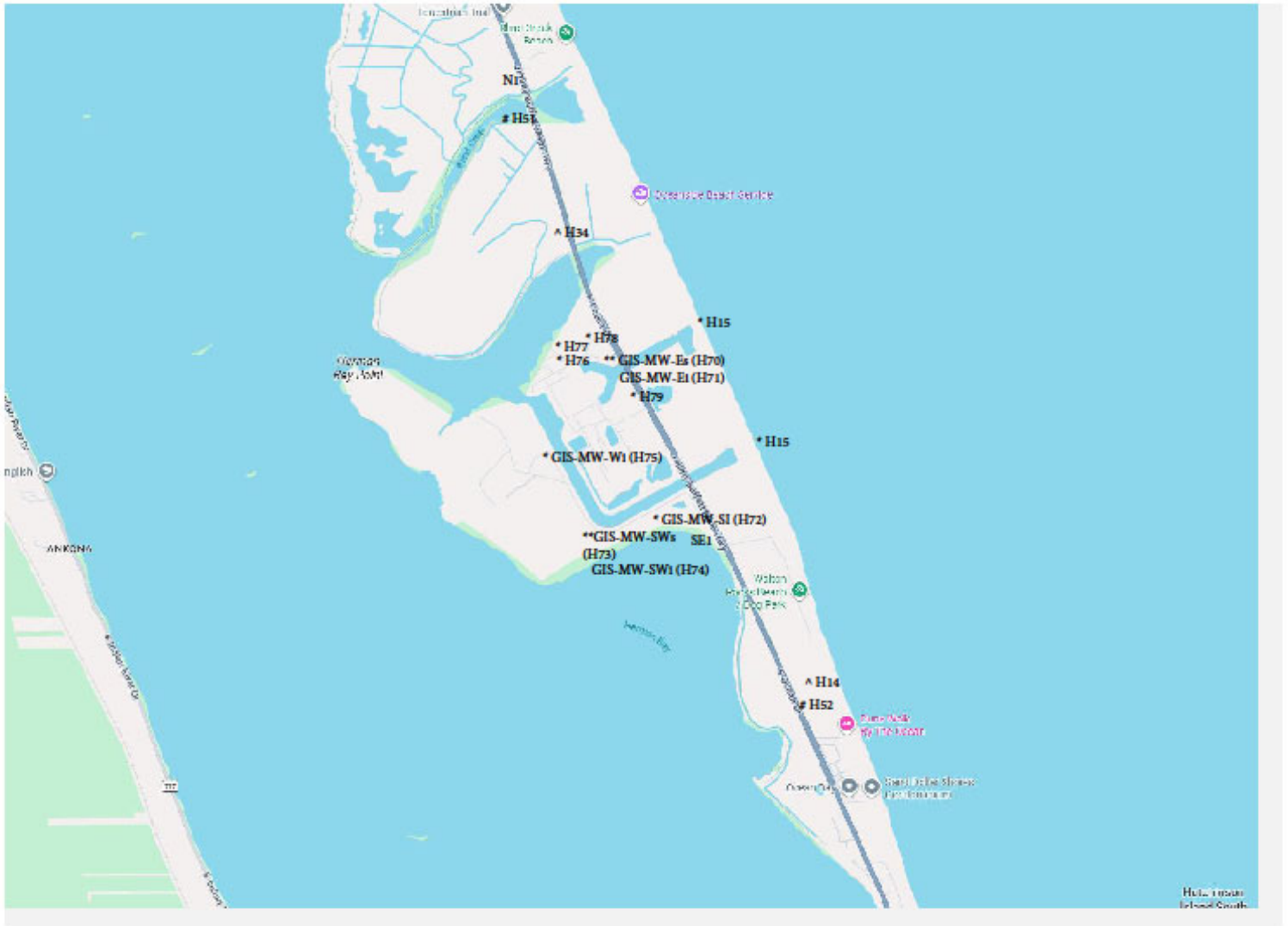


Figure 2, REMP Sample Locations (Near Field/Site Boundary)

St. LUCIE NUCLEAR ENVIRONMENTAL SAMPLE LOCATIONS (10 MILES)

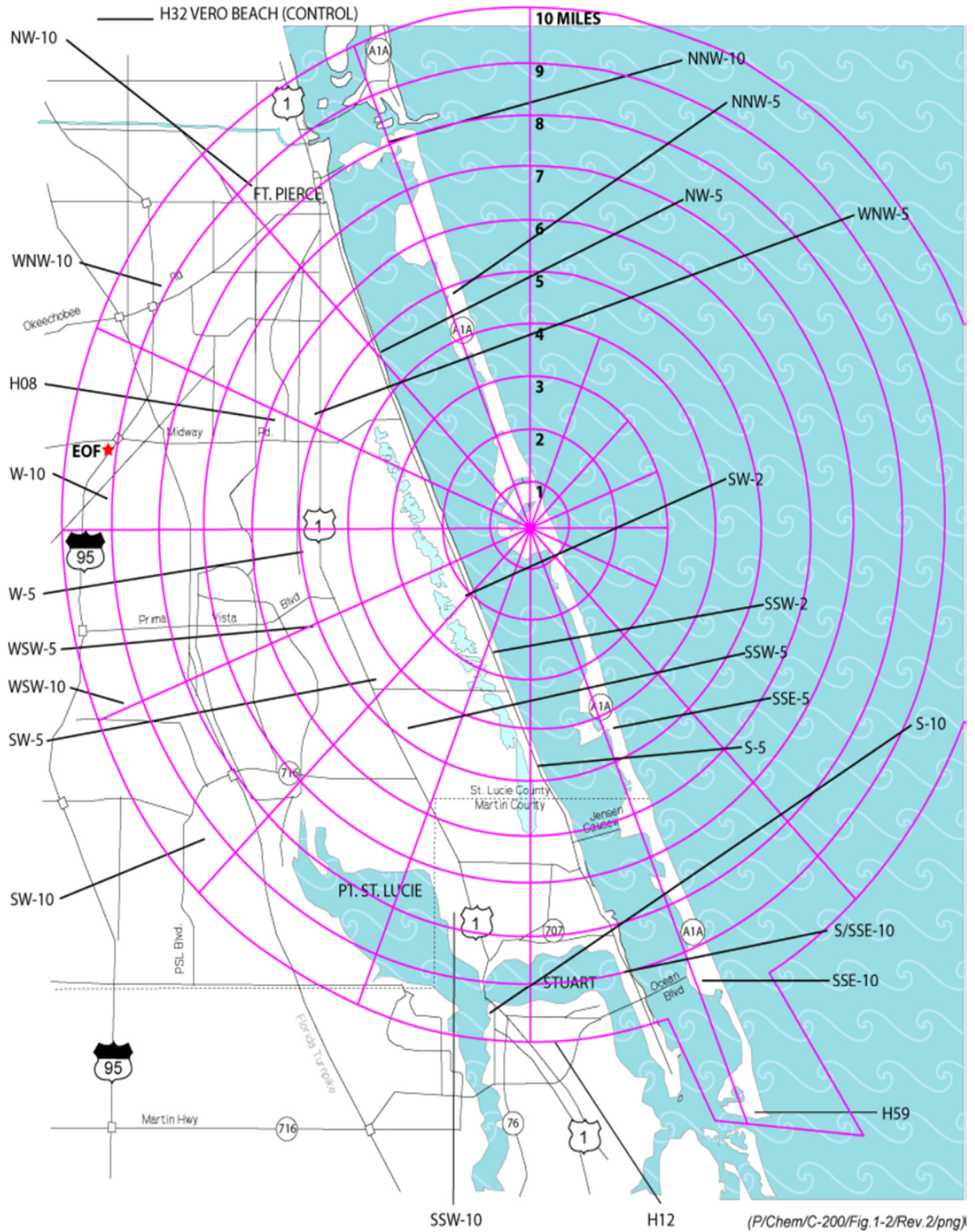


Figure 3, REMP Sample Locations (Far Field)



Figure 4, REMP Sample Locations (Onsite)

7.0 REPORTING LEVELS FOR RADIOACTIVITY CONCENTRATIONS IN ENVIRONMENTAL SAMPLES

Table 6, Reporting Levels for Radioactivity Concentrations in Environmental Samples

Radionuclide	Water (pCi/L)	Air Particulates or Gases (pCi/m ³)	Fish (pCi/Kg-wet)	Milk (pCi/L)	Food Products (pCi/Kg-wet)
H-3	20,000 ⁽¹⁾				
Mn-54	1,000		30,000		
Fe-59	400		10,000		
Co-58	1,000		30,000		
Co-60	300		10,000		
Zn-65	300		20,000		
Zr-Nb-95	400				
I-131	2 ⁽²⁾	0.9		3	100
Cs-134	30	10	1,000	60	1,000
Cs-137	50	20	2,000	70	2,000
Ba-La-140	200			300	

Table 7, Maximum Values for the Limit of Detection

Radionuclide	Water (pCi/L)	Air Particulates or Gases (pCi/m ³)	Fish (pCi/Kg-wet)	Milk (pCi/L)	Food Products (pCi/Kg-wet)	Sediment (pCi/Kg-dry)
Gross Beta	4.0	0.01				
H-3	2,000 ⁽³⁾					
Mn-54	15		130			
Fe-59	30		260			
Co-58, Co-60	15		130			
Zn-65	30		260			
Zr-Nb-95	15					
I-131	1 ⁽⁴⁾	0.07		1	60	
Cs-134	15	0.05	130	15	60	150
Cs-137	18	0.06	150	18	80	180
Ba-La-140	15			15		

¹ For drinking water samples: If no drinking water pathway exists, a value of **30,000 pCi/L** may be used.

² If no drinking water pathway exists, a value of 20 pCi/l may be used

³ If no drinking water pathway exists, a value of **3,000 pCi/L** may be used. Some states may require a lower LLD for drinking water sources- per 40 CFR 141 Safe drinking water ACT.

⁴ If no drinking water pathway exists, a value of 15 pCi/l may be used

8.0 SAMPLING PROGRAM, PROGRAM MODIFICATION AND INTERPRETATION OF RESULTS

At most nuclear stations, data was collected prior to plant operation to determine background radioactivity levels in the environment. Annual data is routinely compared to preoperational and/or 10-year average values to determine if changes in the environs are present. Strict comparison is difficult to make due to fallout from historical nuclear weapon testing. Cesium-137 can be routinely found in environmental samples due to above ground nuclear weapons testing. It is important to note, levels of Cs-137 in environment are observed to fluctuate, for example as silt distributions shift due to natural erosion and transport processes, Cs-137 may or may not be observed in sediment samples. Results from samples collected and analyzed during the year 2025, are described below.

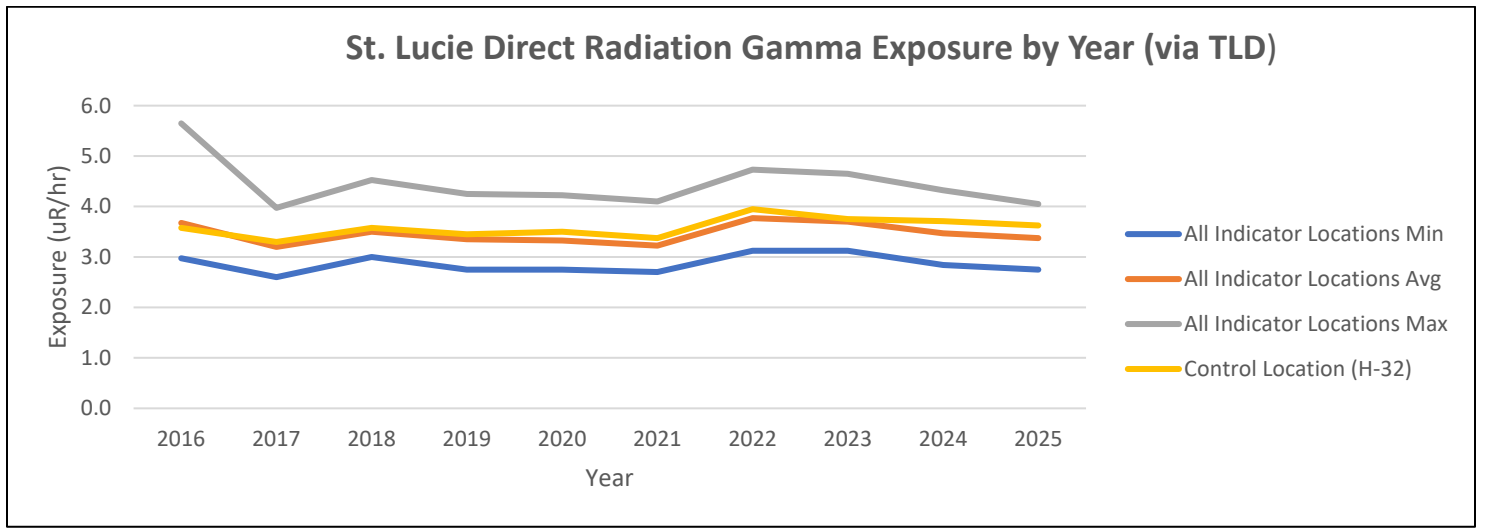
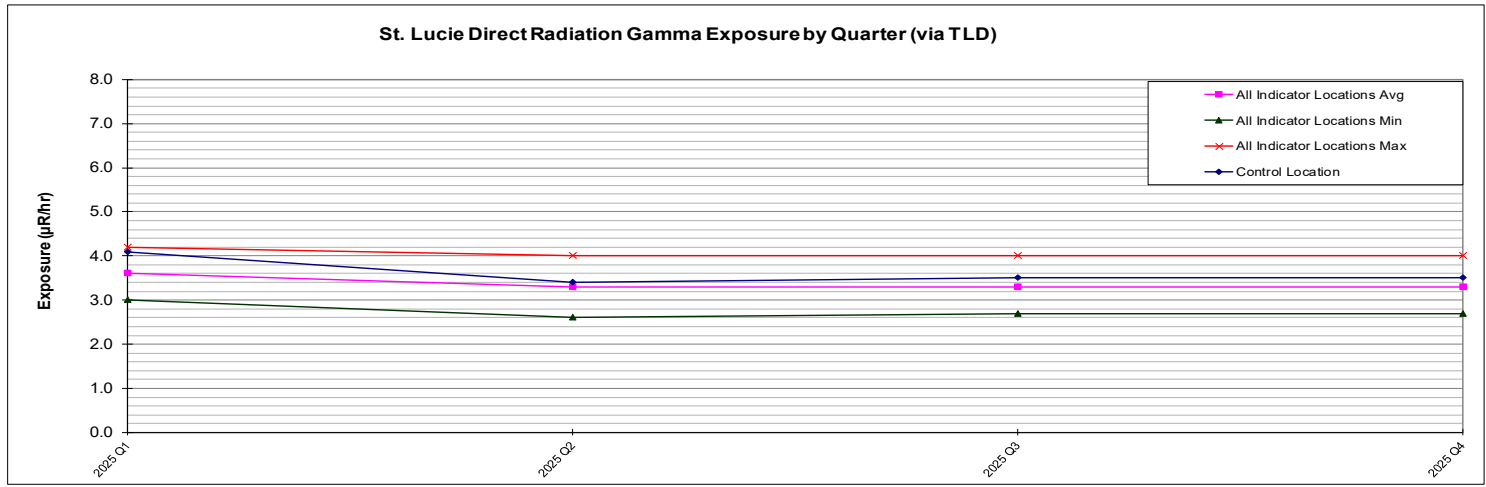
It is the policy of Florida Power & Light Company (FPL) that the St. Lucie 1 & 2 Radiological Environmental Monitoring Programs are conducted by the State of Florida Department of Health (DOH) and Bureau of Radiation Control (BRC), pursuant to an Agreement between FPL and DOH and; that coordination of the Radiological Environmental Monitoring Programs with DOH and compliance with the Radiological Environmental Monitoring Program Controls are the responsibility of the Nuclear Plant Support Services Department.

8.1 Environmental Direct Radiation Dosimetry Results

Dose is measured as net exposure (field reading less transit reading) normalized to 91-day quarters. Data is treated and analyzed consistent with ANSI/HPS N13.37-2014, which compares the measured dose for each location to the baseline background dose for that location. Environmental dose rates vary by location, depending on geological and land use considerations, and remain relatively constant for any given location (unless land use changes). Some facilities observe seasonal variation in environmental doses. Baseline Background Doses have been determined for both quarterly and annual measurements at each location using historical field measurements.

During the calendar year 2025, a total of 27 locations were monitored and data analyzed in accordance with the requirements in Table 1, Radiological Environmental Monitoring Program – Direct **Radiation**. Attachment 1, Radiological Surveillance of Florida Power & Light Company - St. Lucie Site, provides the annual direct radiation dosimetry analysis. There was no direct radiation dose detected from the facility. All TLD measurements were analyzed, and none were found to have radiation levels that had increased over normal background radiation levels.

PATHWAY: DIRECT RADIATION						
SAMPLES COLLECTED: TLD						
UNITS: micro-R/hr						
Type of Analyses	Number of Analyses Performed	Lower Limit of Detection ^a (LLD)	All Indicator Locations	Location with Highest Annual Mean	Control Location	
			Mean (f) ^b Range	Name ^c Distance & Direction	Mean (f) ^b Range	Mean (f) ^b Range
Exposure ^d	108	-----	3.37(104/104) 2.6 - 4.2	NW-10 9.6 mi., NW	4.05(4/4) 4 - 4.2	3.63(4/4) 3.4 - 4.1
Number of Non-Routine Reported Measurements = 0.						



8.2 Air Particulate and Radioiodine Sample Results

Air particulate filters and charcoal canisters were collected from locations specified in Table 1, Radiological Environmental Monitoring Program – Direct Radiation. During the calendar year 2025, a total of 259 samples were collected and analyzed for gross beta, gamma emitters and iodine. Particulate samplers are used to continuously collect airborne particulates on a filter. The samples are analyzed for gross beta activity following filter changeout which occurs weekly. Gamma isotopic analysis is also performed on the samples collected at each location and is analyzed quarterly. Radioiodine (I-131) analysis is performed weekly on radioiodine sample cartridges.

PATHWAY: AIRBORNE						
SAMPLES COLLECTED: RADIOIODINE AND PARTICULATES						
UNITS: pico-Ci/M ³						
			<u>All Indicator Locations</u>	<u>Location with Highest Annual Mean</u>	<u>Control Location</u>	
Type of Analyses	Number of Analyses Performed	Lower Limit of Detection ^a (LLD)	<u>Mean (f)^b</u> Range	<u>Name^c</u> Distance & Direction	<u>Mean (f)^b</u> Range	<u>Mean (f)^b</u> Range
¹³¹ I	259	0.012	<MDA (0 / 207)	-----	-----	<MDA (0 / 52)
Gross Beta	259	0.0064	0.0134 (207 / 208) (0.003 - 0.043)	H30 2 mi., W	0.0153 (207 / 208) 0.005 - 0.043	0.0136 (52 / 52) 0.005 - 0.028
Composite Gamma	20					
⁷ Be	20	0.006	0.1039 (16 / 16) 0.054 - 0.15	H30 2 mi., W	0.103125 (4 / 4) 0.054 - 0.15	0.091275 (4 / 4) 0.066 - 0.114
⁴⁰ K	20	0.018	<MDA (0 / 16)	-----	-----	<MDA (0 / 4)
¹³⁴ Cs	20	0.0008	<MDA (0 / 16)	-----	-----	<MDA (0 / 4)
¹³⁷ Cs	20	0.0008	<MDA (0 / 16)	-----	-----	<MDA (0 / 4)
²¹⁰ Pb	20	-----	0.0125 (4 / 16) 0.0101 - 0.0151	H34 0.5 mi., N	#DIV/0! <MDA - 0	<MDA (0 / 4)
Be-7, K-40, and Pb-210 are naturally occurring. Number of Non-Routine Reported Measurements = 0.						

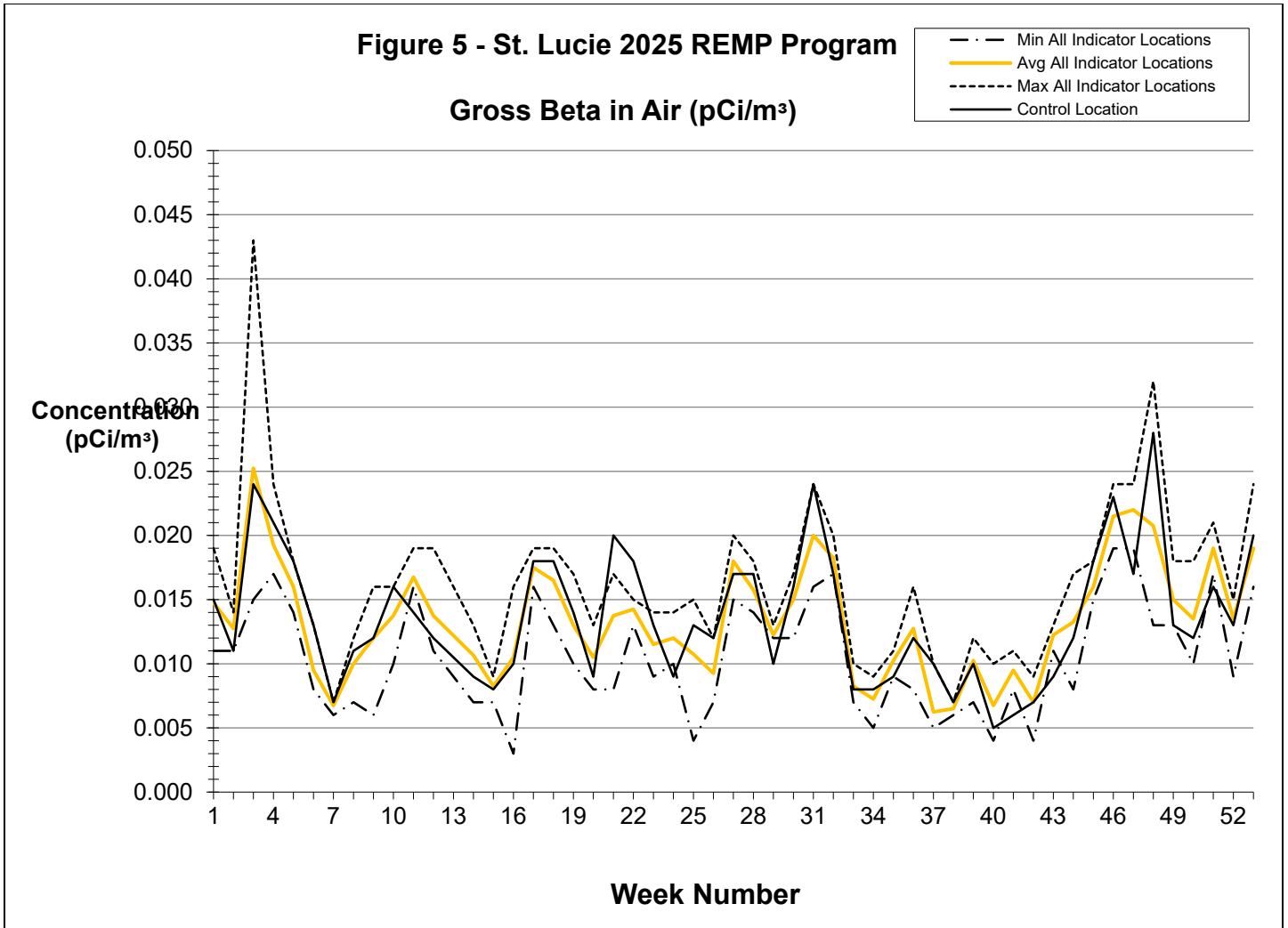


Figure 5, Air Particulate: Analysis for Gross Beta, Average for All Indicator vs. Control Location

8.3 Waterborne Sample Results

8.3.1 Surface Water

Water samples are collected weekly at the Atlantic Ocean, in the vicinity of the public beaches along the eastern shore of Hutchinson Island near the St. Lucie Plant. Monthly at the control location Atlantic Ocean, at a location beyond influence from plant effluents. The samples are analyzed for tritium and gamma emitters. During the calendar year 2025, a total of 64 surface water samples were collected and analyzed in accordance with the requirements in the ODCM and shown in Table 3, Radiological Environmental Monitoring Program – Waterborne.

PATHWAY: WATERBORNE						
SAMPLES COLLECTED: SURFACE WATER						
UNITS: pico-Ci/LITER						
Type of Analyses	Number of Analyses Performed	Lower Limit of Detection ^a (LLD)	All Indicator Locations	Date with Highest Annual Result		Control Locations
			Mean (f) ^b Range	Name ^c / Date Distance & Direction	Result	Mean (f) ^b Range
Tritium	64	172	137 (4 / 52) 104 - 219	H15 / 23-Dec-25	219 (4 / 52)	106 (1 / 12) 106 - 106
Gamma Isotopic	64					
⁴⁰ K		58	346 (52 / 52) 270 - 402	H15 / 29-Jan-25 <1mi., ENE/E/ESE	402	356 (12 / 12) 302 - 393
⁵⁴ Mn		3	<MDA (0/52)	-----	-----	<MDA (0/12)
⁵⁹ Fe		6	<MDA (0/52)	-----	-----	<MDA (0/12)
⁵⁸ Co		3	<MDA (0/52)	-----	-----	<MDA (0/12)
⁶⁰ Co		4	<MDA (0/52)	-----	-----	<MDA (0/12)
⁶⁵ Zn		7	<MDA (0/52)	-----	-----	<MDA (0/12)
⁹⁵ Zr-Nb		6/3	<MDA (0/52)	-----	-----	<MDA (0/12)
¹³¹ I		4	<MDA (0/52)	-----	-----	<MDA (0/12)
¹³⁴ Cs		4	<MDA (0/52)	-----	-----	<MDA (0/12)
¹³⁷ Cs		4	<MDA (0/52)	-----	-----	<MDA (0/12)
¹⁴⁰ Ba-La		9/3	<MDA (0/52)	-----	-----	<MDA (0/12)

K-40 is naturally occurring.
Number of Non-Routine Reported Measurements = 0.

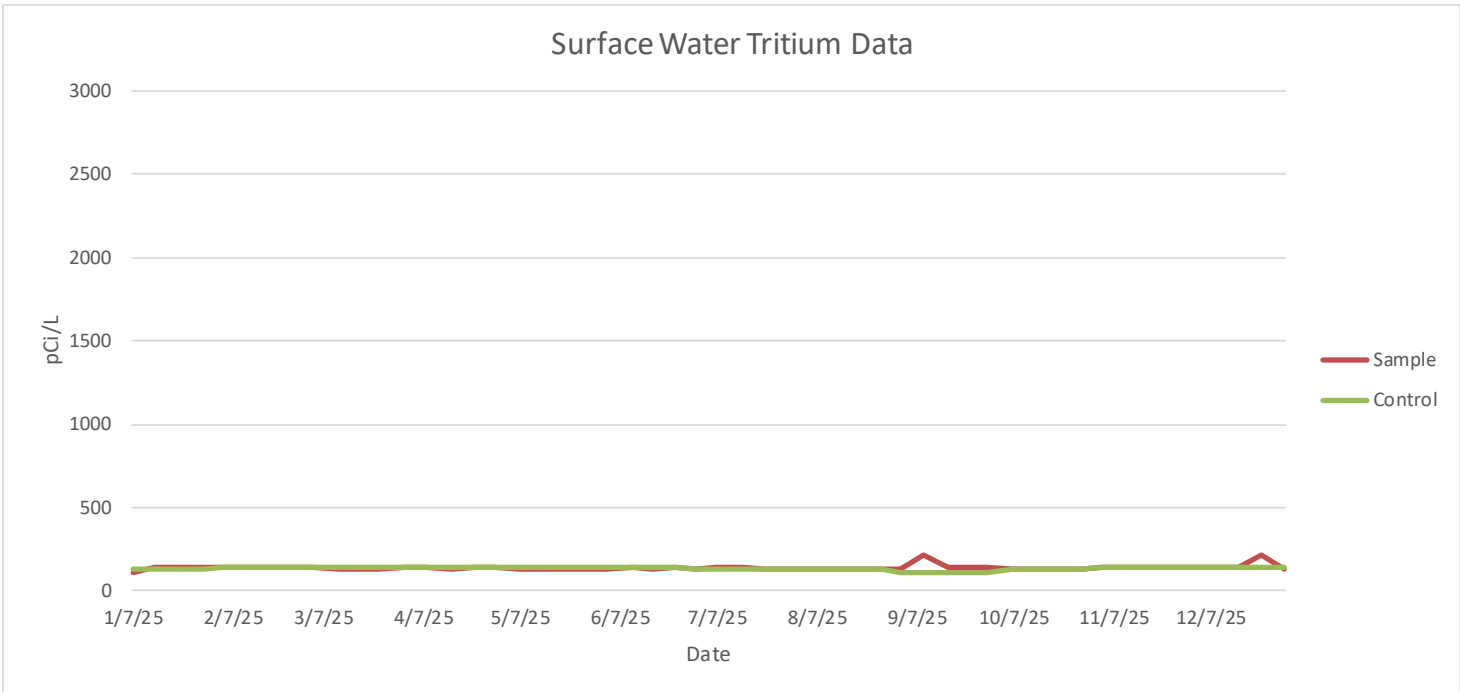
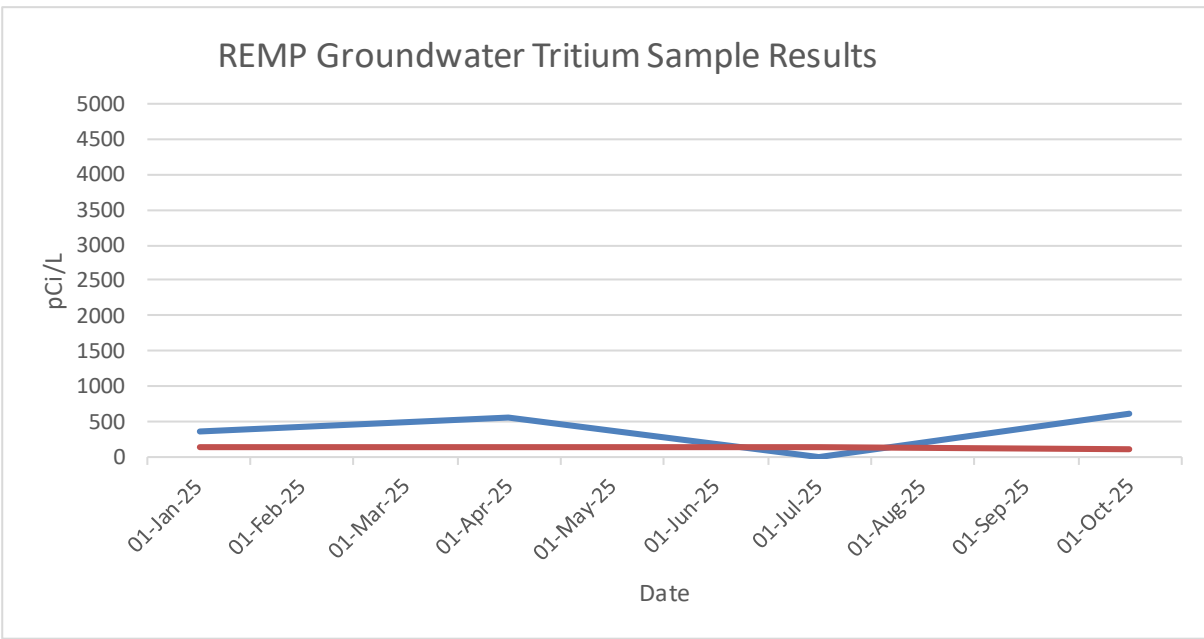


Figure 6: Surface Water Tritium Results

8.3.2 REMP Groundwater

Groundwater samples were collected from the plant boundaries. During the calendar year 2025 a total of 40 groundwater water samples were collected from monitoring wells and analyzed in accordance with the requirements in the ODCM and shown in Table 3: Radiological Environmental Sampling Program – Exposure Pathway - Waterborne. These samples were analyzed for tritium and gamma quarterly. Samples analyzed for H3 and principal gamma emitters; tritium was the only fission product identified. Naturally occurring K-40 was occasionally identified. Well H71 was the only well that indicated tritium due to its close location to the discharge canal. These tritium levels are well below the EPA limit of 30,000 pCi/Liter.



State ID	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
H70	<137	<137	<131	<133
H71	372	557	<136	606
H72	<136	<137	<136	<133
H73	<137	<133	<131	<133
H74	<137	<137	<136	<133
H75	<137	<137	<136	<133
H76	<137	<137	<131	101
H77	<137	<137	<131	<133
H78	<137	<133	<136	<133
H79	<137	<137	<136	<133

Figure 7: REMP Groundwater Tritium Sample Results

8.3.3 Drinking Water

This control is provided to implement the requirements of Sections II.A, III.A and IV.A of Appendix I, 10 CFR Part 50. The Control implements the guides set forth in Section II.A of Appendix I. The ACTION statements provide the required operating flexibility and at the same time implement the guides set forth in Section IV.A of Appendix I to assure that the release of radioactive material in liquid effluents to UNRESTRICTED AREAS will be kept as low as is reasonably achievable. Also, for fresh water sites with drinking water supplies that can be potentially affected by plant operations, there is reasonable assurance that the operation of the facility will not result in radionuclide concentrations in the finished drinking water that are in excess of the requirements of 40 CFR Part 141. The dose calculation methodology and parameters in the ODCM implement the requirements in Section III.A of Appendix I that conformance with the guides of Appendix I be shown by calculational procedures based on models and data, such that the actual exposure of a MEMBER OF THE PUBLIC through appropriate pathways is unlikely to be substantially underestimated. Discharges from the St. Lucie Plant do not influence drinking water or ground water pathways.

8.3.4 Sediment from Shoreline

Shoreline sediment collections were made in February and August of 2025 and analyzed for gamma-emitting isotopes. Samples are collected at both indicator and control locations. A total of 4 shoreline samples were analyzed in accordance with requirements in the ODCM and shown in Table 3, Radiological Environmental Monitoring Program – Waterborne.

PATHWAY: WATERBORNE						
SAMPLES COLLECTED: SHORELINE SEDIMENT						
UNITS: pico-Ci/kg DRY						
Type of Analyses	Number of Analyses Performed	Lower Limit of Detection ^a (LLD)	<u>All Indicator Locations</u>	<u>Date with Highest Annual Result</u>	<u>Control Locations</u>	
			<u>Mean (f)^b</u> Range	<u>Name^c / Date</u> Distance & Direction	<u>Result</u>	<u>Mean (f)^b</u> Range
Gamma Isotopic	44					
⁷ Be		56	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
⁴⁰ K		100	240 (2 / 2) 237 - 243	H15 / 04-Feb-25 <1mi, ENE/E/ESE	243	173 (1 / 2) 173 - 173
⁵⁸ Co		6	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
⁶⁰ Co		7	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
¹³⁴ Cs		7	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
¹³⁷ Cs		7	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
²¹⁰ Pb		-----	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
²²⁶ Ra		15	116 (1 / 2) 116 - 116	H15 / 05-Aug-25 <1mi, ENE/E/ESE	116	557 (1 / 2) 557 - 557
²³² Th		25	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
²³⁵ U		-----	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
²³⁸ U		-----	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)

Be-7, K-40, Pb-210, Ra-226, Th-232, U-235, and U-238 are naturally occurring.
Number of Non-Routine Reported Measurements = 0.

8.4 Ingestion Pathway Sample Results

8.4.1 Fish and Invertebrates

A total of 8 fish and invertebrate samples were collected in 2025. These samples were analyzed for gamma emitting radionuclides, in accordance with requirements of the ODCM and summarized in Table 4, Radiological Environmental Monitoring Program – Ingestion. These samples are collected from the indicator and control areas as required by the ODCM.

PATHWAY: INGESTION						
SAMPLES COLLECTED: FISH						
UNITS: pico-Ci/kg WET						
Type of Analyses	Number of Analyses Performed	Lower Limit of Detection ^a (LLD)	<u>All Indicator Locations</u>	<u>Date with Highest Annual Result</u>	<u>Control Locations</u>	
			Mean (f) ^b Range	Name ^c / Date Distance & Direction	Result	Mean (f) ^b Range
Gamma Isotopic	40					
⁴⁰ K		270	2740 (2 / 2) 2620 - 2860	H15 / 16-May-25 <div style="border: 1px solid black; padding: 2px; display: inline-block;"><1mi, ENE/E/ESE</div>	2860	2745 (2 / 2) 2590 - 2900
⁵⁴ Mn		16	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
⁵⁸ Co		15	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
⁶⁰ Co		16	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
¹³⁴ Cs		16	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
¹³⁷ Cs		18	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
²²⁶ Ra		300	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
²²⁸ Ra		58	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
⁵⁹ Fe		28	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
⁶⁵ Zn		32	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)

K-40, Ra-226, and Ra-228 are naturally occurring.
Number of Non-Routine Reported Measurements = 0.

PATHWAY: INGESTION

SAMPLES COLLECTED: CRUSTACEA

UNITS: pico-Ci/kg WET

Type of Analyses	Number of Analyses Performed	Lower Limit of Detection ^a (LLD)	All Indicator Locations	Date with Highest Annual Result	Control Locations	
			<u>Mean (f)^b</u> Range	<u>Name^c / Date</u> Distance & Direction	<u>Result</u>	<u>Mean (f)^b</u> Range
Gamma Isotopic	40					
⁴⁰ K		270	1645 (2 / 2) 1520 - 1770	H15 / 04-Feb-25 <1mi, ENE/E/ESE	1770	1700 (2 / 2) 1670 - 1730
⁵⁴ Mn		16	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
⁵⁸ Co		15	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
⁶⁰ Co		16	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
¹³⁴ Cs		16	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
¹³⁷ Cs		18	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
²²⁶ Ra		300	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
²²⁸ Ra		58	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
⁵⁹ Fe		28	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
⁶⁵ Zn		32	<MDA (0 / 2)	-----	<MDA	<MDA (0 / 2)
<p>K-40, Ra-226, and Ra-228 are naturally occurring. Number of Non-Routine Reported Measurements = 0.</p>						

8.4.2 Broad Leaf Vegetation

In accordance with the ODCM and as described in Table 4, Radiological Environmental Monitoring Program – Ingestion, 36 broad leaf vegetation samples were collected from growing locations nearest site boundary in areas of highest predicted annual average ground level D/Q. Samples are collected and analyzed for gamma isotopic and I-131 from the indicator and control locations monthly. It is common to detect Cs-137 in broadleaf samples at both indicator and control locations. Cs-137 can be attributed to offsite sources such as weapons testing, Chernobyl, and Fukushima events. While Cs-137 is periodically found in vegetation samples, the historical relationship between the indicator and control locations demonstrate that the plant is not the source of activity detected.

PATHWAY: INGESTION						
SAMPLES COLLECTED: BROADLEAF VEGETATION						
UNITS: pico-Ci/kg WET						
Type of Analyses	Number of Analyses Performed	Lower Limit of Detection ^a (LLD)	All Indicator Locations	Location with Highest Annual Mean	Control Locations	
			<u>Mean (f)^b</u> Range	<u>Name^c</u> Distance & Direction	<u>Mean (f)^b</u> Range	<u>Mean (f)^b</u> Range
Gamma Isotopic	324					
Be		64	1198 (24 / 24) 345 - 3170	H51 1 mi., N/NNW	1511 (12 / 12) 966 - 3170	995 (12 / 12) 719 - 1480
⁰ K		120	4711 (24 / 24) 3020 - 6700	H51 1 mi., N/NNW	4676 (12 / 12) 3020 - 6700	3037 (12 / 12) 1940 - 3850
³¹ I		8	<MDA (0 / 24)	-----	<MDA (0 / 12)	<MDA (0 / 12)
⁴ Cs		8	<MDA (0 / 24)	-----	<MDA (0 / 12)	<MDA (0 / 12)
⁷ Cs		8	<MDA (0 / 24)	-----	<MDA (0 / 12)	7 (1 / 12) <MDA - 7
³ Pb		693	107 (2 / 24) 83 - 131	H52 1 mi., S/SSE	131 (1 / 12) <MDA - 131	<MDA (0 / 12)
² Pb		19	25 (3 / 24) 18 - 38	H51 1 mi., N/NNW	38 (1 / 12) <MDA - 38	<MDA (0 / 12)
³ Ra		189	<MDA (0 / 24)	-----	<MDA (0 / 12)	<MDA (0 / 12)
³ Ra		29	<MDA (0 / 24)	-----	<MDA (0 / 12)	<MDA (0 / 12)

Be-7, K-40, Pb-210, Pb-212, Ra-226, and Ra-228 are naturally occurring.
Number of Non-Routine Reported Measurements = 0.

9.0 LAND USE CENSUS

The PSL Annual Land Use Census Survey was performed during the months of June - October 2024. No locations with a garden or with potential milk-producing animals (cows or goats) were identified within a 5-mile radius of the St. Lucie Plant.

Table 8: Land Use Census – Nearest Receptors within 5 miles			
2024 St. Lucie Land Use Census: Distance to Nearest Location^{a, b}			
Sector	Residence	Garden ^d	Milk Animal ^c
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	(A) 1.5 / 142° (B) 1.6 / 145°	O	O
SSE	(A) 1.8 / 147° ^g (B) 2.0 / 149°	L ^f	L
S	3.3 / 190°	L	L
SSW	2.2 / 212°	L	L
SW	1.9 / 234°	L	L
WSW	1.9 / 240°	L	L
W	1.9 / 260°	L	L
WNW	2.3 / 281°	L	L
NW	3.4 / 304°	L	L
NNW	(A) 2.7 / 344° (B) 2.8 / 343°	L	L

NOTES

- a. All categories surveyed out to a 5-mile radius from the St. Lucie Plant.
- b. The format used to denote location is distance (miles) / bearing (degrees). For example, a residence located in the southeast sector at 1.5 miles bearing 142 degrees is recorded as 1.5 / 142°.
- c. Potential milk animal locations.
- d. Only gardens with an estimated total area of 500 square feet or more and producing green leafy vegetables are considered.
- e. "O" denotes the sector is predominantly an ocean area.
- f. "L" denotes the sector is predominantly a land area that is unoccupied by the category type.
- g. Non-residential occupied buildings in this sector include:

<u>Sector</u>	<u>Distance</u>	<u>Description</u>
SSE (A)	1.8 / 147°	Fire Station

10.0 SAMPLE DEVIATIONS, ANOMALIES AND UNAVAILABILITY

Sampling and analysis are performed for media types addressed in the Offsite Dose Calculation Manual. Sampling and analysis challenges may be experienced due to a multitude of reasons including environmental factors, loss of TLDs, contamination of samples, etc. To aid classification of sampling and analysis challenges experienced in 2025, the following three terms are used to describe the issues: Sample Anomalies, Sample Deviation, and Unavailable Samples.

Media that experienced downtime (i.e., air samplers or water samplers) during a surveillance period are classified a "Sample Deviation". "Sample Anomalies" are defined as errors that were introduced to a sample once it arrived in the laboratory, errors that prevents the sample from being analyzed as it normally would, or may have altered the outcome of the analysis (i.e., cross contamination, human error).

"Sample Unavailability" is defined as sample collection with no available sample (i.e., food crop, TLD).

All required samples were collected and analyzed as scheduled except for the following:

Table 9: Sample Deviation Summary

Sample Type and Analysis	Location	Collection Date or Period	Reason for not conducting REMP sampling as required by ODCM	Plans for preventing reoccurrence
Air Sample I-131, Beta and gamma	H34 Met Tower	04-01-2025	Unable to gain access to the sampler due to gate being locked with wrong lock.	Lock was changed to match State of Florida Key. Informed personnel to notify security in the event of access problems.

11.0 OTHER SUPPLEMENTAL INFORMATION

11.1 NEI 07-07 Onsite Radiological Groundwater Monitoring Program

Station Name has developed a Groundwater Protection Initiative (GPI) program in accordance with NEI 07-07, Industry Ground Water Protection Initiative – Final Guidance Document. The purpose of the GPI is to ensure timely detection and an effective response to situations involving inadvertent radiological releases to groundwater in order to prevent migration of licensed radioactive material off-site and to quantify impacts on decommissioning. It is important to note, samples and results taken in support of NEI 07-07 on-site groundwater monitoring program are separate from the Radiological Environmental Monitoring Program (REMP). Results of the NEI 07-07 Radiological Groundwater Monitoring Program for onsite groundwater wells are provided in the ARERR.

11.2 Analyses with LLDs Above Required Detection Capabilities

The values specified in ODCM Table 4.12-1 Detection Capabilities For Environmental Sample Analysis were achieved for all samples.

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12.0 BIBLIOGRAPHY

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Attachment 2, Radiological Surveillance of Florida Power & Light Company - St. Lucie Site



RADIOLOGICAL SURVEILLANCE

OF

FLORIDA POWER AND LIGHT COMPANY

ST. LUCIE PLANT

FIRST QUARTER 2025

BUREAU OF RADIATION CONTROL

ST. LUCIE SITE

Offsite Dose Calculation Manual Sampling

First Quarter, 2025

Sample Type	Collection Frequency	Number of Sample Locations	Number of Samples
1. Direct Radiation	Quarterly	27	27
2. Airborne			
2.a. Air Iodines	Weekly	5	63
2.b. Air Particulates	Weekly	5	63
3. Waterborne			
3.a. Surface Water	Weekly	1	13
	Monthly	1	3
3.b. Shoreline Sediment	Semiannually	2	2
4. Ingestion			
4.a. Fish and Invertebrates			
4.a.1. Crustacea	Semiannually	2	1
4.a.2. Fish	Semiannually	2	2
4.b. Broadleaf Vegetation	Monthly	3	9

Total: 178

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

The marine fauna listed in this report were collected in part, under Florida FWC SAL030.

1. DIRECT RADIATION - DEPLOYED TLD's - ($\mu\text{R}/\text{hour}$)

Sample Site	Deployment 18-Dec-24 Collection 11-Mar-25
N-1	3.4 ± 0.5
NNW-5	3.5 ± 0.2
NNW-10	4.0 ± 0.3
NW-5	3.6 ± 0.4
NW-10	4.2 ± 0.2
WNW-2	3.3 ± 0.3
WNW-5	3.7 ± 0.3
WNW-10	3.2 ± 0.1
W-2	3.2 ± 0.2
W-5	3.8 ± 0.3
W-10	3.0 ± 0.2
WSW-2	3.6 ± 0.1
WSW-5	3.5 ± 0.1
WSW-10	3.5 ± 0.3
SW-2	3.4 ± 0.4
SW-5	4.0 ± 0.5
SW-10	3.5 ± 0.2
SSW-2	3.3 ± 1.0
SSW-5	3.8 ± 0.5
SSW-10	3.1 ± 1.0
S-5	3.6 ± 0.3
S-10	4.0 ± 0.1
S/SSE-10	4.0 ± 0.3
SSE-5	3.4 ± 0.2
SSE-10	4.1 ± 0.3
SE-1	3.3 ± 0.2
H-32	4.1 ± 0.6

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>
07-Jan-25	<0.01	<0.02	<0.01	<0.01	<0.02
14-Jan-25	<0.01	<0.02	<0.01	<0.01	<0.01
22-Jan-25	<0.01	<0.01	<0.01	<0.03	<0.01
29-Jan-25	<0.01	<0.01	<0.01	<0.01	<0.01
04-Feb-25	<0.03	<0.03	<0.03	<0.03	<0.03
12-Feb-25	<0.01	<0.01	<0.01	<0.01	<0.01
18-Feb-25	<0.01	<0.01	<0.01	<0.01	<0.01
25-Feb-25	<0.00	<0.00	<0.01	<0.01	<0.00
04-Mar-25	<0.00	<0.01	<0.01	<0.01	<0.01
12-Mar-25	<0.01	<0.01	<0.01	<0.01	<0.01
18-Mar-25	<0.02	<0.02	<0.02	<0.02	<0.02
24-Mar-25	<0.03	<0.03	<0.03	<0.03	<0.03

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

Collection Date	H08	H12	H14	H30	H34
07-Jan-25	0.012 ± 0.002	0.015 ± 0.002	0.019 ± 0.002	0.017 ± 0.002	0.011 ± 0.002
14-Jan-25	0.012 ± 0.002	0.011 ± 0.002	0.011 ± 0.002	0.014 ± 0.002	0.014 ± 0.002
22-Jan-25	0.021 ± 0.002	0.024 ± 0.002	0.015 ± 0.002	0.043 ± 0.004	0.022 ± 0.002
29-Jan-25	0.018 ± 0.002	0.021 ± 0.002	0.017 ± 0.002	0.024 ± 0.002	0.018 ± 0.002
04-Feb-25	0.014 ± 0.002	0.018 ± 0.002	0.018 ± 0.002	0.018 ± 0.002	0.014 ± 0.002
12-Feb-25	0.013 ± 0.002	0.013 ± 0.002	0.008 ± 0.002	0.009 ± 0.002	0.008 ± 0.002
18-Feb-25	0.007 ± 0.002	0.007 ± 0.002	0.007 ± 0.002	0.007 ± 0.002	0.006 ± 0.002
25-Feb-25	0.010 ± 0.002	0.011 ± 0.002	0.007 ± 0.002	0.012 ± 0.002	0.011 ± 0.002
04-Mar-25	0.006 ± 0.002	0.012 ± 0.002	0.011 ± 0.002	0.016 ± 0.002	0.015 ± 0.002
12-Mar-25	0.010 ± 0.002	0.016 ± 0.002	0.016 ± 0.002	0.016 ± 0.002	0.013 ± 0.002
18-Mar-25	0.016 ± 0.002	0.014 ± 0.002	0.016 ± 0.002	0.019 ± 0.003	0.016 ± 0.002
24-Mar-25	0.012 ± 0.002	0.012 ± 0.002	0.013 ± 0.002	0.019 ± 0.003	0.011 ± 0.002
Average:	0.013 ± 0.001	0.014 ± 0.001	0.013 ± 0.001	0.018 ± 0.001	0.013 ± 0.001

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

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
H08	0.1080 ± 0.0083	< 0.0136	< 0.0011	< 0.0011	< 0.0179
H12	0.0978 ± 0.0084	< 0.0158	< 0.0007	< 0.0008	< 0.0337
H14	0.1050 ± 0.0078	< 0.0135	< 0.0011	< 0.0009	< 0.0170
H30	0.1500 ± 0.0106	< 0.0190	< 0.0010	< 0.0012	0.0101 ± 0.0046
H34	0.1330 ± 0.0096	< 0.0214	< 0.0011	< 0.0009	< 0.0195

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

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
H15	07-Jan-25	104 ± 42	389 ± 28	<4	<4	<9	<5	<9	<8	<7	<4	<4	<7
	14-Jan-25	<137	366 ± 27	<4	<5	<9	<4	<10	<8	<8	<4	<4	<7
	22-Jan-25	<136	310 ± 24	<4	<4	<7	<4	<8	<7	<4	<4	<4	<5
	29-Jan-25	<136	402 ± 43	<5	<5	<10	<6	<13	<8	<6	<5	<5	<18
	04-Feb-25	<136	385 ± 32	<4	<4	<7	<5	<10	<7	<5	<4	<4	<8
	12-Feb-25	<136	296 ± 30	<4	<4	<8	<4	<9	<7	<7	<3	<5	<6
	18-Feb-25	<136	339 ± 40	<5	<5	<10	<5	<11	<9	<10	<5	<6	<10
	25-Feb-25	<136	33 9± 38	<5	<5	<8	<5	<11	<10	<6	<4	<6	<14
	04-Mar-25	<136	309 ± 30	<4	<4	<8	<4	<9	<7	<4	<4	<5	<12
	12-Mar-25	<131	320 ± 31	<4	<4	<9	<4	<8	<6	<5	<3	<4	<9
	18-Mar-25	<131	374 ± 28	<4	<5	<12	<4	<10	<10	<58	<5	<5	<24
	24-Mar-25	<131	318 ± 30	<4	<4	<8	<4	<10	<7	<5	<4	<5	<7
H59	07-Jan-25	<129	336 ± 31	<4	<4	<7	<4	<9	<8	<8	<4	<5	<7
	04-Feb-25	<136	352 ± 38	<6	<5	<10	<4	<10	<8	<7	<5	<5	<13
	04-Mar-25	<136	378 ± 39	<5	<5	<11	<5	<11	<7	<6	<4	<5	<17

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

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

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

Sample	Collection	<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-235</u>	<u>U-238</u>
H15	04-Feb-25	<78	243 ± 38	<10	<8	<7	<8	<610	<42	<66	<19	<152
H59	04-Feb-25	<87	<136	<8	<7	<8	<8	<577	<41	<47	<15	<175

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

Sample Site	Collection Date	<u>K-40</u>	<u>Mn-54</u>	<u>Co-58</u>	<u>Fe-59</u>	<u>Co-60</u>	<u>Zn-65</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ra-226</u>	<u>Ra-228</u>
H59		Samples to be collected at a later time									
H15	04-Feb-25	1770 ± 126	<14	<21	<62	<16	<38	<12	<14	<373	<48

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>Co60</u>	<u>Zn-65</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ra-226</u>	<u>Ra-228</u>
H15		Samples to be collected at a later time									
H59		Samples to be collected at a later time									

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>	<u>Ra-228</u>
H51	07-Jan-25	1200 ± 106	5630 ± 260	<108	<14	<15	<900	<35	<372	<66
	04-Feb-25	1290 ± 111	5140 ± 259	<134	<15	<18	<997	<35	<399	<75
	04-Mar-25	1220 ± 119	4860 ± 219	<29	<13	<14	<1260	<29	<307	<51
H52	07-Jan-25	1240 ± 126	4050 ± 193	<90	<15	<11	<1080	<29	<298	<56
	04-Feb-25	345 ± 49	3780 ± 176	<12	<11	<11	<1180	<23	<260	<46
	04-Mar-25	711 ± 72	4230 ± 214	<29	<11	<12	<770	<32	<337	<66
H59	07-Jan-25	1480 ± 140	2180 ± 127	<86	<13	<13	<939	<27	<286	<44
	04-Feb-25	978 ± 87	2640 ± 158	<79	<11	<14	<747	<27	<308	<60
	04-Mar-25	923 ± 97	3310 ± 167	<28	<11	<14	<1180	<29	<266	<45

ST. LUCIE SITE

Supplemental Sampling

First Quarter, 2025

Sample Type	Collection Frequency	Number of Sample Locations	Number of Samples
1. Direct Radiation	Quarterly	9	9
2. Airborne			
2.a. Air Iodines	Weekly	3	39
2.b. Air Particulates	Weekly	3	39
3. Waterborne			
3.a. Surface Water	Monthly	2	6
3.b. Shoreline Sediment	Semiannually	4	0
3.c. Beach Sand	Semiannually	3	0
3.d. Ground Water	Quarterly	10	0
4. Ingestion			
4.a. Garden Crop	Annually	1	0
4.b. Citrus	Annually	1	1

Total: 66

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 - DEPLOYED TLD's - ($\mu\text{R}/\text{hour}$)

<u>Sample Site</u>	<u>Deployment 18-Dec-24 Collection 11-Mar-25</u>
H08	3.8 ± 0.5
H09	7.9 ± 1.2
H12	3.8 ± 0.3
H14	3.7 ± 0.2
H33	3.7 ± 0.4
H34	3.3 ± 0.3
H60	3.6 ± 0.4
H61	5.1 ± 0.4
H62	4.2 ± 0.4

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

<u>Collection Date</u>	<u>H09</u>	<u>H32</u>	<u>H33</u>
07-Jan-25	<0.01	<0.01	<0.02
14-Jan-25	<0.01	<0.01	<0.02
22-Jan-25	<0.01	<0.01	<0.01
29-Jan-25	<0.01	<0.01	<0.01
04-Feb-25	<0.03	<0.03	<0.03
12-Feb-25	<0.01	<0.01	<0.01
18-Feb-25	<0.01	<0.01	<0.01
25-Feb-25	<0.00	<0.00	<0.01
04-Mar-25	<0.01	<0.01	<0.01
12-Mar-25	<0.01	<0.01	<0.01
18-Mar-25	<0.02	<0.02	<0.02
24-Mar-25	<0.03	<0.03	<0.03

(A) Sample not collected due to pump malfunction. Pump was replaced and system calibrated to 61.8CFH.

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

<u>Collection Date</u>	<u>H09</u>	<u>H32</u>	<u>H33</u>
07-Jan-25	0.017 ± 0.002	0.013 ± 0.001	0.009 ± 0.002
14-Jan-25	0.012 ± 0.002	0.015 ± 0.002	0.014 ± 0.002
22-Jan-25	0.023 ± 0.002	0.021 ± 0.002	0.013 ± 0.002
29-Jan-25	0.023 ± 0.002	0.024 ± 0.002	0.015 ± 0.002
04-Feb-25	0.013 ± 0.002	0.013 ± 0.002	0.014 ± 0.002
12-Feb-25	0.006 ± 0.001	0.014 ± 0.002	0.009 ± 0.002
18-Feb-25	0.006 ± 0.002	0.009 ± 0.002	0.003 ± 0.002
25-Feb-25	0.004 ± 0.002	0.013 ± 0.002	0.009 ± 0.002
04-Mar-25	0.004 ± 0.001	0.014 ± 0.002	0.008 ± 0.002
12-Mar-25	0.015 ± 0.002	0.013 ± 0.002	0.016 ± 0.002
18-Mar-25	0.019 ± 0.003	0.019 ± 0.003	0.012 ± 0.002
24-Mar-25	0.011 ± 0.002	0.011 ± 0.002	0.011 ± 0.002
Average:	0.012 ± 0.001	0.015 ± 0.001	0.011 ± 0.001

(A) Sample not collected due to pump malfunction. Pump was replaced and system calibrated to 61.8CFH.

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

<u>Sample Site</u>	<u>Be-7</u>	<u>K-40</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>
H09	0.1120 ± 0.0090	0.0152 ± 0.0222	<0.0009	<0.0012	<0.0011
H32	0.1140 ± 0.0081	0.0108 ± 0.0156	<0.0010	<0.0012	<0.0011
H33	0.0737 ± 0.0073	0.0137 ± 0.0162	<0.0007	<0.0009	<0.0007

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>H-3</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>Zr-95 Nb-95 (A)</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ba-140 La-140 (B)</u>
H13	07-Jan-25	<129	352 ± 38	<5	<4	<10	<5	<12	<7	<10	<5	<6	<9
	04-Feb-25	<136	310 ± 29	<4	<4	<9	<5	<10	<7	<5	<4	<4	<7
	04-Mar-25	<136	281 ± 28	<4	<4	<8	<4	<9	<7	<5	<4	<5	<12
H36	07-Jan-25	<129	384 ± 39	<5	<5	<10	<5	<11	<9	<9	<5	<5	<8
	04-Feb-25	<136	303 ± 29	<4	<4	<8	<4	<9	<7	<4	<4	<5	<14
	04-Mar-25	<136	378 ± 41	<6	<5	<12	<5	<11	<9	<6	<5	<5	<19

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

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-235</u>	<u>U-238</u>
H13	04-Feb-25	<99	478 ± 48	<7	<9	<6	<10	<608	<315	<49	<20	<168
H16	04-Feb-25	<102	225 ± 33	<11	<8	<9	<9	<734	124 ± 13	<66	<21	<169
H19	04-Feb-25	<180	4770 ± 220	<27	<23	<16	28 ± 7	5010 ± 1180	96 ± 20	135 ± 36	<31	<308
H36	04-Feb-25	<105	176 ± 35	<9	<8	<8	<8	<659	99 ± 13	<74	<19	<173

3.c. BEACH SAND - (pCi/kg, dry weight)

Sample Site	Collection Date	<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-235</u>	<u>U-238</u>
H15	04-Feb-25	<88	377 ± 47	<10	<9	<8	<8	<489	<73	<52	21 ± 5	179 ± 27
H16	04-Feb-25	<77	250 ± 41	<9	<8	<8	<8	<450	450 ± 173	<51	11 ± 4	205 ± 27
H19	04-Feb-25	<101	257 ± 37	<11	<8	<7	<7	<649	649 ± 187	<71	<20	<195

3.d. GROUND WATER - (pCi/L)

<u>Sample Site</u>	<u>Collection Date</u>	<u>H-3</u>	<u>K-40</u>	<u>Mn-54</u>	<u>Co-58</u>	<u>Fe-59</u>	<u>Co-60</u>	<u>Zn65</u>	<u>Zr-95 Nb-95 (A)</u>	<u>I-131</u>	<u>Cs134</u>	<u>Cs-137</u>	<u>Ba-140 La-140 (B)</u>
H70	15-Jan-25	<137	<73	<5	<5	<12	<4	<10	<8	<10	<5	<4	<6
H71	15-Jan-25	372 ± 49	398 ± 28	<4	<4	<9	<4	<10	<7	<8	<5	<4	<6
H72	15-Jan-25	<137	354 ± 26	<5	<4	<9	<4	<12	<7	<9	<5	<4	<7
H73	15-Jan-25	<137	<53	<4	<4	<10	<4	<11	<8	<9	<4	<4	<7
H74	15-Jan-25	<137	361 ± 31	<4	<5	<9	<4	<8	<7	<8	<4	<5	<6
H75	15-Jan-25	<137	303 ±36	<5	<4	<10	<6	<9	<9	<11	<5	<6	<10
H76	15-Jan-25	<136	<84	<4	<6	<10	<5	<12	<9	<11	<5	<5	<10
H77	15-Jan-25	<137	<60	<4	<4	<8	<4	<9	<7	<8	<4	<4	<6
H78	15-Jan-25	<137	<52	<4	<4	<9	<4	<11	<8	<8	<4	<4	<8
H79	15-Jan-25	<137	<64	<4	<5	<12	<6	<10	<9	<9	<4	<6	<10

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

(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La140, whichever method yields the greater sensitivity for a given sample.

4.a. GARDEN CROP - (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>
H41	This sample has not been available.					

4.b. CITRUS - (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>
H23	06-Feb-25	<73	1690 ± 105	<22	<7	<8



RADIOLOGICAL SURVEILLANCE
OF
FLORIDA POWER AND LIGHT COMPANY

ST. LUCIE PLANT

SECOND QUARTER 2025

BUREAU OF RADIATION CONTROL

ST. LUCIE SITE
Offsite Dose Calculation Manual Sampling
Second Quarter, 2025

Sample Type	Collection Frequency	Number of Sample Locations	Number of Samples
1. Direct Radiation	Quarterly	27	27
Airborne			
2.a. Air Iodines	Weekly	5	64
2.b. Air Particulates	Weekly	5	64
Waterborne			
3.a. Surface Water	Weekly	1	13
	Monthly	1	3
3.b. Shoreline Sediment	Semiannually	2	2
Ingestion			
Fish and Invertebrates			
4.a.1. Crustacea	Semiannually	2	1
4.a.2. Fish	Semiannually	2	0
4.b. Broadleaf Vegetation	Monthly	3	9

Total: 184

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

The marine fauna listed in this report were collected in part, under Florida FWC SAL030.

1. DIRECT RADIATION - DEPLOYED TLD's - (μ R/hour)

Sample Site	Deployment 12-Mar-25 Collection 7-June-25	Sample Site	Deployment 12-Mar-25 Collection 17-June-25
N-1	3.0 \pm 0.5	SW-2	3.2 \pm 0.5
NNW-05	3.1 \pm 0.2	SW-5	3.9 \pm 0.2
NNW-10	3.6 \pm 0.5	SW-10	3.2 \pm 0.2
NW-05	3.5 \pm 0.1	SSW-2	2.9 \pm 0.3
NW-10	4.0 \pm 0.5	SSW-5	3.7 \pm 0.5
WNW-02	3.0 \pm 0.4	SSW-10	3.0 \pm 0.7
WNW-05	3.2 \pm 0.3	S-5	3.4 \pm 0.2
WNW-10	3.0 \pm 0.1	S-10	3.7 \pm 0.3
W-02/H30	2.9 \pm 0.1	S/SSE-10	3.7 \pm 0.6
W-05	3.4 \pm 0.1	SSE-5	3.1 \pm 0.2
W-10	2.6 \pm 0.3	SSE-10	3.8 \pm 0.1
WSW-02	3.2 \pm 0.2	SE-1	2.9 \pm 0.4
WSW-05	3.3 \pm 0.4	H32	3.4 \pm 0.5
WSW-10	3.1 \pm 0.1		

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

Collection Date	H08	H12	H14	H30	H34
01-Apr-25	<0.01	<0.01	<0.01	<0.01	(A)
08-Apr-25	<0.01	<0.02	<0.02	<0.02	<0.01
16-Apr-25	<0.01	<0.01	<0.01	<0.01	<0.01
23-Apr-25	<0.02	<0.02	<0.02	<0.02	<0.02
29-Apr-25	<0.02	<0.02	<0.02	<0.02	<0.02
07-May-25	<0.01	<0.01	<0.01	<0.01	<0.01
13-May-25	<0.01	<0.01	<0.01	<0.01	<0.01
19-May-25	<0.02	<0.02	<0.02	<0.02	<0.02
27-May-25	<0.01	<0.01	<0.01	<0.01	<0.01
03-Jun-25	<0.02	<0.03	<0.02	<0.03	<0.02
11-Jun-25	<0.01	<0.01	<0.01	<0.01	<0.01
17-Jun-25	<0.03	<0.03	<0.03	<0.03	<0.03
24-Jun-25	<0.01	<0.01	<0.01	<0.01	<0.01

(A) Unable to collect sample due to gate being locked at site

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

<u>Collection Date</u>	<u>H08</u>	<u>H12</u>	<u>H14</u>	<u>H30</u>	<u>H34</u>
01-Apr-25	0.007 ± 0.002	0.009 ± 0.002	0.012 ± 0.002	0.013 ± 0.002	(A)
08-Apr-25	0.009 ± 0.002	0.008 ± 0.002	0.008 ± 0.002	0.009 ± 0.002	0.007 ± 0.001
16-Apr-25	0.003 ± 0.001	0.010 ± 0.002	0.012 ± 0.002	0.016 ± 0.002	0.011 ± 0.002
23-Apr-25	0.016 ± 0.002	0.018 ± 0.002	0.018 ± 0.002	0.017 ± 0.002	0.019 ± 0.002
29-Apr-25	0.013 ± 0.002	0.018 ± 0.003	0.018 ± 0.003	0.019 ± 0.003	0.016 ± 0.002
07-May-25	0.010 ± 0.002	0.014 ± 0.002	0.017 ± 0.002	0.015 ± 0.002	0.010 ± 0.002
13-May-25	0.008 ± 0.002	0.009 ± 0.002	0.013 ± 0.002	0.012 ± 0.002	0.009 ± 0.002
19-May-25	0.008 ± 0.002	0.020 ± 0.003	0.014 ± 0.002	0.017 ± 0.002	0.016 ± 0.002
27-May-25	0.014 ± 0.002	0.018 ± 0.002	0.015 ± 0.002	0.015 ± 0.002	0.013 ± 0.002
03-Jun-25	0.009 ± 0.002	0.013 ± 0.002	0.010 ± 0.002	0.014 ± 0.002	0.013 ± 0.002
11-Jun-25	0.013 ± 0.002	0.009 ± 0.002	0.014 ± 0.002	0.011 ± 0.002	0.010 ± 0.002
17-Jun-25	0.004 ± 0.001	0.013 ± 0.002	0.012 ± 0.002	0.015 ± 0.002	0.012 ± 0.002
24-Jun-25	0.008 ± 0.002	0.012 ± 0.002	0.012 ± 0.002	0.007 ± 0.002	0.010 ± 0.002
Average	0.010 ± 0.001	0.013 ± 0.001	0.013 ± 0.001	0.014 ± 0.001	0.012 ± 0.001

(A) Unable to collect sample due to gate being locked at site

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

<u>Sample Site</u>	<u>Be-7</u>	<u>K-40</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>
H08	0.0872 ± 0.0080	<0.0179	<0.0009	<0.0011	<0.0109
H12	0.0873 ± 0.0074	<0.0116	<0.0009	<0.0012	<0.0090
H14	0.1020 ± 0.0090	<0.0234	<0.0009	<0.0011	<0.0115
H30	0.0945 ± 0.0077	<0.0131	<0.0011	<0.0014	<0.0167
H34	0.1130 ± 0.0085	<0.0156	<0.0007	<0.0009	<0.0136

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-Apr-25	<137	327 ± 25	<4	<3	<8	<4	<9	<6	<4	<4	<4	<5
	08-Apr-25	<137	379 ± 31	<4	<4	<7	<4	<9	<6	<5	<4	<4	<17
	16-Apr-25	<133	311 ± 30	<4	<4	<9	<4	<10	<6	<5	<4	<4	<16
	23-Apr-25	<137	367 ± 27	<4	<4	<7	<4	<10	<6	<5	<4	<4	<5
	29-Apr-25	<137	385 ± 28	<4	<4	<9	<4	<8	<8	<5	<4	<4	<5
	07-May-25	<133	355 ± 27	<4	<4	<9	<4	<9	<7	<8	<4	<4	<6
	13-May-25	<133	355 ± 17	<2	<2	<3	<2	<4	<3	<3	<2	<2	<2
	19-May-25	<134	400 ± 18	<2	<2	<4	<2	<5	<4	<3	<2	<2	<3
	27-May-25	<134	351 ± 26	<3	<3	<8	<4	<10	<7	<5	<4	<4	<5
	03-Jun-25	<134	336 ± 23	<2	<3	<5	<3	<5	<4	<3	<3	<3	<5
	11-Jun-25	<136	342 ± 23	<3	<3	<6	<3	<7	<5	<5	<3	<3	<4
	17-Jun-25	130 ± 44	352 ± 26	<4	<4	<7	<4	<9	<7	<5	<4	<4	<5
	24-Jun-25	<136	376 ± 28	<4	<4	<8	<3	<8	<6	<5	<4	<4	<5
H59	08-Apr-25	<137	349 ± 38	<5	<4	<6	<5	<13	<6	<5	<5	<4	<5
	06-May-25	<136	374 ± 33	<4	<4	<8	<4	<10	<6	<5	<4	<4	<6
	17-Jun-25	<136	348 ± 27	<4	<4	<8	<4	<8	<6	<4	<4	<4	<5

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

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

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

<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-235</u>	<u>U-238</u>
H15				These samples were previously collected								
H59												

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				This sample was previously collected							
H59	08-May-25	1730 ± 155	<22	<24	<56	<22	<53	<25	<24	<419	<96

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>K-40</u>	<u>Mn-54</u>	<u>Co-58</u>	<u>Fe-59</u>	<u>Co-60</u>	<u>Zn-65</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ra-226</u>	<u>Ra-228</u>
H15	16-May-25	2860 ± 185	<22	<22	<48	<20	<47	<20	<23	<468	<88
H59	14-May-25	2590 ± 167	<21	<23	<39	<21	<44	<21	<22	<452	<79

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>	<u>Ra-228</u>
H51	06-Apr-25	1750 ± 159	3180 ± 164	<16	<12	<13	<991	<24	<339	<52
	08-May-25	1120 ± 54	5600 ± 206	<40	<11	<11	60 ± 23	<23	<143	<41
	17-Jun-25	966 ± 81	6700 ± 304	<18	<14	<20	<927	38 ± 13	<402	<72
H52	06-Apr-25	844 ± 48	5640 ± 218	<14	<14	<14	131 ± 30	<30	<309	<50
	08-May-25	644 ± 76	4520 ± 208	<41	<13	<14	<1430	<26	<287	<57
	17-Jun-25	646 ± 71	5380 ± 238	<14	<13	<13	<1260	<32	<337	<62
H59	06-Apr-25	788 ± 83	3120 ± 158	<12	<13	<13	<1260	<26	<276	<48
	08-May-25	1020 ± 111	3810 ± 245	<85	<17	<25	<1170	<45	<481	<87
	17-Jun-25	861 ± 67	1940 ± 135	<16	<11	<17	<716	<34	<320	<61

ST. LUCIE SITE

Supplemental Sampling

Second Quarter, 2025

Sample Type	Collection Frequency	Number of Sample Locations	Number of Samples
1. Direct Radiation	Quarterly	9	9
. Airborne			
2.a. Air Iodines	Weekly	3	26
2.b. Air Particulates	Weekly	3	26
. Waterborne			
3.a. Surface Water	Monthly	2	6
3.b. Shoreline Sediment	Semiannually	4	0
3.c. Beach Sand	Semiannually	3	0
3.d. Ground Water	Quarterly	10	10
. Ingestion			
4.a. Garden Crop	Annually	1	0
4.b. Citrus	Annually	1	0

Total: 77

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 - DEPLOYED TLD's - (μ R/hour)

<u>Sample Site</u>	<u>Deployment 12-Mar-25 Collection 7-June-25</u>
H08	3.5 \pm 0.3
H09	3.5 \pm 0.1
H12	7.6 \pm 1.3
H14	3.7 \pm 0.5
H33	3.4 \pm 0.1
H34	3.3 \pm 0.3
H60	3.3 \pm 0.2
H61	4.7 \pm 0.4
H62	3.9 \pm 0.4

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

<u>Collection Date</u>	<u>H09</u>	<u>H32</u>	<u>H33</u>
01-Apr-25	<0.01	<0.01	<0.01
08-Apr-25	<0.02	<0.02	<0.02
16-Apr-25	<0.01	<0.01	<0.01
23-Apr-25	<0.02	<0.02	<0.02
29-Apr-25	<0.02	<0.02	<0.02
07-May-25	<0.01	<0.01	<0.01
13-May-25	<0.01	<0.01	<0.01
19-May-25	<0.02	<0.02	<0.02
27-May-25	<0.01	<0.01	<0.01
03-Jun-25	<0.03	<0.03	<0.03
11-Jun-25	<0.01	<0.01	<0.01
17-Jun-25	<0.03	<0.03	<0.03
24-Jun-25	<0.01	<0.01	<0.01

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

(B)

<u>Collection Date</u>	<u>H09</u>	<u>H32</u>	<u>H33</u>
01-Apr-25	0.009 ± 0.002	0.013 ± 0.002	0.008 ± 0.002
08-Apr-25	0.012 ± 0.002	0.011 ± 0.002	0.009 ± 0.002
16-Apr-25	0.015 ± 0.002	0.014 ± 0.002	0.010 ± 0.002
23-Apr-25	0.017 ± 0.002	0.015 ± 0.002	0.015 ± 0.002
29-Apr-25	0.018 ± 0.003	0.024 ± 0.003	0.014 ± 0.002
07-May-25	0.014 ± 0.002	0.017 ± 0.002	0.010 ± 0.002
13-May-25	0.013 ± 0.002	0.009 ± 0.002	0.009 ± 0.002
19-May-25	0.015 ± 0.002	0.016 ± 0.002	0.016 ± 0.002
27-May-25	0.014 ± 0.002	0.018 ± 0.002	0.010 ± 0.002
03-Jun-25	0.016 ± 0.002	0.012 ± 0.002	0.011 ± 0.002
11-Jun-25	0.012 ± 0.002	0.012 ± 0.002	0.012 ± 0.002
17-Jun-25	0.012 ± 0.002	0.018 ± 0.002	0.004 ± 0.002
24-Jun-25	0.008 ± 0.002	0.006 ± 0.001	0.008 ± 0.002
Average	0.013 ± 0.001	0.014 ± 0.001	0.010 ± 0.001

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

<u>Sample Site</u>	<u>Be-7</u>	<u>K-40</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>
H09	0.0939 ± 0.0079	<0.0131	<0.0008	<0.0006	<0.0243
H32	0.0836 ± 0.0077	<0.0122	<0.0007	<0.0008	<0.0261
H33	0.0697 ± 0.0069	<0.0137	<0.0011	<0.0009	<0.0169

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

Sample Site	Collection Date	<u>H-3</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>Zr-95 Nb-95 (A)</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ba-140 La-140 (B)</u>
H13	08-Apr-25	<137	340 ± 30	<4	<4	<7	<4	<9	<6	<5	<4	<4	<15
	06-May-25	<136	308 ± 34	<5	<5	<10	<6	<14	<10	<7	<4	<5	<13
	17-Jun-25	<136	396 ± 23	<2	<2	<5	<2	<5	<4	<3	<2	<2	<5
H36	08-Apr-25	<137	421 ± 41	<5	<5	<10	<5	<11	<9	<7	<4	<5	<18
	06-May-25	<133	320 ± 20	<2	<2	<5	<2	<5	<4	<6	<2	<2	<4
	17-Jun-25	219 ± 46	346 ± 26	<4	<4	<8	<3	<8	<7	<4	<4	<4	<5

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

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

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

Sample Site	Collection Date	<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-235</u>	<u>U-238</u>
H13				These samples were previously collected								
H16												
H19												
H36												

3.c. BEACH SAND - (pCi/kg, dry weight)

Sample Site	Collection Date	<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-235</u>	<u>U-238</u>
H15				These samples were previously collected								
H16												
H19												

3.d. GROUND 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)
H70	18-Apr-25	<137	<50	<4	<4	<10	<5	<8	<7	<7	<4	<5	<19
H71	18-Apr-25	557 ± 53	361 ± 33	<4	<4	<9	<4	<11	<8	<6	<4	<5	<19
H72	18-Apr-25	<137	294 ± 31	<4	<4	<8	<4	<11	<8	<8	<4	<4	<23
H73	18-Apr-25	<133	<49	<4	<4	<8	<4	<10	<6	<6	<4	<4	<17
H74	18-Apr-25	<137	355 ± 37	<5	<5	<11	<5	<13	<10	<8	<5	<6	<22
H75	18-Apr-25	<137	306 ± 39	<6	<4	<11	<6	<10	<10	<9	<5	<6	<22
H76	18-Apr-25	<137	<52	<4	<4	<10	<4	<10	<7	<8	<5	<4	<20
H77	18-Apr-25	<137	<47	<4	<4	<7	<3	<9	<6	<3	<4	<4	<6
H78	18-Apr-25	<133	<52	<4	<4	<10	<4	<9	<8	<8	<4	<5	<18
H79	18-Apr-25	<137	427 ± 29	<4	<4	<8	<4	<10	<8	<6	<4	<4	<6

- (A) - These tabulated LLD values for Zr/Nb-95 are the higher of the individual parent or daughter LLD's.
- (B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La140, whichever method yields the greater sensitivity for a given sample.

4.a. GARDEN CROP - (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>
H41	This sample has not been available.					

4.b. CITRUS - (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>
H23	This sample was previously collected.					



RADIOLOGICAL SURVEILLANCE
OF
FLORIDA POWER AND LIGHT COMPANY

ST. LUCIE PLANT

THIRD QUARTER 2025

BUREAU OF RADIATION CONTROL

ST. LUCIE SITE

Offsite Dose Calculation Manual Sampling

Third Quarter, 2025

Sample Type	Collection Frequency	Number of Sample Locations	Number of Samples
1. Direct Radiation	Quarterly	27	27
Airborne			
2.a. Air Iodines	Weekly	5	70
2.b. Air Particulates	Weekly	5	70
Waterborne			
3.a. Surface Water	Weekly	1	14
	Monthly	1	3
3.b. Shoreline Sediment	Semiannually	2	2
Ingestion			
Fish and Invertebrates			
4.a.1. Crustacea	Semiannually	2	0
4.a.2. Fish	Semiannually	2	1
4.b. Broadleaf Vegetation	Monthly	3	9

Total: 196

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

The marine fauna listed in this report were collected in part, under Florida FWC SAL030.

1. DIRECT RADIATION - DEPLOYED TLD's - (μ R/hour)

Sample Site	Deployment: 17-Jun-25 Collection: 10-Oct-25
N-1	3.0 \pm 0.5
NNW-5	3.1 \pm 0.3
NNW-10	3.6 \pm 0.5
NW-5	3.5 \pm 0.1
NW-10	4.0 \pm 0.5
WNW-2	3.1 \pm 0.4
WNW-5	3.3 \pm 0.3
WNW-10	3.0 \pm 0.2
W-2	2.9 \pm 0.1
W-5	3.5 \pm 0.1
W-10	2.7 \pm 0.3
WSW-2	3.2 \pm 0.2
WSW-5	3.3 \pm 0.4
WSW-10	3.2 \pm 0.1
SW-2	3.2 \pm 0.5
SW-5	3.9 \pm 0.2
SW-10	3.2 \pm 0.2
SSW-2	2.9 \pm 0.3
SSW-5	3.6 \pm 0.5
SSW-10	3.0 \pm 0.8
S-5	3.4 \pm 0.2
S-10	3.6 \pm 0.3
S/SSE-10	3.7 \pm 0.6
SSE-5	3.1 \pm 0.2
SSE-10	3.8 \pm 0.1
SE-1	3.0 \pm 0.4
H-32	3.5 \pm 0.3

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>
01-Jul-25	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
07-Jul-25	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
15-Jul-25	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
22-Jul-25	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
28-Jul-25	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
05-Aug-25	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
13-Aug-25	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
19-Aug-25	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
27-Aug-25	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
02-Sep-25	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
09-Sep-25	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
17-Sep-25	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
23-Sep-25	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
29-Sep-25	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03

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

Collection Date	H08	H12	H14	H30	H34
01-Jul-25	0.015 ± 0.002	0.017 ± 0.002	0.018 ± 0.002	0.019 ± 0.002	0.020 ± 0.002
07-Jul-25	0.016 ± 0.002	0.017 ± 0.002	0.015 ± 0.002	0.018 ± 0.002	0.014 ± 0.002
15-Jul-25	0.012 ± 0.002	0.010 ± 0.002	0.012 ± 0.002	0.012 ± 0.002	0.013 ± 0.002
22-Jul-25	0.012 ± 0.002	0.016 ± 0.002	0.016 ± 0.002	0.017 ± 0.002	0.015 ± 0.002
28-Jul-25	0.017 ± 0.002	0.024 ± 0.003	0.024 ± 0.003	0.023 ± 0.003	0.016 ± 0.002
05-Aug-25	0.017 ± 0.002	0.017 ± 0.002	0.017 ± 0.002	0.020 ± 0.002	0.019 ± 0.002
13-Aug-25	0.007 ± 0.001	0.008 ± 0.002	0.007 ± 0.001	0.009 ± 0.002	0.010 ± 0.002
19-Aug-25	0.009 ± 0.002	0.008 ± 0.002	0.007 ± 0.002	0.008 ± 0.001	0.005 ± 0.001
27-Aug-25	0.009 ± 0.002	0.009 ± 0.002	0.010 ± 0.002	0.011 ± 0.002	0.011 ± 0.002
02-Sep-25	0.011 ± 0.002	0.012 ± 0.002	0.008 ± 0.002	0.016 ± 0.002	0.016 ± 0.002
09-Sep-25	0.005 ± 0.001	0.010 ± 0.002	0.010 ± 0.002	0.005 ± 0.001	0.005 ± 0.001
17-Sep-25	0.006 ± 0.001	0.007 ± 0.001	0.006 ± 0.001	0.007 ± 0.001	0.007 ± 0.001
23-Sep-25	0.011 ± 0.002	0.010 ± 0.002	0.007 ± 0.002	0.012 ± 0.002	0.011 ± 0.002
29-Sep-25	0.005 ± 0.002	0.005 ± 0.002	0.008 ± 0.002	0.010 ± 0.002	0.004 ± 0.001
Average	0.011 ± 0.001	0.012 ± 0.001	0.013 ± 0.001	0.0132 ± 0.001	0.012 ± 0.001

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

<u>Sample Site</u>	<u>Be-7</u>	<u>K-40</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>
H08	0.070 ± 0.006	<0.013	<0.001	<0.001	<0.016
H12	0.066 ± 0.007	<0.013	<0.001	<0.001	<0.028
H14	0.085 ± 0.007	<0.021	<0.001	<0.001	0.014 ± 0.004
H30	0.054 ± 0.006	<0.013	<0.001	<0.001	<0.016
H34	0.068 ± 0.007	<0.016	<0.001	<0.001	<0.012

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

Sample Site	Collection Date	<u>H-3</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>	Zr-95 Nb-95 (A)	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	Ba-140 La-140 (B)
H15	01-Jul-25	<131	389 ± 22	<2	<3	<5	<3	<5	<5	<4	<2	<2	<4
	07-Jul-25	<136	349 ± 17	<1	<1	<4	<2	<3	<3	<4	<2	<2	<2
	15-Jul-25	<136	382 ± 19	<2	<2	<4	<2	<4	<3	<4	<2	<2	<3
	22-Jul-25	<135	357 ± 27	<3	<4	<8	<4	<9	<7	<4	<4	<4	<5
	28-Jul-25	<135	356 ± 27	<4	<4	<7	<4	<8	<6	<4	<4	<4	<5
	05-Aug-25	<130	330 ± 26	<4	<4	<7	<4	<7	<7	<6	<4	<4	<6
	13-Aug-25	<130	333 ± 26	<3	<4	<8	<4	<9	<7	<7	<4	<4	<6
	19-Aug-25	<130	362 ± 27	<4	<4	<9	<5	<9	<7	<8	<4	<4	<6
	27-Aug-25	<130	318 ± 38	<5	<6	<10	<6	<10	<9	<6	<4	<5	<12
	02-Sep-25	<130	369 ± 27	<4	<3	<7	<4	<8	<6	<5	<4	<4	<5
	09-Sep-25	209 ± 44	351 ± 27	<4	<4	<7	<3	<9	<6	<4	<4	<4	<5
	17-Sep-25	<140	331 ± 26	<4	<4	<7	<4	<8	<7	<4	<4	<4	<5
	23-Sep-25	<140	390 ± 28	<4	<4	<8	<4	<9	<6	<4	<4	<4	<5
	29-Sep-25	<140	342 ± 26	<4	<3	<8	<4	<8	<7	<5	<4	<4	<5
H59	01-Jul-25	<131	380 ± 20	<2	<2	<4	<2	<4	<3	<4	<2	<2	<3
	05-Aug-25	<130	357 ± 27	<4	<4	<8	<4	<8	<7	<5	<4	<4	<5
	02-Sep-25	106 ± 42	362 ± 22	<2	<2	<5	<3	<6	<4	<4	<2	<3	<4

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

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

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

<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-235</u>	<u>U-238</u>
H15	05-Aug-25	<96	237 ± 42	<9	<8	<17	<8	<662	116 ± 13	<67	<20	<183
H59	06-Aug-25	<78	173 ± 31	<8	<8	<15	<9	<557	557 ± 16	<44	<18	<147

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			This sample to be collected at a later time								
H59			This sample to be collected at a later time								

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			This sample to be collected at a later								
H59	09-Sep-25	2900 ± 240	<23	<28	<44	<28	<67	<25	<27	<556	<128

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>	<u>Ra-228</u>
H51	01-Jul-25	1830 ± 91	6260 ± 223	<34	<9	<11	<593	<21	<241	<45
	05-Aug-25	1310 ± 57	4830 ± 188	<14	<11	<12	<127	<24	<268	<46
	02-Sep-25	1350 ± 55	3610 ± 148	<11	<10	<11	83 ± 24	<22	<246	<38
H52	01-Jul-25	1300 ± 110	6200 ± 214	<23	<6	<6	<541	20 ± 4	<145	<25
	05-Aug-25	1040 ± 105	4860 ± 225	<17	<13	<14	<1340	<29	<336	<61
	02-Sep-25	1060 ± 80	4950 ± 231	<15	<12	<13	<722	18 ± 7	<315	<52
H59	01-Jul-25	1240 ± 119	3340 ± 172	<42	<14	7 ± 3	<1190	<27	<303	<51
	05-Aug-25	719 ± 77	3850 ± 187	<16	<12	<12	<1260	<24	<287	<51
	02-Sep-25	786 ± 45	3470 ± 150	<12	<11	<12	<130	<29	<287	<44

ST. LUCIE SITE

Supplemental Sampling

Third Quarter, 2025

Sample Type	Collection Frequency	Number of Sample Locations	Number of Samples
1. Direct Radiation	Quarterly	9	9
. Airborne			
2.a. Air Iodines	Weekly	3	42
2.b. Air Particulates	Weekly	3	42
. Waterborne			
3.a. Surface Water	Monthly	2	6
3.b. Shoreline Sediment	Semiannually	4	4
3.c. Beach Sand	Semiannually	3	3
3.d. Ground Water	Quarterly	10	10
. Ingestion			
4.a. Garden Crop	Annually	1	0
4.b. Citrus	Annually	1	0

Total: 116

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 - DEPLOYED TLD's - ($\mu\text{R}/\text{hour}$)

<u>Sample Site</u>	Deployment: 17-Jun-25 Collection: 10-Oct-25
H08	3.5 \pm 0.3
H09	3.5 \pm 0.1
H12	7.6 \pm 0.3
H14	3.8 \pm 0.5
H33	3.4 \pm 0.1
H34	3.3 \pm 0.3
H60	3.4 \pm 0.2
H61	4.7 \pm 0.4
H62	3.9 \pm 0.4

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

<u>Collection Date</u>	<u>H09</u>	<u>H32</u>	<u>H33</u>
01-Jul-25	< 0.01	< 0.01	< 0.01
07-Jul-25	< 0.03	< 0.03	< 0.03
15-Jul-25	< 0.01	< 0.01	< 0.01
22-Jul-25	< 0.02	< 0.02	< 0.02
28-Jul-25	< 0.03	< 0.03	< 0.03
05-Aug-25	< 0.01	< 0.01	< 0.01
13-Aug-25	< 0.02	< 0.02	< 0.02
19-Aug-25	< 0.03	< 0.03	< 0.03
27-Aug-25	< 0.01	< 0.01	< 0.01
02-Sep-25	< 0.02	< 0.02	< 0.02
09-Sep-25	< 0.02	< 0.02	< 0.02
17-Sep-25	< 0.01	< 0.01	< 0.01
23-Sep-25	< 0.02	< 0.02	< 0.03
29-Sep-25	< 0.03	< 0.03	< 0.03

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

<u>Collection Date</u>	<u>H09</u>	<u>H32</u>	<u>H33</u>
01-Jul-25	0.013 ± 0.002	0.019 ± 0.002	0.011 ± 0.002
07-Jul-25	0.013 ± 0.002	0.018 ± 0.002	0.013 ± 0.002
15-Jul-25	0.009 ± 0.001	0.013 ± 0.002	0.009 ± 0.002
22-Jul-25	0.016 ± 0.002	0.017 ± 0.002	0.012 ± 0.002
28-Jul-25	0.020 ± 0.002	0.021 ± 0.002	0.017 ± 0.002
05-Aug-25	0.019 ± 0.002	0.015 ± 0.002	0.012 ± 0.002
13-Aug-25	0.007 ± 0.001	0.006 ± 0.001	0.006 ± 0.001
19-Aug-25	0.007 ± 0.002	0.007 ± 0.002	0.009 ± 0.002
27-Aug-25	0.011 ± 0.002	0.008 ± 0.002	0.011 ± 0.002
02-Sep-25	0.015 ± 0.002	0.011 ± 0.002	0.011 ± 0.002
09-Sep-25	0.008 ± 0.002	0.006 ± 0.001	0.003 ± 0.001
17-Sep-25	0.007 ± 0.001	0.007 ± 0.001	0.005 ± 0.001
23-Sep-25	0.012 ± 0.002	0.016 ± 0.002	0.008 ± 0.002
29-Sep-25	0.007 ± 0.002	0.008 ± 0.002	0.006 ± 0.002
Average	0.012 ± 0.001	0.012 ± 0.001	0.010 ± 0.001

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

<u>Sample Site</u>	<u>Be-7</u>	<u>K-40</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>
H09	0.076 ± 0.007	<0.019	<0.001	<0.001	<0.015
H32	0.058 ± 0.006	<0.017	<0.001	<0.000	<0.024
H33	0.059 ± 0.006	<0.013	<0.001	<0.001	<0.009

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>H-3</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>Zr-95 Nb-95 (A)</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ba-140 La-140 (B)</u>
H13	01-Jul-25	<136	290 ± 25	<4	<4	<8	<3	<9	<7	<6	<4	<4	<6
	05-Aug-25	<130	311 ± 25	<4	<3	<8	<4	<9	<6	<5	<4	<5	<5
	02-Sep-25	<130	284 ± 24	<4	<4	<8	<3	<9	<7	<5	<4	<4	<5
H36	01-Jul-25	<136	405 ± 28	<4	<4	<7	<4	<9	<7	<4	<4	<4	<5
	05-Aug-25	<130	320 ± 26	<4	<4	<7	<4	<9	<6	<5	<4	<4	<5
	02-Sep-25	<130	333 ± 26	<4	<4	<8	<4	<9	<7	<6	<4	<4	<6

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

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

(C) - Sample was taken during release

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-235</u>	<u>U-238</u>
H13	05-Aug-25	133 ± 28	436 ± 49	<8	<9	<6	<8	<595	<41	<69	<19	<174
H16	05-Aug-25	<72	89 ± 35	<8	<8	<9	<8	<429	53 ± 8	<52	17 ± 4	43 ± 17
H19	05-Aug-25	<111	304 ± 39	<9	<8	<9	<9	<716	239 ± 14	34 ± 18	<21	<202
H36	05-Aug-25	116 ± 35	3900 ± 214	<17	<18	<14	12 ± 4	3050 ± 321	88 ± 12	41 ± 20	25 ± 6	401 ± 47

3.c. BEACH SAND - (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-235</u>	<u>U-238</u>
H15	05-Aug-25	<100	337 ± 45	<10	<8	<7	<7	<698	436 ± 97	<68	28 ± 6	129 ± 51
H16	05-Aug-25	<70	169 ± 38	<8	<8	<9	<7	<457	237 ± 63	<43	<13	<146
H19	05-Aug-25	<86	188 ± 36	<8	<7	<8	<7	<591	<288	<62	<18	<153

3.d. GROUND WATER - (pCi/L)

<u>Sample Site</u>	<u>Collection Date</u>	<u>H-3</u>	<u>K-40</u>	<u>Mn-54</u>	<u>Co58</u>	<u>Fe59</u>	<u>Co60</u>	<u>Zn65</u>	<u>Zr-95 Nb-95 (A)</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ba-140 La-140 (B)</u>
H70	02-Jul-25	<131	<9	<2	<2	<4	<2	<4	<3	<4	<2	<2	<3
H71	02-Jul-25	<136	371 ± 21	<2	<2	<5	<3	<5	<5	<5	<2	<3	<4
H72	02-Jul-25	<136	361 ± 26	<4	<4	<8	<4	<10	<7	<9	<4	<4	<7
H73	02-Jul-25	<131	81 ± 11	<2	<2	<5	<2	<4	<4	<5	<2	<2	<4
H74	02-Jul-25	<136	343 ± 17	<2	<2	<5	<2	<4	<4	<6	<2	<2	<4
H75	02-Jul-25	<136	270 ± 17	<2	<2	<5	<2	<4	<4	<6	<2	<2	<3
H76	02-Jul-25	<131	<28	<2	<2	<4	<2	<4	<3	<4	<2	<2	<3
H77	02-Jul-25	<131	<28	<2	<2	<4	<2	<4	<3	<5	<2	<2	<3
H78	02-Jul-25	<136	<51	<4	<4	<8	<4	<9	<8	<9	<4	<4	<6
H79	02-Jul-25	<136	<56	<4	<4	<8	<4	<9	<8	<12	<4	<3	<6

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

(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La140, whichever method yields the greater sensitivity for a given sample.

4.a. GARDEN CROP - (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>
H41	This sample has not been available.					

4.b. CITRUS - (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>
H23	This sample was previously collected					



RADIOLOGICAL SURVEILLANCE
OF
FLORIDA POWER AND LIGHT COMPANY

ST. LUCIE PLANT

FOURTH QUARTER 2025

BUREAU OF RADIATION CONTROL

ST. LUCIE SITE

Offsite Dose Calculation Manual Sampling

Fourth Quarter, 2025

Sample Type	Collection Frequency	Number of Sample Locations	Number of Samples
1. Direct Radiation	Quarterly	27	27
Airborne			
2.a. Air Iodines	Weekly	5	65
2.b. Air Particulates	Weekly	5	65
Waterborne			
3.a. Surface Water	Weekly	1	13
	Monthly	1	3
3.b. Shoreline Sediment	Semiannually	0	0
Ingestion			
Fish and Invertebrates			
4.a.1. Crustacea	Semiannually	0	2
4.a.2. Fish	Semiannually	0	1
4.b. Broadleaf Vegetation	Monthly	3	9

Total: 185

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

The marine fauna listed in this report were collected in part, under Florida FWC SAL030.

1. DIRECT RADIATION - DEPLOYED TLD's - (μ R/hour)

Sample Site	Deployment: 07-Oct-25 Collection: 02-Dec-25
N-1	3.0 \pm 0.5
NNW-5	3.1 \pm 0.3
NNW-10	3.6 \pm 0.5
NW-5	3.5 \pm 0.0
NW-10	4.0 \pm 0.5
WNW-2	3.1 \pm 0.4
WNW-5	3.3 \pm 0.3
WNW-10	3.0 \pm 0.2
W-2	2.9 \pm 0.1
W-5	3.5 \pm 0.1
W-10	2.7 \pm 0.3
WSW-2	3.2 \pm 0.2
WSW-5	3.3 \pm 0.4
WSW-10	3.2 \pm 0.0
SW-2	3.2 \pm 0.5
SW-5	3.9 \pm 0.2
SW-10	3.2 \pm 0.2
SSW-2	2.9 \pm 0.3
SSW-5	3.6 \pm 0.5
SSW-10	3.0 \pm 0.8
S-5	3.4 \pm 0.2
S-10	3.6 \pm 0.3
S/SSE-10	3.7 \pm 0.6
SSE-5	3.1 \pm 0.2
SSE-10	3.8 \pm 0.1
SE-1	3.0 \pm 0.4
H-32	3.5 \pm 0.3

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>
07-Oct-25	<0.02	<0.02	<0.02	<0.02	<0.02
15-Oct-25	<0.02	<0.02	<0.02	<0.02	<0.02
21-Oct-25	<0.02	<0.02	<0.02	<0.02	<0.02
28-Oct-25	<0.03	<0.03	<0.03	<0.02	<0.02
03-Nov-25	<0.03	<0.03	<0.03	<0.03	<0.03
10-Nov-25	<0.02	<0.03	<0.03	<0.02	<0.02
17-Nov-25	<0.02	<0.02	<0.02	<0.02	<0.02
24-Nov-25	<0.03	<0.01	<0.01	<0.01	<0.01
02-Dec-25	<0.01	<0.03	<0.03	<0.03	<0.03
09-Dec-25	<0.02	<0.02	<0.02	<0.02	<0.02
16-Dec-25	<0.02	<0.02	<0.02	<0.02	<0.02
23-Dec-25	<0.02	<0.02	<0.02	<0.02	<0.02
30-Dec-25	<0.03	<0.03	<0.02	<0.02	<0.03

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

Collection Date	H08	H12	H14	H30	H34
07-Oct-25	0.008 ± 0.001	0.006 ± 0.001	0.011 ± 0.002	0.008 ± 0.001	0.011 ± 0.002
15-Oct-25	0.007 ± 0.001	0.007 ± 0.001	0.008 ± 0.001	0.009 ± 0.002	0.004 ± 0.001
21-Oct-25	0.012 ± 0.002	0.009 ± 0.002	0.013 ± 0.002	0.013 ± 0.002	0.011 ± 0.002
28-Oct-25	0.008 ± 0.002	0.012 ± 0.002	0.013 ± 0.002	0.017 ± 0.002	0.015 ± 0.002
03-Nov-25	0.016 ± 0.002	0.018 ± 0.002	0.018 ± 0.002	0.015 ± 0.002	0.015 ± 0.002
10-Nov-25	0.024 ± 0.002	0.023 ± 0.002	0.023 ± 0.002	0.020 ± 0.002	0.019 ± 0.002
17-Nov-25	0.019 ± 0.002	0.017 ± 0.002	0.024 ± 0.002	0.023 ± 0.002	0.022 ± 0.002
24-Nov-25	0.032 ± 0.003	0.028 ± 0.003	0.013 ± 0.002	0.018 ± 0.002	0.020 ± 0.002
02-Dec-25	0.016 ± 0.002	0.013 ± 0.002	0.013 ± 0.002	0.018 ± 0.002	0.013 ± 0.002
09-Dec-25	0.018 ± 0.002	0.012 ± 0.002	0.013 ± 0.002	0.013 ± 0.002	0.010 ± 0.002
16-Dec-25	0.021 ± 0.002	0.016 ± 0.002	0.017 ± 0.002	0.020 ± 0.002	0.018 ± 0.002
23-Dec-25	0.009 ± 0.002	0.013 ± 0.002	0.015 ± 0.002	0.015 ± 0.002	0.015 ± 0.002
30-Dec-25	0.016 ± 0.002	0.020 ± 0.002	0.017 ± 0.002	0.024 ± 0.002	0.019 ± 0.002
Average:	0.016 ± 0.001	0.015 ± 0.001	0.015 ± 0.001	0.016 ± 0.001	0.015 ± 0.001

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

Sample Site	Be-7	K-40	Cs-134	Cs-137	Pb-210
H08	0.1140 ± 0.0092	<0.0226	<0.0009	<0.0011	<0.0205
H12	0.1140 ± 0.0095	<0.0183	<0.0007	<0.0008	<0.0293
H14	0.1360 ± 0.0100	<0.0219	<0.0010	<0.0009	0.0108 ± 0.0066
H30	0.1140 ± 0.0087	<0.0156	<0.0008	<0.0008	<0.0293
H34	0.1280 ± 0.0101	<0.0255	<0.0009	<0.0012	0.0151 ± 0.0060

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

Sample Site	Collection Date	H-3	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
H15	07-Oct-25	<133	340 ± 25	<4	<4	<8	<4	<9	<7	<5	<4	<4	<6
	15-Oct-25	<133	328 ± 21	<2	<2	<5	<2	<5	<4	<4	<2	<2	<4
	21-Oct-25	<133	270 ± 22	<3	<3	<5	<3	<6	<5	<4	<3	<3	<6
	28-Oct-25	<133	344 ± 26	<4	<4	<8	<4	<8	<7	<5	<4	<4	<5
	03-Nov-25	<137	312 ± 24	<4	<4	<8	<4	<8	<7	<6	<4	<4	<6
	10-Nov-25	<137	351 ± 18	<1	<2	<3	<2	<3	<3	<3	<2	<2	<2
	17-Nov-25	<136	312 ± 25	<4	<4	<8	<4	<10	<7	<6	<4	<5	<6
	24-Nov-25	<136	355 ± 20	<3	<3	<6	<3	<6	<5	<5	<3	<3	<4
	02-Dec-25	<136	334 ± 26	<4	<4	<8	<4	<8	<7	<5	<4	<4	<5
	09-Dec-25	<136	287 ± 24	<4	<4	<8	<5	<9	<7	<4	<4	<5	<5
	16-Dec-25	<136	352 ± 27	<4	<4	<7	<4	<8	<7	<4	<4	<4	<5
	23-Dec-25	219 ± 46	330 ± 22	<2	<2	<5	<3	<6	<4	<4	<2	<2	<4
	30-Dec-25	<135	353 ± 27	<4	<4	8	<3	<10	<6	<4	<4	<4	<5
H59	07-Oct-25	<133	302 ± 20	<2	<2	<4	<2	<4	<3	<4	<2	<2	<3
	05-Nov-25	<137	393 ± 28	<4	<4	9	<3	<9	<8	<12	<4	<4	<8
	02-Dec-25	<136	340 ± 26	<4	<3	8	<4	<9	<6	<5	<4	<4	<5

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

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

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

<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-235</u>	<u>U-238</u>	
H15				These samples were previously collected									
H59													

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	16-Dec-25	1520 ± 122	<14	<14	<29	<16	<31	<13	<16	<281	<61
H59	09-Oct-25	1670 ± 223	<34	<29	<95	<30	<87	<31	<31	<735	<152

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	08-Dec-25	2620 ± 169	<18	<20	<34	<22	<46	<22	<22	<448	<74	
H59			Sample 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>	<u>Ra-228</u>
H51	07-Oct-25	3170 ± 158	3550 ± 194	<27	<11	<17	<872	<32	<353	<58
	05-Nov-25	1920 ± 126	3730 ± 200	<60	<12	<17	<868	<29	<335	<63
	02-Dec-25	1010 ± 66	3020 ± 156	<23	<9	<11	<627	<21	<261	<50
H52	07-Oct-25	1430 ± 132	4500 ± 203	<28	<11	<12	<1020	<25	<278	<54
	05-Nov-25	781 ± 84	4730 ± 214	<48	<12	<13	<1290	<26	<287	<53
	02-Dec-25	565 ± 65	4110 ± 186	<23	<10	<11	<1100	<23	<257	<46
H59	07-Oct-25	1360 ± 127	3190 ± 162	<24	<12	<13	<1030	<26	<291	<46
	05-Nov-25	1010 ± 53	2930 ± 130	<55	<10	<7	<113	<22	<243	<37
	02-Dec-25	775 ± 45	2660 ± 122	<21	<11	<12	<121	<24	<263	<41

ST. LUCIE SITE

Supplemental Sampling

Fourth Quarter, 2024

Sample Type	Collection Frequency	Number of Sample Locations	Number of Samples
1. Direct Radiation	Quarterly	9	9
. Airborne			
2.a. Air Iodines	Weekly	3	38
2.b. Air Particulates	Weekly	3	38
. Waterborne			
3.a. Surface Water	Monthly	2	6
3.b. Shoreline Sediment	Semiannually	0	0
3.c. Beach Sand	Semiannually	0	0
3.d. Ground Water	Quarterly	10	10
. Ingestion			
4.a. Garden Crop	Annually	0	0
4.b. Citrus	Annually	0	0

Total: 103

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 - DEPLOYED TLD's - ($\mu\text{R}/\text{hour}$)

Sample Site	Deployment: 07-Oct-25 Collection: 02-Dec-25
H08	3.5 \pm 0.1
H09	7.6 \pm 1.3
H12	3.7 \pm 0.5
H14	3.4 \pm 0.5
H33	3.4 \pm 0.1
H34	3.3 \pm 0.3
H60	3.3 \pm 0.2
H61	4.7 \pm 0.4
H62	3.9 \pm 0.4

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

Collection Date	H09	H32	H33
07-Oct-25	<0.02	<0.02	<0.02
15-Oct-25	<0.02	<0.02	<0.02
21-Oct-25	<0.02	<0.02	<0.03
28-Oct-25	<0.03	<0.03	<0.02
03-Nov-25	<0.03	<0.03	<0.03
10-Nov-25	<0.03	<0.03	<0.03
17-Nov-25	<0.02	<0.02	<0.02
24-Nov-25	<0.03	<0.01	<0.03
02-Dec-25	<0.01	<0.01	<0.03
09-Dec-25	<0.02	<0.02	<0.02
16-Dec-25	<0.02	<0.02	<0.02
23-Dec-25	<0.02	<0.02	<0.02
30-Dec-25	<0.02	<0.03	<0.03

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

<u>Collection Date</u>	<u>H09</u>	<u>H32</u>	<u>H33</u>
07-Oct-25	0.008 ± 0.001	0.009 ± 0.001	0.007 ± 0.001
15-Oct-25	0.008 ± 0.002	0.008 ± 0.001	0.006 ± 0.001
21-Oct-25	0.010 ± 0.002	0.015 ± 0.002	0.006 ± 0.002
28-Oct-25	0.014 ± 0.002	0.018 ± 0.002	0.012 ± 0.002
03-Nov-25	0.019 ± 0.002	0.020 ± 0.002	0.014 ± 0.002
10-Nov-25	0.021 ± 0.002	0.020 ± 0.002	0.015 ± 0.002
17-Nov-25	0.022 ± 0.002	0.024 ± 0.002	0.012 ± 0.002
24-Nov-25	0.030 ± 0.003	0.019 ± 0.002	0.019 ± 0.002
02-Dec-25	0.014 ± 0.002	0.019 ± 0.002	0.019 ± 0.002
09-Dec-25	0.014 ± 0.002	0.015 ± 0.002	0.011 ± 0.002
16-Dec-25	0.020 ± 0.002	0.017 ± 0.002	0.014 ± 0.002
23-Dec-25	0.013 ± 0.002	0.011 ± 0.002	0.005 ± 0.002
30-Dec-25	0.022 ± 0.002	0.018 ± 0.002	0.010 ± 0.002
Average	0.017 ± 0.001	0.016 ± 0.001	0.012 ± 0.001

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

<u>Sample Site</u>	<u>Be-7</u>	<u>K-40</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Pb-210</u>
H09	0.1060 ± 0.0096	<0.0154	<0.0006	<0.0007	<0.0007
H32	0.1070 ± 0.0087	<0.0156	<0.0012	<0.0015	<0.0013
H33	0.0832 ± 0.0078	<0.0175	<0.0008	<0.0011	<0.0008

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

<u>Sample Site</u>	<u>Collection Date</u>	<u>H-3</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>Zr-95 Nb-95 (A)</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Ba-140 La-140 (B)</u>
H13	07-Oct-25	<133	265 ± 23	<4	<4	<9	<4	<8	<8	<7	<4	<4	<6
	05-Nov-25	<137	277 ± 16	<2	<2	<3	<2	<4	<3	<3	<2	<2	<2
	02-Dec-25	<136	276 ± 24	<4	<4	<8	<4	<9	<7	<7	<4	<4	<5
H36	07-Oct-25	<133	314 ± 25	<4	<4	<7	<3	<9	<7	<5	<4	<4	<5
	05-Nov-25	<137	360 ± 27	<4	<4	<10	<4	<10	<7	<13	<4	<4	<7
	02-Dec-25	<136	329 ± 26	<4	<4	<8	<4	<10	<7	<8	<4	<4	<5

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

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-235</u>	<u>U-238</u>
H13					These samples were previously collected							
H16												
H19												
H36												

3.c. BEACH SAND - (pCi/kg, dry weight)

<u>Sample Site</u>	<u>Collection Date</u>	<u>Be-7</u>	<u>K-40</u>	<u>Co58</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-235</u>	<u>U-238</u>
H15					These samples were previously collected							
H16												
H19												

3.d. GROUND WATER - (pCi/L)

Sample Site	Collection Date	H-3	K-40	Mn-54	Co58	Fe59	Co60	Zn65	Zr-95 Nb-95 (A)	I-131	Cs-134	Cs-137	Ba-140 La-140 (B)
H70	15-Oct-25	<133	<56	<4	<4	<8	<3	<11	<8	<7	<4	<5	<6
H71	15-Oct-25	606 ± 53	345 ± 22	<3	<2	<5	<3	<5	<4	<4	<2	<2	<5
H72	15-Oct-25	<133	299 ± 21	<3	<3	<6	<3	<6	<5	<4	<3	<3	<4
H73	15-Oct-25	<133	37 ± 11	<2	<2	<4	<2	<4	<4	<4	<2	<2	<3
H74	15-Oct-25	<133	268 ± 23	<4	<4	<9	<4	<11	<7	<8	<4	<5	<6
H75	15-Oct-25	<133	265 ± 23	<4	<4	<9	<4	<10	<6	<8	<4	<5	<6
H76	15-Oct-25	101 ± 43	<43	<4	<5	<9	<4	<11	<7	<7	<4	<4	<7
H77	15-Oct-25	<133	<43	<4	<3	<7	<3	<8	<7	<8	<4	<4	<5
H78	15-Oct-25	<133	<57	<4	<4	<8	<4	<11	<7	<6	<4	<5	<6
H79	15-Oct-25	<133	<39	<3	<2	<6	<3	<6	<5	<5	<3	<3	<4

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

(B) - These tabulated LLD values are for Ba-140, either based on direct measurement of Ba-140 or based on ingrowth of La140, whichever method yields the greater sensitivity for a given sample.

4.a. GARDEN CROP - (pCi/kg, wet weight)

Sample Site	Collection Date	<u>Be-7</u>	<u>K-40</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>
H41	This sample has not been available.					

4.b. CITRUS - (pCi/kg, wet weight)

Sample Site	Collection Date	<u>Be-7</u>	<u>K-40</u>	<u>I-131</u>	<u>Cs-134</u>	<u>Cs-137</u>
H23	This sample was previously collected					

Attachment 3, Cross Check Intercomparison Program

The interlaboratory comparison program consists of participating in the DOE Mixed Analyte Performance Evaluation Program (MAPEP) and the Environmental Resources Associates (ERA) RadChem Study proficiency testing. The samples are analyzed using the methods applicable to the REMP (gamma spectroscopy, gross beta, and tritium for water). Results for the interlaboratory comparison program are listed below.

Table 10: Cross Check Intercomparison Results

DOE MAPEP Series 52 BRC Results

Matrix: Air Filter (Bq/sample)				
Radionuclide	Result	Ref. Value	Flag (Evaluation)	Acceptance Range
Mn-54	0.014		A	False Pos. Test
Co-60	0.471	0.486	A	0.340 - 0.632
Zn-65	0.003		A	False Pos. Test
Cs-134	0.34	0.34	A	0.238 - 0.442
Cs-137	0.651	0.678	A	0.475 - 0.881
Gross Alpha	0.22	0.255	A	0.077 - 0.434
Gross Beta	0.914	0.894	A	0.447 - 1.341

Matrix: Soil (Bq/kg)				
Radionuclide	Result	Ref. Value	Flag (Evaluation)	Acceptance Range
K-40	489	511	A	358 - 664
Mn-54	1080.00	1080	A	756 - 1404
Co-60	598.00	626	A	438 - 814
Zn-65	799	776	A	543 - 1009
Cs-134	537.35	519	A	363 - 675
Cs-137	438.00	442	A	309 - 575
U-238	63.41	69	A	48 - 90

Matrix: Water (Bq/L)				
Radionuclide	Result	Ref. Value	Flag (Evaluation)	Acceptance Range
K-40	34.6	30.3	A	21.2 - 39.4
Mn-54	0.028		A	False Pos. Test
Co-60	0.24	0.29	A	Sensitivity Eval
Zn-65	29.550	26.7	A	18.7 - 34.7
Cs-134	-0.034		A	False Pos. Test
Cs-137	7.150	6.9	A	4.8 - 9.0

Flag (Evaluation): A = Acceptable, W = Acceptable with Warning, N = Not Acceptable

DOE MAPEP Series 53 and ERA RAD-143 BRC Results

Matrix: Air Filter (Bq/sample)				
	Result	Ref. Value	Flag (Evaluation)	Acceptance Range
Mn-54	1.178	1.070	A	0.75 - 1.39
Co-60	0.015		A	False Pos. Test
Zn-65	1.733	1.510	A	1.06 - 1.96
Cs-134	0.784	0.802	A	0.561 - 1.043
Cs-137	0.517	0.512	A	0.358 - 0.666
Gross Alpha	1.348	1.24	A	0.37 - 2.11
Gross Beta	1.754	1.75	A	0.88 - 2.63

Matrix: Soil (Bq/kg)				
	Result	Ref. Value	Flag (Evaluation)	Acceptance Range
K-40	496.5	492	A	344 - 640
Mn-54	791.50	771	A	540 - 1002
	1127.50	1144	A	801 - 1487
Zn-65	1.21		A	False Pos. Test
Cs-134	647.91	613	A	429 - 797
Cs-137	686.25	686	A	480 - 892
U-238	68.59	68	A	48 - 88

Matrix: Water (Bq/L)				
	Result	Ref. Value	Flag (Evaluation)	Acceptance Range
H-3 (pCi/L)	20901	21300	A	18200 - 24400
K-40	0.263		A	False Pos. Test
Mn-54	7.743	7.95	A	5.14 - 10.34
	6.96	7.24	A	5.07 - 9.41
Zn-65	23.950	23.1	A	16.2 - 30.0
Cs-134	7.587	7.34	A	5.14 - 9.54
Cs-137	6.569	6.7	A	4.7 - 8.7
Ra-226 (pCi/L)	12.480	13.4	A	11.1 - 15.7

Flag (Evaluation): A = Acceptable, W = Acceptable with Warning, N = Not Acceptable

DOE MAPEP Series 53 BRC Results

Matrix: Vegetation (Bq/sample)				
Am-241	0.021	0.000	A	Sensitivity Eval.
Mn-54	3.34	3.1	A	2.17 - 4.03
	2.433	2.300	A	1.61 - 2.99
Zn-65	10.3	9.29	A	6.50 - 12.08
Cs-134	0.784	0.802	A	0.561 - 1.043
Cs-137	0.517	0.512	A	0.358 - 0.666
U-238	0.063	0.0685	A	0.048 - 0.0891

Flag (Evaluation): A = Acceptable, W = Acceptable with Warning, N = Not Acceptable

ERA RAD-143 BRC Results

Matrix: Vegetation (pCi/L)				
Ra-226	9.920	11.100	A	9.07 - 13.1
Tritium	20424	21200	A	18200 - 24200
	26.29	24.300	A	20.9 - 27.7

Flag (Evaluation): A = Acceptable, W = Acceptable with Warning, N = Not Acceptable