May 12, 2023

L-2023-061
10 CFR 50.36b

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

Re: Turkey Point Nuclear Plant, Units 3 and 4
Docket Nos. 50-250 and 50-251

2022 Annual Radiological Environmental Operating Report

Enclosed is the 2022 Annual Radiological Environmental Operating Report for Turkey Point Units 3 and 4, as required by Technical Specification 6.9.1.3.

If you have any questions regarding this submittal, please contact Kenneth Mack at 561-904-3635.

Sincerely,

Dianne Strand
General Manager, Regulatory Affairs
Florida Power & Light Company

Enclosure: Annual Radiological Environmental Operating Report (2022)

cc: USNRC Regional Administrator, Region II
USNRC Project Manager, St. Lucie Nuclear Plant
USNRC Resident Inspector, St. Lucie Nuclear Plant

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Docket NOS Number: 50-250, 50-251	
Annual Radiological Environmental Operating Report	

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1.0 EXECUTIVE SUMMARY

1.1 Radiological Environmental Monitoring Program

The data obtained through the Turkey Point Radiological Environmental Monitoring Program (REMP) verifies that the levels of radiation and concentrations of radioactive materials in environmental samples are not increasing. These measurements verify that the dose or dose commitment to members of the public, due to operation of Turkey Point Units 3 & 4, during the surveillance year, is well within the limits established by 10 CFR 50, Appendix I. The sampling period was from January 1, 2022 to December 31, 2022. Additionally, supplemental samples collected by the State of Florida, Department of Health (DOH), do not indicate adverse trends in the radiological environment.

All required lower limit of detection (LLD) capabilities were achieved in all sample analyses during 2022, as required by the Turkey Point Units 3 & 4 Technical Specifications. No measurable levels of radiation above baseline levels attributable to Turkey Point Nuclear operation were detected in the vicinity of PTN. The 2022 Radiological Environmental Monitoring Program thus substantiated the adequacy of source control and effluent monitoring at Turkey Point Nuclear with no observed impact of plant operations on the environment.

Turkey Point Nuclear established the REMP prior to the station's becoming operational to provide data on background radiation and radioactivity normally present in the area. PTN has continued to monitor the environment by sampling air, water, sediment, crustacea, fish and broadleaf vegetation, as well as measuring direct radiation. PTN also samples milk if milk-producing animals used for human consumption are present within five miles (8 km) of the plant.

The REMP includes sampling indicator and control locations within an approximate 20-mile radius of the plant. The REMP utilizes indicator locations near the site to show any increases or buildup of radioactivity that might occur due to station operation and control locations farther away from the site to indicate the presence of only naturally occurring radioactivity. PTN personnel compare indicator results with control results to assess any impact PTN operation might have had on the surrounding environment.

In 2022, environmental samples were collected for radiological analysis. The results of indicator locations were compared with control locations. It was concluded that no significant relationship exists between PTN operation and effect on the area around the plant. The review of 2022 data showed radioactivity levels in the environment were undetectable in many locations and near background levels in significant pathways.

Radiological environmental monitoring for the Turkey Point Plant is conducted by the State of Florida, DOH. Samples are collected and analyzed by DOH personnel. Samples are analyzed at the DOH Environmental Radiation Control Laboratory in Orlando, Florida. The 2022 Radiological Surveillance Quarterly Report data is provided by the State of Florida Bureau of Radiation Control and is presented in Attachment 2. The State of Florida is not involved in the (Industry Initiative) ground water monitoring program.

1.2 Reporting Levels

No samples equaled or exceeded reporting levels.

1.3 Sample Deviations

During 2022, environmental sampling was performed for seven media types addressed in the ODCM and for direct radiation. A total of 770 samples of the 802 scheduled were obtained. Of the scheduled samples, 96 percent were collected and analyzed in accordance with the requirements specified in the ODCM. Attachment 1 contains the listing of sample deviations and actions taken.

1.4 Program Modifications

- There were no program modifications during the reporting period.

2.0 INTRODUCTION

This report is submitted pursuant to Specification 6.9 of Turkey Point Units 3 & 4 Technical Specifications. The Annual Radiological Environmental Operating Report provides information, summaries and analytical results pertaining to the Radiological Environmental Monitoring Program for the calendar year indicated. This report covers surveillance activities described in the Offsite Dose Calculation Manual (ODCM) meeting the requirements of Unit 3 and Unit 4 Technical Specifications.

2.1 Radiological Environmental Monitoring Program

The Radiological Environmental Monitoring Program for the Turkey Point Plant is conducted pursuant to Control 5.1 of Turkey Point Unit 3 & 4 ODCM.

A. Purpose

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

Sample Locations, Types and Frequencies:

- Direct radiation gamma exposure rate is monitored continuously at 23 locations by thermoluminescent dosimeters (TLDs). TLDs are collected and analyzed quarterly.

- Airborne radioiodine and particulate samplers are operated continuously at six locations. Samples are collected and analyzed weekly. Analyses include Iodine-131, gross beta, and gamma isotopic measurements.

- Surface water samples are collected from three locations. Samples are collected and analyzed monthly. Analyses include gamma isotopic and tritium measurements.

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

- Fish and invertebrate samples are collected from two locations coinciding with two of the locations for surface water samples. Samples are collected and analyzed semi-annually. Fish and invertebrate samples are analyzed by gamma isotopic measurements.

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

Table 1 through 4 provides specific information pertaining to sample locations, types, and frequencies.

Note: Ground Water Protection, NEI Initiative: The program and results are described in Attachment 4.

2.2 Pathways Monitored

The airborne, direct radiation, waterborne and ingestion pathways are monitored as required by Control 5.1 of Turkey Point Unit 3 & 4 ODCM. A description of the REMP utilized to monitor the exposure pathways is described in the attached Tables and Figures.

Section 4.0 of this report provides a discussion of 2022 sampling results with Section 5.0 providing a summary of results for the monitored exposure pathways.

2.3 Land Use Census

PTN conducts a land use census, as required by Turkey Point Units 3 & 4 ODCM. The purpose of this census is to identify changes in uses of land within five miles of PTN that would require modifications to the REMP and the Offsite Dose Calculation Manual (ODCM). Section 4.5 on the report contains a narrative on the results of the 2022 land use census.

3.0 RADIOLOGICAL ENVIRONMENTAL SAMPLING PROGRAM REQUIREMENTS

Table 1: Exposure Pathway – Airborne

Requirement	Sample Point Description Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
RADIOIODINE AND PARTICULATES 5 sample indicator locations and 1 sample control location.	• **T51 (2 mi. NNW)** – Entrance Area to Biscayne National Park. • **T57 (4 mi. NW)** – Siren Pole 27, intersection of SW 112th Ave and SW 304th St. • **T58 (1 mi. NW)** – Turkey Point Entrance Road. • **T72 (<1 mi. WSW)** – Just before entrance to Land Utilizations access gate. • **T41 (1.6 mi. WNW)** – Palm Dr. West of FPL Satellite School near the site boundary. • **T64* (22 mi. NNE)** – Natoma Substation, 2475 SW 16 Ct.	Continuous sampler operation with sample collection weekly or more frequently if required by dust loading.	• Radioiodine Canisters – I-131 analysis weekly. • Air Particulate – Gross beta radioactivity analysis following filter change. • Air Particulate – Gamma Isotopic analysis quarterly.

*Denotes Control sample

Table 2: Exposure Pathway – Direct Radiation

Requirement	Sample Point Description Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
TLDS 22 indicator sample locations and 1 control sample location.	• **N-2 (2 mi N) –** Convoy Point • **N-7 (7.1 mi N)** – Black Point Marina parking lot on siren pole • **N-10 (10.6 mi N)** – Old Cutler Rd across from Perdue Med. Ctr. On siren pole. • **NNW-2 (2.2 mi NNW)** – East End of N. Canal Dr. on siren pole E. of 117th Ave. • **NNW-10 (9.2 mi NNW)** – Bailes Rd. E. of US 1 on siren pole. • **NW-1 (1.4 mi NW)** – Turkey Point Entrance Rd. • **NW-5 (3.9 mi NW)** – Intersection of Mowry Dr. and 117th Ave. on siren pole. • **NW-10 (10 mi NW)** – On Newtown Rd. N. of Coconut Palm Drive on siren pole. • **W-5 (5.3 mi W)** – Palm Drive 0.3 mi west of Tallahassee Rd. • **WNW-10 (9.8 mi WNW)** – NW 2nd Ave. S. of Campbell Dr. at Hmstd. Middle School on siren pole. • **W-1 (0.7 mi W)** – On site north side of Discharge Canal.	Quarterly	• mR exposure quarterly.

Table 2: Exposure Pathway – Direct Radiation

Requirement	Sample Point Description Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
TLDS (Cont'd) 22 indicator sample locations and 1 control sample location.	• **W-9 (8.6 mi W)** – Card Sound Rd. 0.6 mi SSE of US 1 on siren pole. • **WSW-8 (7.8 mi WSW)** – Card Sound Rd. 3.4 mi. SSE of US 1 on siren Pole. • **SW-1 (1 mi SW)** – On site near land utilization offices. • **SSE-1 (1 mi SSE)** – On site South East side of cooling canals at "Turtle Point". • **SW-8 (8 mi SW)** – Card Sound Rd. 5 mi. SSE of US 1 at entrance to Navy facility. • **SSW-5 (5 mi SSW)** – On site, southwest corner of cooling canals. • **SSW-10 (10 mi SSW)** – At Card Sound Bridge on siren pole. • **S-5 (5 mi S)** – On site, south east end of cooling canals. • **S-10 (10 mi S)** – Card Sound Road at Steamboat Creek. • **SSE-10 (9 mi SSE)** – Ocean Reef. • **NNE-22* (22.6 mi NNE)** – Natoma Substation. • **WNW2 (1.6 mi WNW)** – Palm Dr. West of FPL Satellite School, near Site Boundary.	Quarterly	• mR exposure quarterly.

*Denotes Control sample

Table 3: Exposure Pathway – Waterborne

Requirement	Sample Point Description Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
SURFACE WATER 2 indicator sample locations and 1 control sample location.	• **T42 (<1 mi. ENE)** – Biscayne Bay at Turkey Point. • **T81 (6 mi. S)** – Card Sound, near Mouth of Old Discharge Canal. • **T67* (13-18 mi. N, NNE)** – Near Biscayne Bay, Vicinity of Cutler Plant, North to Matheson Hammock Park	Grab samples Monthly	• Gamma isotopic analysis and tritium analysis monthly.
SEDIMENT FROM SHORELINE 2 indicator sample locations and 1 control sample location. Locations coincide with the surface water sample locations.	• **T42 (<1 mi ENE)** – Biscayne Bay at Turkey Point. • **T81 (6 mi. S)** – Card Sound, near Mouth of Old Discharge Canal. • **T67* (13-18 mi. N, NNE)** – Near Biscayne Bay, Vicinity of Cutler Plant, North to Matheson Hammock Park	Semi-annually	• Gamma isotopic analysis semi-annually.

*Denotes Control sample

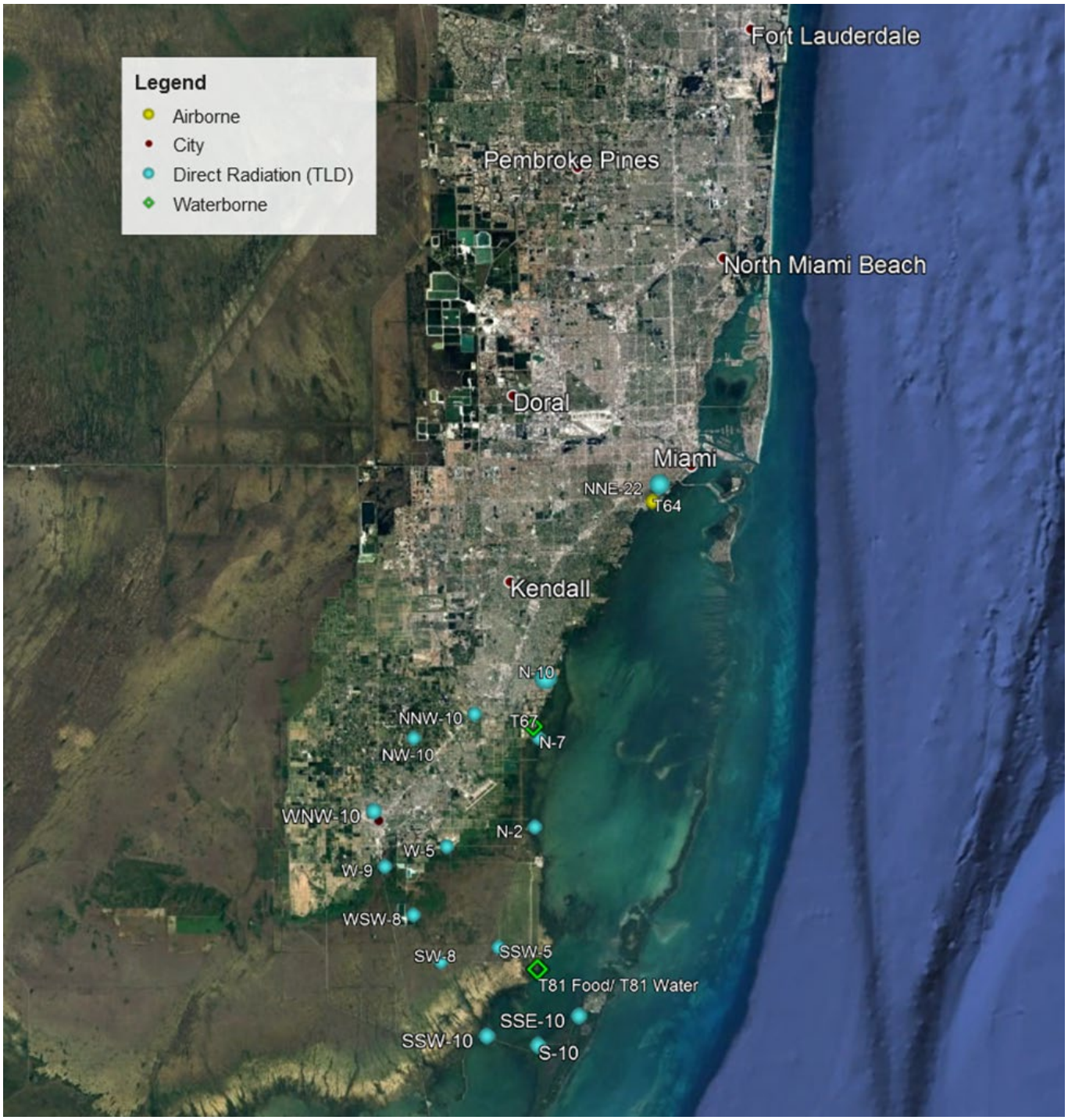
Table 4: Exposure Pathway – Ingestion

Requirement	Sample Point Description Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
CRUSTACEA AND FISH • 1 indicator sample location and 1 control sample location.	• **T81 (6 mi. S)** – Card Sound, near Mouth of Old Discharge Canal. • **T67* (13-18 mi. N, NNE)** – Near Biscayne Bay, Vicinity of Cutler Plant, North to Matheson Hammock Park	Semi-annually	Gamma isotopic analysis semi-annually.
BROADLEAF VEGATATION • 2 indicator sample locations and 1 control sample location.	• **T40 (3 mi W)** – South of Palm Dr. on S.W. 117th Street Extension. • **T41 (2 mi WNW)** – Palm Dr. West of FPL Satellite School near the site boundary. • **T67* (13-18 mi. N, NNE)** – Near Biscayne Bay, Vicinity of Cutler Plant, North to Matheson Hammock Park	Monthly	Gamma isotopic analysis monthly.

*Denotes Control sample

Figure 1: Sample Collection Sites – Near Station

Figure 2: Sample Collection Sites – Distant from Station



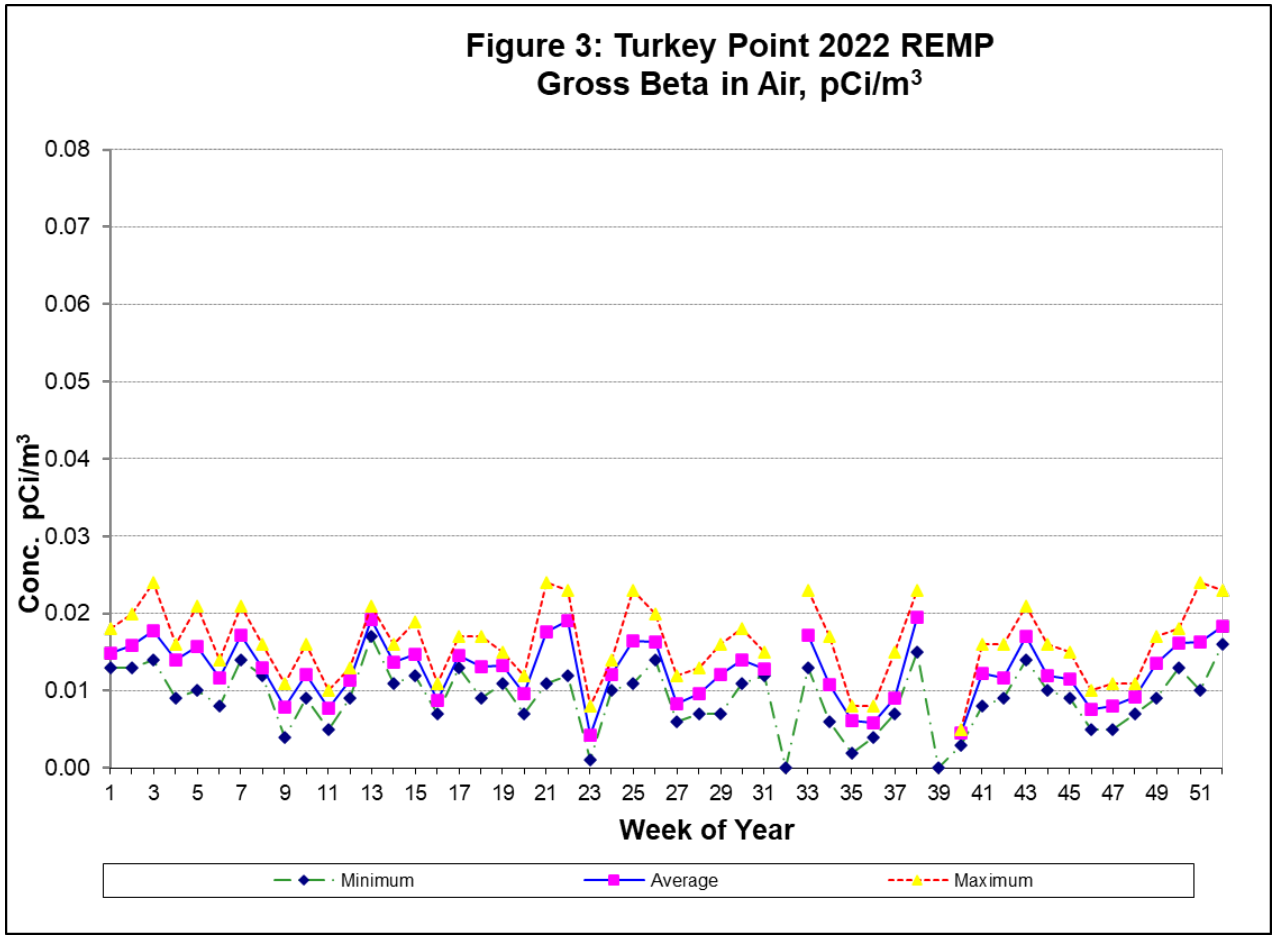
4.0 INTERPRETATION AND TRENDS OF RESULTS

4.1 Air Particulate and Radioiodine Sample Results

In 2022 there were no samples above the LLD for I-131. Indicator gross beta air particulate results for 2022 were comparable to results obtained from 2019-2021 of the operational REMP. Results are reported in picocuries per cubic meter (pCi/m^3).

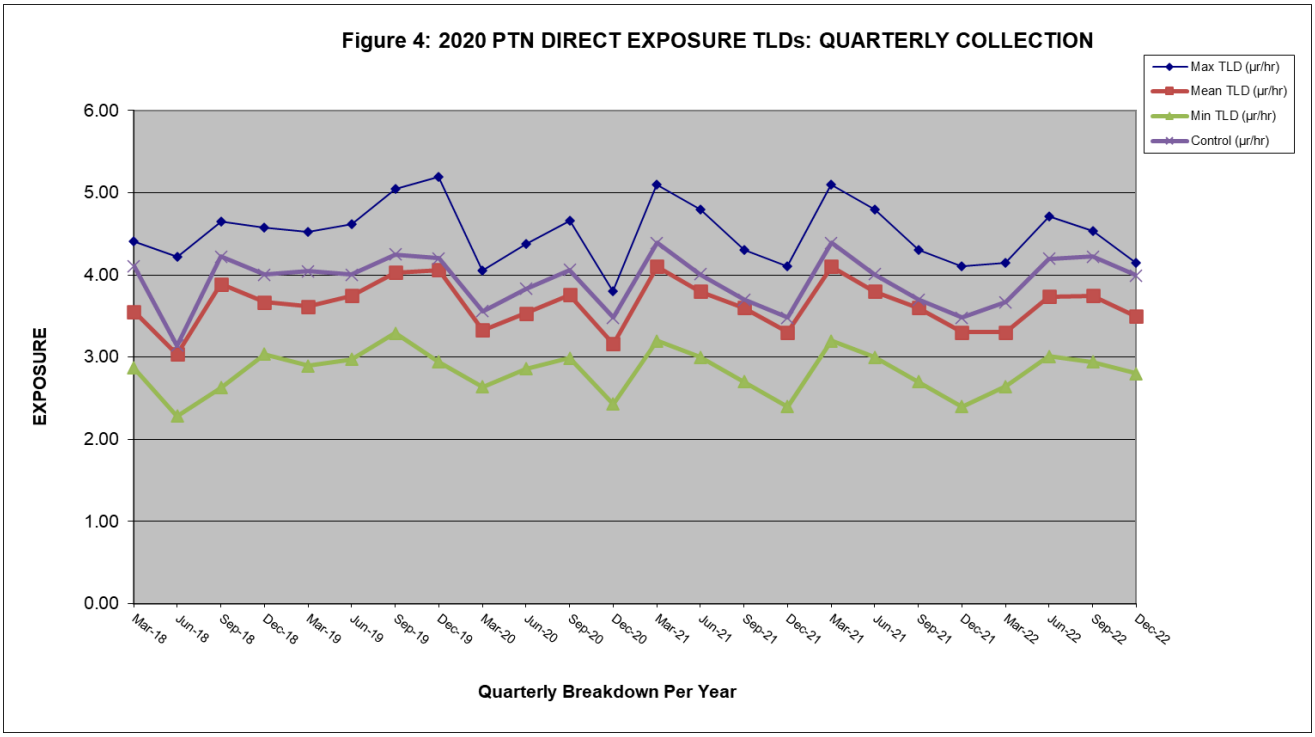
Monitoring Period	Result
2019 – 2021 (Minimum Value)	0.002
2022 Average Value	0.013
2019 – 2021 (Maximum Value)	0.030

Gross beta activity is attributed to naturally occurring radionuclides. Table 6, which include gross beta concentrations and provide a comparison of the indicator and control means and ranges emphasizes the consistent trends seen in this pathway to support the presence of naturally occurring activity. Figure 3 is a comparison of the weekly Gross Beta results for 2022.Therefore, it can be concluded that the airborne pathway continues to be unaffected by Turkey Point Nuclear operations.



4.2 Thermoluminescent Dosimetry (TLD) Sample Results

Turkey Point Nuclear reports relies on comparison of the indicator locations to the control as a measure of plant impact. Turkey Point Nuclear's comparison of the indicator to the control, as seen in Table 6, identified no noticeable trend that would indicate that the ambient radiation levels are being affected by plant operations. In addition, the quarterly indicator averages shown in the TLD radiation dose comparison graph below shows the 2022 indicator results are comparable to control location results. Overall, Turkey Point Nuclear concluded that the ambient radiation levels are not being affected by plant operations.



4.3 Waterborne Sample Results

Analytical results for 2022 surface water samples were similar to those reported in previous years. Gamma radionuclides and tritium analytical results for 2022 waterborne samples were below the ODCM-required LLD similar to those reported in previous years. These results are further explained below.

4.3.1 Surface Water Results

Samples were collected from two indicator and one control location and analyzed for gamma radionuclides and tritium. Tritium was detected in 1 out of 24 indicator location samples with a concentration of 84 pCi/L which is consistent with results seen in previous operational years. There were no plant related gamma radionuclides detected in any of the control or indicator location samples. Therefore, the operation of Turkey Point Nuclear had no definable impact on this waterborne pathway during 2022.

4.3.2 Shoreline Sediment Sample Results

Sediment samples were collected from two indicators and one control location in 2022 and analyzed for gamma radionuclides. Plant related gamma radionuclides were below the LLD limits at both indicator and control locations. Turkey Point Nuclear operations had no significant impact on the environment or public by this waterborne pathway.

4.4 Ingestion Sample Results

4.4.1 Crustacea and Fish Sample Results

Crustacea and Fish samples were collected from one indicator and one control location and analyzed for gamma radionuclides. In 2022, gamma radionuclides were below detectable limits which are consistent with the results seen in previously operational years. Therefore, based on these measurements, Turkey Point Nuclear operations had no significant radiological impact upon the environment or public by this ingestion pathway.

4.4.2 Broad Leaf Vegetation Sample Results

The REMP had detected radionuclides prior to 1990 in vegetation that are attributable to other sources. These include the radioactive plume release due to reactor core degradation at Chernobyl Nuclear Power Plant in 1986 and atmospheric weapons testing.

In 2022, Broad Leaf Vegetation samples were collected from two indicator and one control locations and analyzed for gamma radionuclides. The 2022 Cs-137 was detected in samples collected from the indicator and control locations. This activity identified could be from weapons fallout testing 30-40 years ago and reactor accidents at Chernobyl and are contributors. Therefore, based on these measurements, Turkey Point Nuclear operations had no significant radiological impact upon the environment or public by this ingestion pathway.

4.5 Land Use Census Results

The latest land use census (performed in 2022) did not identify any new locations that yielded a calculated dose or dose commitment greater than those currently calculated (see Table 5).

The land use census identified no changes in the new resident census.

There were no changes in the milk cows/goats or garden census in 2022.

Table 5: Land Use Census –2022 Nearest Residence, Garden, and Milk Animal Within Five Miles

SECTOR	NEAREST RESIDENCE/BUSINESS	NEAREST GARDEN (A)	NEAREST MILK ANIMAL
N	1.9 mi @ 349° 1.98 mi @ 349° 2.0 mi @ 354°	*	*
NNE	*	*	*
NE	*	*	*
ENE	*	*	*
E	*	*	*
ESE	*	*	*
SE	*	*	*
SSE	*	*	*
S	*	*	*
SSW	*	*	*
SW	*	*	*
WSW	*	*	*
W	*	*	*
WNW	1.7 mi @ 302° 3.7 mi @ 302°	4.5 mi @ 303° 6.0 mi @ 295°	*
NW	3.6 mi @ 304° 3.7 mi @ 311° 3.8 mi @ 316° 3.9 mi @ 314°	*	*
NNW	4.4 mi @ 333° 4.7 mi @ 328°	4.4 mi @ 332° 4.7 mi @ 328°	*

(A) - Only gardens with an estimated total area of 500 square feet, or more, and producing green leafy vegetables are considered.

* - No suitable sites were located within a five-mile range.

TURKEY POINT RESIDENCE SURVEY RESULTS

July 2022

Sector	Range Bearing	Nearest Residence/Business Location
N (A)	1.9 miles 349°	Homestead Bayfront Park complex. Contact is Jim Wyath. Office hours are 8:30 to 4:30, 7 days a week. Some occasional overnight recreational occupancy (up to 4 nights) on boats at the marina. Approximately 10 workers, 7 days a week, hours and numbers vary. Some summer weekends can see 1000+ visitors. There is always someone here 24 hours with more workers in the summer than the rest of the year (February thru September have the highest peak of workers). LaPlaya restaurant is open at the park weekdays from 11 am to 8:30 pm with 8 to 10 employees. Weekends open till 10 pm and may have up to 15 employees. N25° 27.683' W80° 20.200'.
N (B)	1.98 miles 349°	South Glade Outfitters. Located on opposite side of building from office of Homestead Bayfront Park. Manager is Robert and have 2-3 employees. Weekdays 7 am to 5 pm, Fridays till 6 pm. Weekends 7 am – 6 pm. Hours may vary depending on weather. N25° 27.767' W80° 20.206'.
N (C)	2.0 miles 354°	Biscayne National Park at Convoy Point. Open 7 am to 5:30 pm everyday. There are 65 employees including volunteers and individuals at the institute. The one ranger and two seasonal employees are there all year. There are about 500,000 visitors (more including boaters) per year. Contacts include: Michelle Penick, Chief of Facilities, J. Ernest Jutte, Chief of Administration, 305-242-7721 (office) 202-438-6636 (mobile), and Cindy Holl (administrator) 239-695-1114. N25° 27.817' W80° 20.067'.
NNE	No residences were located within a five-mile range.	
NE	No residences were located within a five-mile range.	
ENE	No residences were located within a five-mile range.	
E	No residences were located within a five-mile range.	
ESE	No residences were located within a five-mile range.	
SE	No residences were located within a five-mile range.	
SSE	No residences were located within a five-mile range.	
S	No residences were located within a five-mile range.	
SSW	No residences were located within a five-mile range.	
SW	No residences were located within a five-mile range.	
WSW	No residences were located within a five-mile range.	
W	No residences were located within a five-mile range.	

TURKEY POINT RESIDENCE SURVEY RESULTS

July 2022 (cont.)

Sector	Range Bearing	Nearest Residence/Business Location
WNW (A)	1.7 miles 302°	FP&L daycare center and shooting range near the entrance to the Turkey Point Plant. Contact is Yudisvel "Judy" Diaz, Director. There are 15 employees with 90 children currently enrolled, ages 6 months to 5 yrs. Occasionally, they will have school aged children. The center is open from 6am to 6pm Monday thru Friday. The number of people and times at the shooting range varies. N25° 26.817' W80° 21.217'.
WNW (B)	3.7 miles 302°	11790 Canal Drive on the south side of Canal Drive (SW 328 St) west of SW 117th Ave (no gardens). Next door, to the east, is a makeshift produce stand which sells coconuts, limes, mandarin oranges, flowers, garlic, mangoes, papaya, avocado, honey, melons, sugar cane, ginger, plantains and pumpkins. Is not associated with the house next door. Two employees may be working there from 8 am to 6 pm. N25° 27.767' W80° 22.867'.
NW (A)	3.6 miles 304°	The Waste Management Homestead Landfill is located north of Canal Drive (SW 328th St) and east of SW 117th Ave. There are 9 full time employees onsite Monday thru Friday from 7 am to 3:30 pm. N25° 27.833' W80° 22.767'.
NW (B)	3.7 miles 311°	11000 SW 320th St. Per property records, this house is on land zoned agriculture and the owners live in Texas. Unable to verify if anyone lives there because the gate is locked and the residence is too far from the road to see anything. N25° 28.217' W80° 22.567'.
NW (C)	3.8 miles 316°	High Hope Nursery at 11400 SW 316th St. Contact is George Sprinkle, Owner and General Manager. This nursery has approximately 35 employees. Hours of operations are 7am to 5pm Monday thru Friday, with some work on Saturdays until noon. A man lives onsite providing security. N25° 28.441' W80° 22.430'.
NW (D)	3.9 miles 314°	Snapper Creek Nursery at 11600 SW 316th Street. 14 workers that work Monday thru Friday 7 am to 5 pm. Contact is Elmer. Security is provided by another person who lives onsite. N25° 28.444' W80° 22.560'.
NNW (A)	4.4 miles 333°	29800 SW 107th Ave. Per property records, this is a small one bedroom residence on land zoned as mixed use agricultural. No information on occupants. N25° 29.450' W80° 21.817'.
NNW (B)	4.7 miles 328°	Mirtica and Sons Dragon Fruit Farm. Entrance at the end of SW 296th St. Contact is Ernesto Gonzalez Abreu. Owner lives off property in Miami.. N25° 29.564' W80° 22.264'.

TURKEY POINT GARDEN SURVEY RESULTS

July 2022

Sector	Range Bearing	Nearest Garden Location (with estimated total area of 500 square feet, or more, and producing green leafy vegetables).
N	No suitable gardens were located within a five-mile range.	
NNE	No suitable gardens were located within a five-mile range.	
NE	No suitable gardens were located within a five-mile range.	
ENE	No suitable gardens were located within a five-mile range.	
E	No suitable gardens were located within a five-mile range.	
ESE	No suitable gardens were located within a five-mile range.	
SE	No suitable gardens were located within a five-mile range.	
SSE	No suitable gardens were located within a five-mile range.	
S	No suitable gardens were located within a five-mile range.	
SSW	No suitable gardens were located within a five-mile range.	
SW	No suitable gardens were located within a five-mile range.	
WSW	No suitable gardens were located within a five-mile range.	
W	No suitable gardens were located within a five-mile range.	

TURKEY POINT GARDEN SURVEY RESULTS

July 2022 (cont.)

Sector	Range Bearing	Nearest Garden Location (with estimated total area of 500 square feet, or more, and producing green leafy vegetables).
WNW (A)	4.5 miles 303°	Thai Farm. South of Mowry Drive (SW 320th St) and about 0.6 miles west of Allapattah Rd (SW 117th Ave). Growing guava, dragon fruit, papaya, palm, bamboo, and more. No one present. N25° 28.217' W80° 23.467'.
WNW (B)	6.0 miles 295°	Farm Share, Inc at 14125 SW 320th St, where farmers donate locally grown produce to be given to charitable organizations. Produce donations usually start in November and run through April. About 20 workers present from 8 am to 4:30 pm Monday thru Friday. The produce donated is usually tomatoes, bananas, squash, green beans, okra, corn, potatoes, watermelon and zucchini. N25° 28.255' W80° 25.111'.
NW	No suitable gardens were located within a five-mile range.	
NNW (A)	4.4 miles 332°	Under the Vine. 11100 SW 296th St. Entrance at SW 107th Ave & SW 296th St just east of SFM Tree Farm/Mirtica Farm. Growing only dragon fruit. Open Mon-Sat 8:00-5:00. 3 employees plus the owner, Cindy, work here. Sometimes they hire extra help. The owner's brother, Pepper, sometimes spends the weekends onsite. N25° 29.464' W80° 21.828'.
NNW (B)	4.7 miles 328°	Now Mirtica and Sons Dragon Fruit Farm. Entrance at the end of SW 296th St. Noticed bananas, dragon fruit, plantain tress, coconuts and mangoes growing in various areas on the farm. Also noticed beehives. Owner lives off property in Miami. N25° 29.564' W80° 22.264'.

Note: At the time of our survey, many fields in the area surveyed were bare soil or cover crops. Other than the sites already described above, the only non-ornamental crops known to have been grown in the survey area were: bananas, beans, corn, guava, malanga, papaya, eggplant, sorghum, squash, sugar cane, tambis, okra, and melon.

TURKEY POINT MILK ANIMAL SURVEY RESULTS

July 2022

Sector	Nearest Milk Animals (cows or goats).
N	No potential milk animals were located within five miles.
NNE	No potential milk animals were located within five miles.
NE	No potential milk animals were located within five miles.
ENE	No potential milk animals were located within five miles.
E	No potential milk animals were located within five miles.
ESE	No potential milk animals were located within five miles.
SE	No potential milk animals were located within five miles.
SSE	No potential milk animals were located within five miles.
S	No potential milk animals were located within five miles.
SSW	No potential milk animals were located within five miles.
SW	No potential milk animals were located within five miles.
WSW	No potential milk animals were located within five miles.
W	No potential milk animals were located within five miles.
WNW	No potential milk animals were located within five miles.
NW	No potential milk animals were located within five miles.
NNW	No potential milk animals were located within five miles.

4.6 Interlaboratory Comparison Results

Attachment 3 contains result summary for Interlaboratory Comparison Program for the Department of Energy Mixed Analyte Performance Evaluation Program (MAPEP). These satisfied the requirement of Control 5.3 of the ODCM for the Interlaboratory Comparison Program.

5.0 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM SUMMARY

1. Table 6, Radiological Environmental Monitoring Program Summary, summarizes data for the 2022 REMP program.

Table 6: Radiological Environmental Monitoring Program Summary

Sample Type (Units)	Type / Number of Analyses[1]	LLD [2]	Indicator Locations Mean (F)[3] [Range]	Location[4] [Highest Annual Mean]	Mean (F)[3] [Range]	Control Locations Mean (F)[3] [Range]	Number of Non Routine Results[5]
Air Particulate (pCi/m^3)	GB / 296	0.01	0.0127 (243 / 260) [0.003 - 0.024]	T64 (22 mi. NNE)	0.0135 (50 / 52) [0.003 - 0.024]	0.0135 (50 / 52) [0.003 - 0.024]	0
	GS / 24						
	Be-7	--	0.1076 (20 / 20) [0.059 - 0.146]	T58 (1 mi. NW)	0.1204 (4 / 4) [0.0837 - 0.146]	0.1082 (4 / 4) [0.0829 - 0.135]	0
	K-40	--	< LLD	N/A	N/A	< LLD	0
	Cs-134	0.05	< LLD	N/A	N/A	< LLD	0
	Cs-137	0.06	< LLD	N/A	N/A	< LLD	0
	Pb-210	--	0.009 (2 / 20) [0.0086 - 0.0093]	T58 (1 mi. NW)	0.0093 (1 / 4) [<LLD - 0.0093]	< LLD	0
Airborne Iodine (pCi/m^3)	I-131 / 296	0.07	< LLD	N/A	N/A	< LLD	0
Direct Radiation Indicator TLD (μR/hour)	Gamma / 88	[6]	3.8 (88 / 88) [2.8 - 5.1]	NW-10 (10 mi NW)	4.4 (4 / 4) [3.4 - 5.1]	N/A	0
Direct Radiation Control TLD (μR/hour)	Gamma / 4	[6]	N/A	NNE-22 (22.6 mi NNE)	3.7 (4 / 4) [3.1 - 4.4]	4 (4 / 4) [3.7 - 4.2]	0

LEGEND:

[1] - GB = Gross beta; I-131 = Iodine-131; H-3 = Tritium; GS = Gamma scan.

[2] - LLD = Required lower limit of detection based on Turkey Point ODCM.

[3] - Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis (F).

[4] - Locations are specified (1) by name and (2) direction relative to reactor site.

[5] - Non-routine results are those which exceed ten times the control station value. If no control station value is available, the result is considered non-routine if it exceeds ten times the preoperational value for the location.

[6] - LLD is not defined in Turkey Point ODCM.

Table 6: Radiological Environmental Monitoring Program Summary

Sample Type (Units)	Type / Number of Analyses[1]	LLD [2]	Indicator Locations Mean (F)[3] [Range]	Location[4] [Highest Annual Mean]	Mean (F)[3] [Range]	Control Locations Mean (F)[3] [Range]	Number of Non Routine Results[5]
Surface Water (pCi/L)	H-3 / 36	3,000	84 (1 / 24) [<LLD - 84]	T42 (<1 mi. ENE)	84 (1 / 12) [<LLD - 84]	< LLD	0
	GS / 36						
	K-40	--	292 (24 / 24) [193 - 398]	T81 (6 mi S)	304 (12 / 12) [237 - 386]	213 (12 / 12) [127 - 298]	0
Sediment (pCi/kg dry)	GS / 6						
	Be-7	--	80 (1 / 4) [<LLD - 80]	T67 (13-18 mi N, NNE)	116 (1 / 2) [<LLD - 116]	116 (1 / 2) [<LLD - 116]	0
	K-40	--	170 (3 / 4) [122 - 224]	T67 (13-18 mi N, NNE)	382 (2 / 2) [102 - 662]	382 (2 / 2) [102 - 662]	0
	Cs-137	180	< LLD	N/A	N/A	< LLD	0
	Pb-210	--	< LLD	N/A	N/A	< LLD	0
	Ra-226	--	408 (4 / 4) [332 - 487]	T67 (13-18 mi N, NNE)	449 (1 / 2) [<LLD - 449]	449 (1 / 2) [<LLD - 449]	0
	Th-232	--	<LLD	N/A	N/A	< LLD	0
	U-235	--	42 (3 / 4) [24 - 75]	T81 (6 mi. S)	50 (2 / 2) [24 - 75]	44 (1 / 2) [<LLD - 44]	0
	U-238	--	179 (4 / 4) [132 - 238]	T67 (13-18 mi N, NNE)	563 (1 / 2) [<LLD - 563]	563 (1 / 2) [<LLD - 563]	0

LEGEND:

[1] - GB = Gross beta; I-131 = Iodine-131; H-3 = Tritium; GS = Gamma scan.

[2] - LLD = Required lower limit of detection based on Turkey Point ODCM.

[3] - Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis (F).

[4] - Locations are specified (1) by name and (2) direction relative to reactor site.

[5] - Non-routine results are those which exceed ten times the control station value. If no control station value is available, the result is considered non-routine if it exceeds ten times the preoperational value for the location.

[6] - LLD is not defined in Turkey Point ODCM.

Table 6: Radiological Environmental Monitoring Program Summary

Sample Type (Units)	Type / Number of Analyses[1]	LLD [2]	Indicator Locations Mean (F)[3] [Range]	Location[4] [Highest Annual Mean]	Mean (F)[3] [Range]	Control Locations Mean (F)[3] [Range]	Number of Non Routine Results[5]
Crustacea (pCi/kg wet)	GS / 4						
	K-40	--	1550 (2 / 2) [1460 - 1640]	T81 (6 mi. S)	1550 (2 / 2) [1460 - 1640]	1007 (2 / 2) [693 - 1320]	0
	Ra-226	--	<LLD	N/A	N/A	<LLD	0
	Ra-228	--	<LLD	N/A	N/A	<LLD	0
Fish (pCi/kg wet)	GS / 4						
	K-40	--	2400 (2 / 2) [2150 - 2650]	T81 (6 mi. S)	2400 (2 / 2) [2150 - 2650]	2400 (2 / 2) [2230 - 2570]	0
	Ra-226	--	< LLD	N/A	N/A	< LLD	0
	Ra-228	--	< LLD	N/A	N/A	< LLD	0
Broad Leaf (pCi/kg wet)	GS / 36						
	Be-7	--	1553 (24 / 24) [579 - 3060]	T40 (3 mi W)	1741 (12 / 12) [925 - 3060]	1110 (12 / 12) [535 - 1830]	0
	K-40	--	4216 (24 / 24) [2070 - 6350]	T67 (13-18 mi N, NNE)	4733 (12 / 12) [3760 - 5680]	4733 (12 / 12) [3760 - 5680]	0
	Cs-137	80	40. (13 / 24) [10 - 117]	T40 (3 mi W)	43 (10 / 12) [10 - 117]	<LLD	0
	Pb-210	--	408 (6 / 24) [75 - 1610]	T41 (2 mi WNW)	716 (3 / 12) [75 - 1610]	384 (3 / 12) [47 - 562]	0
	Pb-212	--	< LLD	N/A	N/A	<LLD	0
	Ra-226	--	295 (1 / 12) [<LLD - 295]	T41 (2 mi WNW)	295 (1 / 12) [<LLD - 295]	219 (1/12) [<LLD - 219]	0

LEGEND:

[1] - GB = Gross beta; I-131 = Iodine-131; H-3 = Tritium; GS = Gamma scan.

[2] - LLD = Required lower limit of detection based on Turkey Point ODCM.

[3] - Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis (F).

[4] - Locations are specified (1) by name and (2) direction relative to reactor site.

[5] - Non-routine results are those which exceed ten times the control station value. If no control station value is available, the result is considered non-routine if it exceeds ten times the preoperational value for the location.

[6] - LLD is not defined in Turkey Point ODCM.

Attachment 1

Sample Deviations

Table 7: Sample Deviations Table

Comment No.	Sample Media Affected	Sample Location	Date	Problem	Evaluation / Actions
1	TLD	ENE-1	2nd Qtr.	Sample Missing	During routine sampling at locations ENE-1, it was discovered that the TLD was missing. Replacement TLD was installed. AR# 02444644
2	TLD	NW-8	2nd Qtr.	Sample Missing	During routine sampling at locations NW-8, it was discovered that the TLD was missing. Replacement TLD was installed. AR# 02444644
3	Air Sample	T57	06/07/22	Pump Failure	Vacuum pump was replaced on June 7, 2022. The sample pump was replaced and then returned to service upon recognition of the failing pump. AR# 02444644
4	Air Sample	T72	06/21/22	Power Outage	Power outage at station T72. The power was restored for weekly collection on June 21, 2022. AR# 02430654
5	Air Samples	T41 T51 T57 T58 T64 T72	08/12/22	Samples Lost in Shipping	Sample Points T41, T51, T57, T58, T64 & T72-(Radioiodine and Particulates) From August 8th - August 12, 2022; These samples were collected and shipped via FedEx by the BRC technician for Turkey Point Nuclear to their laboratory in Orlando. During transit, the package was damaged, and the filters were lost. The iodine cartridges were not lost and were not analyzed by the lab. The technician reached out numerous times to FedEx to find the filters, but they were unsuccessful. AR# 02444649/AR# 02456863
6	Air Samples	T41 T51 T57 T58 T64 T72	09/30/22	Samples Lost in Shipping	Sample Points T41, T51, T57, T58, T64 & T72- (Radioiodine and Particulates) from September 26 – September 30, 2022: These samples were not collected during the assigned week. They were collected the following week without incident. The reason for the missed collection was that the BRC technician assigned to Turkey Point resigned unexpectedly and no one was able to collect the samples in a timely fashion. AR# 02444649

Sample Deviations

Table 7: Sample Deviations Table

Comment No.	Sample Media Affected	Sample Location	Date	Problem	Evaluation / Actions
7	Groundwater	6s and 6d	4th Qtr.	Relocation	As part of the FPL Miami-Dade Clean Water Recovery Project, two of the site's groundwater monitoring wells were abandoned to avoid damage during CWRC construction. AR# 02438187
8	Milk	T99	2022	Sample Unavailable	Goat milk sample was unavailable this year. The farm has not had any milking goats. AR# 02447728

ATTACHMENT 2

Monitoring Results Tables

RADIOLOGICAL SURVEILLANCE OF
FLORIDA POWER AND LIGHT COMPANY'S

TURKEY POINT SITE
2022

First Quarter, 2022
Second Quarter, 2022
Third Quarter, 2022
Fourth Quarter, 2022

Monitoring Results Tables

Table 8: Air Particulate - Gross Beta

Analysis: Gross Beta				Units: pCi/m^3		
End Date	T41 (Indicator)	T51 (Indicator)	T57 (Indicator)	T58 (Indicator)	T64 (Control)	T72[1] (Indicator)
LLD ➔	0.01	0.01	0.01	0.01	0.01	0.01
01/06/2022	0.014	0.015	0.014	0.014	0.015	0.018
01/12/2022	0.014	0.013	0.018	0.018	0.020	0.016
01/19/2022	0.021	0.014	0.024	0.016	0.015	0.018
01/27/2022	0.009	0.015	0.014	0.015	0.016	0.014
02/02/2022	0.016	0.010	0.016	0.017	0.015	0.014
02/09/2022	0.011	0.013	0.013	0.014	0.011	0.008
02/15/2022	0.017	0.018	0.014	0.021	0.019	0.014
02/24/2022	0.012	0.013	0.012	0.014	0.012	0.016
03/02/2022	0.004	0.011	< 0.183	0.005	0.006	0.010
03/07/2022	0.013	0.013	0.012	0.016	0.010	0.009
03/16/2022	0.005	0.007	0.008	0.010	0.010	0.009
03/23/2022	0.012	0.013	0.009	0.012	0.012	0.009
03/30/2022	0.021	0.017	0.020	0.018	0.020	0.020
04/05/2022	0.012	0.013	0.015	0.016	0.015	0.014
04/13/2022	0.015	0.013	0.013	0.012	0.018	0.014
04/19/2022	0.008	0.010	0.011	0.011	0.007	0.007
04/27/2022	0.013	0.016	0.017	0.014	0.013	0.015
05/02/2022	0.010	0.016	0.017	0.011	0.012	0.015
05/11/2022	0.015	0.013	0.011	0.014	0.011	0.014
05/17/2022	0.011	0.010	0.007	0.008	0.009	0.010
05/24/2022	0.017	0.024	0.012	0.014	0.020	0.011
05/31/2022	0.020	0.018	0.012	0.021	0.019	[3]
06/06/2022	0.005	0.003	0.005	0.008	0.003	[3]
06/14/2022	0.012	0.013	[2] 0.010	0.014	0.013	[3]
06/21/2022	0.011	0.023	0.017	0.018	0.019	[3]
06/27/2022	0.017	0.020	0.014	0.014	0.015	0.017
07/04/2022	0.010	0.008	0.006	0.012	0.006	0.010
07/12/2022	0.009	0.013	0.007	0.008	0.009	0.011
07/19/2022	0.007	0.013	0.011	0.014	0.013	0.016
07/26/2022	0.011	0.017	0.012	0.018	0.014	0.015
08/01/2022	0.013	0.012	0.015	0.012	0.012	0.014
08/09/2022	[4]	[4]	[4]	[4]	[4]	[4]
08/16/2022	0.021	0.014	0.015	0.013	0.020	0.023
08/23/2022	0.010	0.011	0.006	0.011	0.017	0.011
09/06/2022	0.006	0.006	0.007	0.006	0.008	0.007
09/14/2022	0.004	0.008	0.007	0.006	0.007	0.004
09/20/2022	0.011	0.009	0.007	0.007	0.007	0.015
09/26/2022	0.019	0.019	0.017	0.020	0.022	0.023
09/30/2022	[5]	[5]	[5]	[5]	[5]	[5]
10/04/2022	0.005	0.005	0.004	0.003	0.005	0.004
10/11/2022	0.016	0.013	0.012	0.013	0.013	0.012
10/19/2022	0.010	0.010	0.013	0.011	0.016	0.013
10/25/2022	0.015	0.016	0.015	0.017	0.021	0.019
10/31/2022	0.010	0.016	0.010	0.010	0.014	0.014
11/09/2022	0.010	0.015	0.010	0.011	0.013	0.009
11/15/2022	0.006	0.005	0.008	0.006	0.009	< 0.002
11/21/2022	0.006	0.005	0.008	0.007	0.011	< 0.002
11/30/2022	0.011	0.008	0.010	0.009	0.007	0.011
12/06/2022	0.009	0.015	0.013	0.013	0.016	0.013
12/13/2022	0.015	0.017	0.018	0.018	0.013	0.016
12/21/2022	0.010	0.016	0.023	0.013	0.024	0.013
12/27/2022	0.019	0.016	0.019	0.016	0.022	0.016

[1] Station with highest annual mean.

[2] See Attachment 1, Table 7, Samples Deviations Table, Comment 3

[3] See Attachment 1, Table 7, Samples Deviations Table, Comment 4

[4] See Attachment 1, Table 7, Samples Deviations Table, Comment 5

[5] See Attachment 1, Table 7, Samples Deviations Table, Comment 6

Monitoring Results Tables

Table 9: Air Particulate Composite - Gamma

Analysis: Gamma Isotopic				Units: pCi/m^3		
Location	**Collection Date**	**Be-7**	**K-40**	**Cs-134**	**Cs-137**	**Pb-210**
	REQUIRED LLD ➔	**--**	**--**	**0.05**	**0.06**	**--**
T41 (Indicator)	03/30/2022	0.1330	< 0.0133	< 0.0011	< 0.0008	0.0086
T51 (Indicator)	03/30/2022	0.1150	< 0.0147	< 0.0009	< 0.0008	< 0.0330
T57 (Indicator)	03/30/2022	0.1270	< 0.0146	< 0.0011	< 0.0010	< 0.0145
T58 (Indicator)	03/30/2022	0.1460	< 0.0133	< 0.0010	< 0.0010	0.0093
T64 (Control)	03/30/2022	0.1350	< 0.0143	< 0.0010	< 0.0008	< 0.0143
T72 (Indicator)	03/30/2022	0.1300	< 0.0163	< 0.0010	< 0.0008	< 0.0327
T41 (Indicator)	06/27/2022	0.1410	< 0.0211	< 0.0010	< 0.0011	< 0.0355
T51 (Indicator)	06/27/2022	0.0996	< 0.0134	< 0.0012	< 0.0011	< 0.0121
T57 (Indicator)	06/27/2022	0.1220	< 0.0149	< 0.0011	< 0.0007	< 0.0351
T58 (Indicator)	06/27/2022	0.1400	< 0.0130	< 0.0014	< 0.0009	< 0.0113
T64 (Control)	06/27/2022	0.1150	< 0.0173	< 0.0011	< 0.0010	< 0.0334
T72 (Indicator)	06/27/2022	0.1210	< 0.0217	< 0.0019	< 0.0014	< 0.0161
T41 (Indicator)	09/30/2022	0.0590	< 0.0126	< 0.0010	< 0.0009	< 0.0096
T51 (Indicator)	09/30/2022	0.0849	< 0.0127	< 0.0010	< 0.0009	< 0.0306
T57 (Indicator)	09/30/2022	0.0709	< 0.0127	< 0.0010	< 0.0009	< 0.0095
T58 (Indicator)	09/30/2022	0.0837	< 0.0150	< 0.0007	< 0.0008	< 0.0310
T64 (Control)	09/30/2022	0.0829	< 0.0125	< 0.0008	< 0.0008	< 0.0105
T72 (Indicator)	09/30/2022	0.0664	< 0.0126	< 0.0011	< 0.0010	< 0.0110
T41 (Indicator)	12/28/2022	0.0801	< 0.0155	< 0.0008	< 0.0007	< 0.0324
T51 (Indicator)	12/28/2022	0.1120	< 0.0172	< 0.0009	< 0.0009	< 0.0095
T57 (Indicator)	12/28/2022	0.1080	< 0.0107	< 0.0007	< 0.0009	< 0.0275
T58 (Indicator)	12/28/2022	0.1120	< 0.0222	< 0.0008	< 0.0010	< 0.0072
T64 (Control)	12/28/2022	0.1000	< 0.0121	< 0.0006	< 0.0008	< 0.0325
T72 (Indicator)	12/28/2022	0.1010	< 0.0194	< 0.0008	< 0.0008	< 0.0056

(2) See Attachment 1, Table 7, Samples Deviations Table, Comment 3

(3) See Attachment 1, Table 7, Samples Deviations Table, Comment 4

(4) See Attachment 1, Table 7, Samples Deviations Table, Comment 5

(5) See Attachment 1, Table 7, Samples Deviations Table, Comment 6

Monitoring Results Tables
Table 10: Air Cartridges - Iodine-131

Analysis: Iodine-131				Units: pCi/m^3		
End Date	T41 (Indicator)	T51 (Indicator)	T57 (Indicator)	T58 (Indicator)	T64 (Control)	T72 (Indicator)
LLD ➔	0.07	0.07	0.07	0.07	0.07	0.07
01/06/2022	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
01/12/2022	< 0.020	< 0.030	< 0.030	< 0.020	< 0.030	< 0.030
01/19/2022	< 0.010	< 0.020	< 0.020	< 0.010	< 0.010	< 0.020
01/27/2022	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
02/02/2022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
02/09/2022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
02/15/2022	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030
02/24/2022	< 0.020	< 0.020	< 0.030	< 0.020	< 0.020	< 0.020
03/02/2022	< 0.020	< 0.020	< 0.690	< 0.020	< 0.020	< 0.020
03/07/2022	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030
03/16/2022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
03/23/2022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
03/30/2022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
04/05/2022	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030
04/13/2022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
04/19/2022	< 0.030	< 0.030	< 0.030	< 0.030	< 0.020	< 0.030
04/27/2022	< 0.020	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
05/02/2022	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
05/11/2022	< 0.020	< 0.020	< 0.030	< 0.020	< 0.020	< 0.020
05/17/2022	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030
05/24/2022	< 0.030	< 0.030	< 0.020	< 0.030	< 0.030	< 0.080
05/31/2022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	(3)
06/06/2022	< 0.030	< 0.020	< 0.030	< 0.030	< 0.030	(3)
06/14/2022	< 0.030	< 0.030	(2) < 0.030	< 0.020	< 0.030	(3)
06/21/2022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	(3)
06/27/2022	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030
07/04/2022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
07/12/2022	< 0.030	< 0.030	< 0.030	< 0.020	< 0.030	< 0.030
07/19/2022	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030
07/26/2022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
08/01/2022	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030
08/09/2022	(4)	(4)	(4)	(4)	(4)	(4)
08/16/2022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
08/23/2022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.030
09/06/2022	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
09/14/2022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.030
09/20/2022	< 0.020	< 0.030	< 0.020	< 0.020	< 0.020	< 0.020
09/26/2022	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030
09/30/2022	(5)	(5)	(5)	(5)	(5)	(5)
10/04/2022	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
10/11/2022	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030
10/19/2022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
10/25/2022	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030
10/31/2022	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030
11/09/2022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
11/15/2022	< 0.030	< 0.030	< 0.030	< 0.030	< 0.020	< 0.030
11/21/2022	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030
11/30/2022	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
12/06/2022	< 0.030	< 0.040	< 0.030	< 0.030	< 0.030	< 0.030
12/13/2022	< 0.020	< 0.010	< 0.010	< 0.020	< 0.010	< 0.020
12/21/2022	< 0.010	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
12/27/2022	< 0.030	< 0.020	< 0.030	< 0.030	< 0.030	< 0.030

(2) See Attachment 1, Table 7, Samples Deviations Table, Comment 3
(3) See Attachment 1, Table 7, Samples Deviations Table, Comment 4
(4) See Attachment 1, Table 7, Samples Deviations Table, Comment 5
(5) See Attachment 1, Table 7, Samples Deviations Table, Comment 6

Monitoring Results Tables

Table 11: Direct Radiation– Indicators

Analysis: Gamma Dose			Units: µR/hr		
Station	**1st Qtr 2022**	**2nd Qtr 2022**	**3rd Qtr 2022**	**4th Qtr 2022**	**Annual Mean 2022**
N-2	4.6	4.3	4.0	3.9	**4.2**
N-7	4.1	3.5	4.4	3.4	**3.9**
N-10	4.5	3.9	4.3	3.7	**4.1**
NNW-2	4.2	3.8	3.9	3.5	**3.9**
NNW-10	4.3	3.8	3.7	3.7	**3.9**
NW-1	4.7	4.2	3.7	3.7	**4.1**
NW-5	4.0	3.3	4.1	3.9	**3.8**
NW-10(1)	**5.1**	**4.7**	**4.2**	**3.4**	**4.4**
WNW-2	4.3	3.9	3.6	3.8	**3.9**
WNW-10	4.7	4.3	3.5	3.5	**4.0**
W-1	4.6	3.8	4.1	4.2	**4.2**
W-5	4.3	3.8	4.5	3.4	**4.0**
W-9	3.9	3.5	3.9	3.5	**3.7**
WSW-8	4.0	3.6	4.0	3.9	**3.9**
SW-1	4.3	4.0	4.2	4.0	**4.1**
SW-8	3.1	3.1	4.4	3.9	**3.6**
SSW-5	3.6	3.2	4.1	3.7	**3.6**
SSW-10	3.7	3.6	3.8	3.7	**3.7**
S-5	3.2	3.2	3.9	3.1	**3.4**
S-10	4.2	3.7	3.2	3.4	**3.6**
SSE-1	3.5	3.0	3.7	3.7	**3.5**
SSE-10	3.5	3.3	3.9	2.8	**3.4**

(1) Indicator station with highest annual mean.

Table 12: Direct Radiation – Control

Analysis: Gamma Dose			Units: µR/hr		
Station	**1st Qtr 2022**	**2nd Qtr 2022**	**3rd Qtr 2022**	**4th Qtr 2022**	**Annual Mean 2022**
NNE-22	**4.4**	**4.2**	**3.1**	**3.1**	**3.7**

Monitoring Results Tables

Table 13: Surface Water – Tritium and Gamma

Analysis: Gamma Isotopic				Units: pCi/L							
Location	End Date	H-3	K-40	Location	End Date	H-3	K-40	Location	End Date	H-3	K-40
REQUIRED LLD ➔		3,000	--	REQUIRED LLD ➔		3,000	--	REQUIRED LLD ➔		3,000	--
T42 (Indicator)	01/20/2022	< 137	193	T67 (Control)	01/19/2022	< 137	269	T81 (Indicator)	01/20/2022	< 133	339
T42 (Indicator)	02/15/2022	84	224	T67 (Control)	02/14/2022	< 131	282	T81 (Indicator)	02/15/2022	< 131	237
T42 (Indicator)	03/08/2022	< 135	218	T67 (Control)	03/07/2022	< 135	171	T81 (Indicator)	03/08/2022	< 135	252
T42 (Indicator)	04/05/2022	< 132	304	T67 (Control)	04/04/2022	< 132	248	T81 (Indicator)	04/05/2022	< 132	253
T42 (Indicator)	05/03/2022	< 139	364	T67 (Control)	05/02/2022	< 134	298	T81 (Indicator)	05/03/2022	< 139	386
T42 (Indicator)	06/06/2022	< 132	260	T67 (Control)	06/06/2022	< 132	163	T81 (Indicator)	06/06/2022	< 132	309
T42 (Indicator)	07/05/2022	< 135	243	T67 (Control)	07/06/2022	< 135	127	T81 (Indicator)	07/05/2022	< 135	347
T42 (Indicator)	08/02/2022	< 137	398	T67 (Control)	08/03/2022	< 137	194	T81 (Indicator)	08/02/2022	< 137	334
T42 (Indicator)	09/07/2022	< 136	378	T67 (Control)	09/06/2022	< 133	170	T81 (Indicator)	09/07/2022	< 136	342
T42 (Indicator)	10/04/2022	< 131	222	T67 (Control)	10/04/2022	< 131	216	T81 (Indicator)	10/04/2022	< 131	274
T42 (Indicator)	11/01/2022	< 129	292	T67 (Control)	10/31/2022	< 129	149	T81 (Indicator)	11/01/2022	< 129	296
T42 (Indicator)	12/13/2022	< 134	251	T67 (Control)	12/14/2022	< 134	268	T81 (Indicator)	12/13/2022	< 134	284

Monitoring Results Tables

Table 14: Shoreline Sediment - Gamma

Analysis: Gamma Isotopic					Units: pCi/kg (dry)				
Location	**Collection Date**	**Be-7**	**K-40**	**Cs-137**	**Pb-210**	**Ra-226**	**Th-232**	**U-235**	**U-238**
	REQUIRED LLD ➔	--	--	180	--	--	--	--	--
T42 (Indicator)	01/20/2022	80	< 140	< 9	< 322	425	< 39	27	132
T67 (Control)	01/20/2022	116	102	< 10	< 533	449	< 42	44	563
T81 (Indicator)	01/20/2022	< 67	122	< 8	< 382	386	< 64	24	133
T42 (Indicator)	07/05/2022	< 121	164	< 10	< 1050	332	< 46	< 23	211
T67 (Control)	07/06/2022	< 93	662	< 9	< 838	< 41	< 63	< 18	< 201
T81 (Indicator)	07/05/2022	< 140	224	< 11	< 1060	487	< 52	75	238

Monitoring Results Tables

Table 15: Crustacea - Gamma

Analysis: Gamma Isotopic			Units: pCi/kg (wet)		
Location	Collection Date	Sample Type	K-40	Ra-226	Ra-228
REQUIRED LLD ➔			--	--	--
T67 (Control)	05/04/2022	Blue Crab	693	< 253	< 69
T81 (Indicator)	05/03/2022	Blue Crab	1460	< 367	< 75
T67 (Control)	11/01/2022	Blue Crab	1320	< 567	< 1320
T81 (Indicator)	11/02/2022	Blue Crab	1640	< 464	< 1640

Monitoring Results Tables

Table 16: Fish - Gamma

Analysis: Gamma Isotopic			Units: pCi/kg (wet)		
Location	Collection Date	Sample Type	K-40	Ra-226	Ra-228
REQUIRED LLD ➔			--	--	--
T67 (Control)	04/06/2022	Mixed Species	2570	< 23	< 475
T81 (Indicator)	04/05/2022	Mixed Species	2650	< 343	< 72
T67 (Control)	07/06/2022	Mixed Species	2230	< 337	< 57
T81 (Indicator)	07/05/2022	Mixed Species	2150	< 490	< 88

Monitoring Results Tables

Table 17: Broad Leaf Vegetation - Gamma

Analysis: Gamma Isotopic				Units: pCi/kg (wet)				
Location	Collection Date	Sample Type	Be-7	K-40	Cs-137	Pb-210	Pb-212	Ra-226
		REQUIRED LLD ➔	--	--	80	--	--	--
T40 (Indicator)	01/19/2022	Brazilian Pepper	1210	3640	22	< 110	< 18	< 214
T40 (Indicator)	02/14/2022	Brazilian Pepper	3060	4220	117	84	< 24	< 270
T40 (Indicator)	03/07/2022	Brazilian Pepper	2450	5260	46	125	< 19	< 227
T40 (Indicator)	04/04/2022	Brazilian Pepper	2150	2790	80	< 829	< 26	< 337
T40 (Indicator)	05/03/2022	Brazilian Pepper	1660	2440	10	89	< 16	< 208
T40 (Indicator)	06/06/2022	Brazilian Pepper	925	4650	< 13	< 95	< 23	< 257
T40 (Indicator)	07/06/2022	Brazilian Pepper	1240	3940	46	< 715	< 22	< 258
T40 (Indicator)	08/03/2022	Brazilian Pepper	1840	3870	14	< 657	< 22	< 264
T40 (Indicator)	09/07/2022	Brazilian Pepper	1490	3890	43	< 1050	< 36	< 438
T40 (Indicator)	10/04/2022	Brazilian Pepper	1750	5810	< 12	< 95	< 22	< 239
T40 (Indicator)	11/01/2022	Brazilian Pepper	1810	4540	39	< 667	< 24	< 268
T40 (Indicator)	12/13/2022	Brazilian Pepper	1310	6100	13	< 102	< 24	< 274
T41(Indicator)	01/18/2022	Brazilian Pepper	825	4660	< 13	< 267	< 21	< 247
T41(Indicator)	02/14/2022	Brazilian Pepper	2660	6350	28	< 137	< 25	< 291
T41(Indicator)	03/07/2022	Brazilian Pepper	1690	3160	< 11	75	< 20	< 229
T41(Indicator)	04/04/2022	Brazilian Pepper	1150	2070	< 11	< 99	< 19	< 212
T41(Indicator)	05/03/2022	Brazilian Pepper	1500	5900	< 16	< 130	< 23	< 268
T41(Indicator)	06/06/2022	Brazilian Pepper	1420	2830	< 11	< 886	< 24	< 370
T41(Indicator)	07/06/2022	Brazilian Pepper	579	3390	< 9	< 624	< 21	< 244
T41(Indicator)	08/02/2022	Brazilian Pepper	1170	4050	< 11	463	< 20	< 271
T41(Indicator)	09/07/2022	Brazilian Pepper	723	3780	< 16	< 849	< 21	< 366
T41(Indicator)	10/04/2022	Brazilian Pepper	1880	4200	45	1610	< 36	295
T41(Indicator)	11/01/2022	Brazilian Pepper	1230	4060	20	< 81	< 18	< 227
T41(Indicator)	12/13/2022	Brazilian Pepper	1550	5590	< 19	< 1100	< 35	< 431
T67 (Control)	01/19/2022	Brazilian Pepper	1060	5090	< 9	47	< 15	< 181
T67 (Control)	02/14/2022	Brazilian Pepper	1140	5340	< 11	< 303	< 21	< 238
T67 (Control)	03/07/2022	Brazilian Pepper	535	5270	< 16	544	< 29	< 350
T67 (Control)	04/04/2022	Brazilian Pepper	1830	4920	< 14	< 1230	< 27	< 300
T67 (Control)	05/02/2022	Brazilian Pepper	1300	5680	< 16	< 240	< 30	< 348
T67 (Control)	06/06/2022	Brazilian Pepper	1290	4670	< 13	562	< 27	< 329
T67 (Control)	07/06/2022	Brazilian Pepper	641	3760	< 9	< 67	< 15	< 187
T67 (Control)	08/03/2022	Brazilian Pepper	790	3780	< 9	< 587	< 20	219
T67 (Control)	09/06/2022	Brazilian Pepper	1100	4660	< 7	< 86	< 19	< 234
T67 (Control)	10/04/2022	Brazilian Pepper	1270	4600	< 13	< 95	< 22	< 238
T67 (Control)	10/31/2022	Brazilian Pepper	1410	4580	< 17	< 1190	< 32	< 382
T67 (Control)	12/14/2022	Brazilian Pepper	954	4450	< 14	< 685	< 22	< 254

Monitoring Results Tables

Table 18: Supplemental Direct Radiation– Indicators

Analysis: Gamma Dose			Units: µR/hr		
Station	**1st Qtr 2022**	**2nd Qtr 2022**	**3rd Qtr 2022**	**4th Qtr 2022**	**Annual Mean 2022**
NNW-6	4.0	3.7	3.7	3.7	**3.8**
NW-7	4.8	4.1	3.5	3.8	**4.1**
NW-8(1)	**4.9**	(2)	**4.1**	**3.5**	**4.2**
WNW-3	4.2	3.9	4.0	3.5	**3.9**
WNW-6	4.1	4.0	4.2	3.9	**4.0**
W-8	4.4	3.9	3.9	3.7	**4.0**
ENE-1	3.3	(3)	3.2	3.0	**3.1**
T72	4.0	3.6	3.7	3.4	**3.7**
PTN-1	4.0	3.8	4.0	3.5	**3.8**

(1) Indicator station with highest annual mean.

(2) See Attachment 1, Table 7, Samples Deviations Table, Comment 2

(3) See Attachment 1, Table 7, Samples Deviations Table, Comment 1

Monitoring Results Tables

Table 19: Supplemental Air Particulate - Gross Beta

Analysis: Gross Beta		Units: pCi/m^3
End Date	T52 (Indicator)	T56 (Indicator)
LLD ➔	0.01	0.01
01/06/2022	0.013	0.016
01/12/2022	0.014	0.014
01/19/2022	0.016	0.018
01/27/2022	0.015	0.014
02/02/2022	0.021	0.017
02/09/2022	0.011	0.012
02/15/2022	0.017	0.018
02/24/2022	0.013	0.012
03/02/2022	0.009	0.010
03/07/2022	0.012	0.012
03/16/2022	0.007	0.006
03/23/2022	0.011	0.013
03/30/2022	0.019	0.019
04/05/2022	0.014	0.011
04/13/2022	0.014	0.019
04/19/2022	0.008	0.008
04/27/2022	0.014	0.015
05/02/2022	0.009	0.010
05/11/2022	0.014	0.014
05/17/2022	0.010	0.012
05/24/2022	0.021	0.022
05/31/2022	0.021	0.023
06/06/2022	< 0.001	0.005
06/14/2022	0.012	0.011
06/21/2023	0.016	0.011
06/27/2023	0.015	0.018
07/04/2022	0.007	0.008
07/12/2022	0.011	0.009
07/19/2022	0.011	0.012
07/26/2022	0.012	0.013
08/01/2022	0.012	0.013
08/09/2022	(1)	(1)
08/16/2022	0.017	0.015
08/23/2022	0.009	0.011
09/06/2022	0.007	0.002
09/14/2022	0.006	0.005
09/20/2022	0.009	0.008
09/26/2022	0.021	0.015
09/30/2022	(2)	(2)
10/04/2022	0.005	0.005
10/11/2022	0.011	0.008
10/19/2022	0.009	0.011
10/25/2022	0.014	0.019
10/31/2022	0.011	0.011
11/09/2022	0.012	0.012
11/15/2022	0.009	0.010
11/21/2022	0.009	0.010
11/30/2022	0.007	0.011
12/06/2022	0.017	0.013
12/13/2022	0.017	0.015
12/21/2022	0.012	0.020
12/27/2022	0.023	0.016

(1) See Attachment 1, Table 7, Samples Deviations Table, Comment 5

(2) See Attachment 1, Table 7, Samples Deviations Table, Comment 6

Monitoring Results Tables

Table 20: Supplemental Air Particulate Composite - Gamma

Analysis: Gamma Isotopic				Units: pCi/m^3		
Location	**Collection Date**	**Be-7**	**K-40**	**Cs-134**	**Cs-137**	**Pb-210**
	REQUIRED LLD ➔	**--**	**--**	**0.05**	**0.06**	**--**
T52 (Indicator)	03/30/2022	0.1380	< 0.0146	< 0.0010	< 0.0010	< 0.0153
T56 (Indicator)	03/30/2022	0.1230	< 0.0149	< 0.0009	< 0.0007	< 0.0333
T52 (Indicator)	06/14/2022	0.1240	< 0.0169	< 0.0011	< 0.0010	< 0.0329
T56 (Indicator)	06/14/2022	0.1290	< 0.0079	< 0.0014	< 0.0010	< 0.0114
T52 (Indicator)	09/26/2022	0.0633	< 0.0153	< 0.0013	< 0.0011	< 0.0109
T56 (Indicator)	09/26/2022	0.0633	< 0.0153	< 0.0013	< 0.0011	< 0.0109
T52 (Indicator)	12/28/2022	0.0960	< 0.0119	< 0.0010	< 0.0007	< 0.0315
T56 (Indicator)	12/28/2022	0.1250	< 0.0189	< 0.0012	< 0.0008	< 0.0086

Monitoring Results Tables

Table 21: Supplemental Air Cartridges - Iodine-131

Analysis: Iodine-131		Units: pCi/m^3
End Date	T52 (Indicator)	T56 (Indicator)
LLD ➔	0.07	0.07
01/06/2022	< 0.010	< 0.010
01/12/2022	< 0.030	< 0.030
01/19/2022	< 0.020	< 0.020
01/27/2022	< 0.010	< 0.010
02/02/2022	< 0.020	< 0.020
02/09/2022	< 0.020	< 0.020
02/15/2022	< 0.030	< 0.030
02/24/2022	< 0.020	< 0.020
03/02/2022	< 0.020	< 0.020
03/07/2022	< 0.030	< 0.030
03/16/2022	< 0.020	< 0.020
03/23/2022	< 0.020	< 0.020
03/30/2022	< 0.020	< 0.020
04/05/2022	< 0.030	< 0.020
04/13/2022	< 0.020	< 0.020
04/19/2022	< 0.030	< 0.030
04/27/2022	< 0.020	< 0.020
05/02/2022	< 0.010	< 0.010
05/11/2022	< 0.020	< 0.020
05/17/2022	< 0.030	< 0.030
05/24/2022	< 0.030	< 0.030
05/31/2022	< 0.020	< 0.020
06/06/2022	< 0.030	< 0.020
06/14/2022	< 0.020	< 0.020
06/21/2022	< 0.020	< 0.020
06/27/2022	< 0.030	< 0.030
07/04/2022	< 0.020	< 0.020
07/12/2022	< 0.030	< 0.020
07/19/2022	< 0.030	< 0.030
07/26/2022	< 0.020	< 0.020
08/01/2022	< 0.030	< 0.030
08/09/2022	(1)	(1)
08/16/2022	< 0.020	< 0.020
08/23/2022	< 0.020	< 0.020
09/06/2022	< 0.010	< 0.010
09/14/2022	< 0.020	< 0.020
09/20/2022	< 0.020	< 0.020
09/26/2022	< 0.030	< 0.030
09/30/2022	(2)	(2)
10/04/2022	< 0.010	< 0.010
10/11/2022	< 0.030	< 0.030
10/19/2022	< 0.020	< 0.020
10/25/2022	< 0.030	< 0.030
10/31/2022	< 0.030	< 0.030
11/09/2022	< 0.020	< 0.020
11/15/2022	< 0.030	< 0.030
11/21/2022	< 0.030	< 0.030
11/30/2022	< 0.020	< 0.020
12/06/2022	< 0.040	< 0.030
12/13/2022	< 0.020	< 0.010
12/21/2022	< 0.020	< 0.020
12/27/2022	< 0.030	< 0.030

(1) See Attachment 1, Table 7, Samples Deviations Table, Comment 5

(2) See Attachment 1, Table 7, Samples Deviations Table, Comment 6

Monitoring Results Tables

Table 22: Supplemental Surface Water – Tritium and Gamma

Analysis: Gamma Isotopic																Units: pCi/L			
Location	End Date	H-3	K-40	Location	End Date	H-3	K-40	Location	End Date	H-3	K-40	Location	End Date	H-3	K-40
REQUIRED LLD ➔		3,000	--	REQUIRED LLD ➔		3,000	--	REQUIRED LLD ➔		3,000	--	REQUIRED LLD ➔		3,000	--
T08 (Indicator)	01/20/2022	6945	298	**T75** (Indicator)	01/18/2022	< 133	< 42	**T84** (Indicator)	01/19/2022	7044	270	**T97** (Indicator)	01/20/2022	7028	283
T08 (Indicator)	02/15/2022	5655	248	**T75** (Indicator)	02/14/2022	< 131	< 68	**T84** (Indicator)	02/15/2022	5560	283	**T97** (Indicator)	02/15/2022	5611	311
T08 (Indicator)	03/08/2022	9063	275	**T75** (Indicator)	03/07/2022	< 135	< 66	**T84** (Indicator)	03/07/2022	7944	328	**T97** (Indicator)	03/08/2022	7876	305
T08 (Indicator)	04/05/2022	11098	353	**T75** (Indicator)	04/04/2022	< 133	< 76	**T84** (Indicator)	04/04/2022	11679	390	**T97** (Indicator)	04/05/2022	11094	293
T08 (Indicator)	05/03/2022	8530	416	**T75** (Indicator)	05/03/2022	< 140	< 42	**T84** (Indicator)	05/03/2022	8407	370	**T97** (Indicator)	05/03/2022	8199	352
T08 (Indicator)	06/06/2022	3310	276	**T75** (Indicator)	06/06/2022	< 133	< 82	**T84** (Indicator)	06/06/2022	3142	317	**T97** (Indicator)	06/06/2022	3219	233
T08 (Indicator)	07/05/2022	2322	344	**T75** (Indicator)	07/06/2022	< 135	< 64	**T84** (Indicator)	07/05/2022	2214	363	**T97** (Indicator)	07/06/2022	2172	256
T08 (Indicator)	08/02/2022	1628	400	**T75** (Indicator)	08/02/2022	< 137	< 73	**T84** (Indicator)	08/02/2022	1570	298	**T97** (Indicator)	08/02/2022	1570	272
T08 (Indicator)	09/07/2022	1049	394	**T75** (Indicator)	09/07/2022	< 136	< 41	**T84** (Indicator)	09/07/2022	1084	408	**T97** (Indicator)	09/07/2022	2322	344
T08 (Indicator)	10/04/2022	1137	242	**T75** (Indicator)	10/04/2022	< 131	< 52	**T84** (Indicator)	10/04/2022	1140	362	**T97** (Indicator)	10/04/2022	1278	276
T08 (Indicator)	11/01/2022	1236	357	**T75** (Indicator)	11/01/2022	< 129	< 73	**T84** (Indicator)	11/01/2022	1128	300	**T97** (Indicator)	11/01/2022	1090	240
T08 (Indicator)	12/13/2022	3234	336	**T75** (Indicator)	12/13/2022	< 134	41	**T84** (Indicator)	12/13/2022	3084	312	**T97** (Indicator)	12/13/2022	2971	320

Monitoring Results Tables

Table 23: Supplemental Shoreline Sediment - Gamma

Analysis: Gamma Isotopic					Units: pCi/kg (dry)				
Location	**Collection Date**	**Be-7**	**K-40**	**Cs-137**	**Pb-210**	**Ra-226**	**Th-232**	**U-235**	**U-238**
	REQUIRED LLD ➔	**--**	**--**	**180**	**--**	**--**	**--**	**--**	**--**
T01 (Indicator)	01/20/2022	< 62	< 153	< 9	343	634	< 43	40	207
T02 (Indicator)	03/08/2022	< 111	385	< 14	307	1060	< 48	67	183
T03 (Indicator)	03/08/2022	< 204	1410	13	2060	2210	< 123	139	< 383
T04 (Indicator)	01/20/2022	106	198	< 10	593	731	< 41	46	311
T07 (Indicator)	03/08/2022	< 116	815	29	< 704	< 494	< 58	58	< 183
T08 (Indicator)	03/08/2022	< 155	< 185	< 15	< 1670	1370	< 73	86	80
T10 (Indicator)	03/08/2022	< 176	700	< 17	< 1660	< 621	< 92	< 39	< 308
T84* (Indicator)	01/20/2022	142	235	< 13	817	1190	< 53	75	405
T85* (Indicator)	01/20/2022	< 111	562	< 14	575	858	< 95	54	198
T84* (Indicator)	07/05/2022	383	931	< 33	< 32	< 14	15	1630	438
T85* (Indicator)	07/06/2022	< 198	560	< 40	< 43	< 18	< 21	< 667	1060

* Note that site T48 is the same location as site T05, and site T85 is the same location as site T06.

Monitoring Results Tables

Table 24: Supplemental Food Crops - Gamma

Analysis: Gamma Isotopic				Units: pCi/kg (wet)		
Location	Collection Date	Sample Type	Be-7	K-40	Cs-137	Ra-226
		REQUIRED LLD ➔	--	--	80	--
T43 (Indicator)	01/20/2022	Corn & Green Beans	< 76	2510	< 11	< 206
T44 (Indicator)	02/14/2022	Corn & Green Beans	< 59	2210	< 8	< 144
T45 (Indicator)	03/07/2022	Corn & Green Beans	< 110	2410	< 13	< 401

Attachment 3

Interlaboratory Comparison Program Results

1.0 Summary

The Interlaboratory Comparison Program consists of participating in the DOE Mixed Analyte Performance Evaluation Program (MAPEP).

This program provides similar testing (matrices, nuclides, and levels) as the former EPA Interlaboratory Comparison Program and is referred to as the Mixed Analyte Performance Evaluation Program (MAPEP).

The samples are analyzed using the methods applicable to the REMP (gamma spectroscopy, Gross Beta, and Tritium for water).

From the MAPEP handbook:

Acceptance criteria were developed from a review of precision and accuracy data compiled by other performance evaluation programs (PEPs), the analytical methods literature, from several MAPEP pilot studies, and from what is considered reasonable, acceptable, and achievable for routine analyses among the more experienced laboratories.

The State laboratory participated in MAPEP 46 and 47. These satisfied the requirement of Control 5.3 of the ODCM for the Interlaboratory Comparison Program.

Attachment 3

Interlaboratory Comparison Program Results

Table 25: DOE's Mixed Analyte Performance Evaluation Program (MAPEP) 46 RESULTS

Program status	Radionuclide	Result	Ref. Value	Flag (Evaluation)	Acceptance Range
Matrix: RdF Air Filter Bq/filter					
Required	MN54	0.004		A	False Positive Test
Required	CO57	0.018		A	False Positive Test
Required	CO60	0.728	0.72	A	0.50 – 0.94
	ZN65	-0.005		A	False Positive Test
Required	CS134	0.852	0.93	A	0.65 - 1.21
Required	CS137	0.733	0.726	A	0.508 - 0.944
Matrix: GrF Air Filter Bq/filter					
Required	Gross Beta	0.645	0.681	A	0.341 – 1.022
Required	Gross Alpha	0.916	1.20	A	0.36 - 2.04
Matrix: MaS Soil Bq/kg					
Required	K40	568.25	596	A	417 - 775
	MN54	1104.17	1140	A	798-1482
	CO57	1217.50	1400	A	980 - 1820
	CO60	410.83	443	A	310 - 576
	ZN65	0.86		A	False Positive Test
	CS134	886.32	890	A	623-1157
Required	CS137	335.00	365	A	256 - 475
Matrix: MaW Water Bq/L					
Required	H3	322.92	300	A	210-390
	MN54	18.347	18.9	A	13.2 – 24.6
	CO57	34.068	36.0	A	25.2 – 46.8
Required	CO60	8.778	9.3	A	6.5-12.1
	ZN65	26.704	26.2	A	18.3 – 34.1
Required	CS134	0.047		A	False Positive Test
Required	CS137	7.469	7.64	A	5.35 – 9.93
	SR90	13.6676	12.9	A	9.0 – 16.8
Matrix: RdV Vegetation, Bq/sample					
	MN54	2.895	2.59	A	1.81 – 3.37
	CO57	6.153	5.09	W	3.56 - 6.62
Required	CO60	0.021		A	False Positive Test
	ZN65	1.718	1.47	A	1.03 – 1.91
	CS134	8.082	7.61	A	5.33 – 9.89
Required	CS137	1.733	1.52	A	1.06 – 1.98

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

A false positive test with an "A" designation flag identifies the result as less than the detectable activity, since MAPEP does not report zero values. Sensitivity Evaluation has no acceptance range but an identified value at low activity.

Attachment 3

Interlaboratory Comparison Program Results

Table 26: DOE's Mixed Analyte Performance Evaluation Program (MAPEP) 47 RESULTS

Program status	Radionuclide	Result	Ref. Value	Flag (Evaluation)	Acceptance Range
Matrix: RdF Air Filter Bq/filter					
Required	MN54	2.063	1.88	A	1.32 – 2.44
Required	CO57	3.268	3.32	A	2.32 – 4.32
Required	CO60	2.06	1.99	A	1.39 - 2.59
	ZN65	1.847	1.58	A	1.11 – 2.05
Required	CS134	0.02		A	False Positive Test
Required	CS137	1.622	1.53	A	1.07 - 1.99
Matrix: GrF Air Filter Bq/filter					
Required	Gross Beta	1.213	1.31	A	0.66 – 1.97
Required	Gross Alpha	1.026	0.90	A	0.27 - 1.53
Matrix: MaS Soil Bq/kg					
Required	K40	523.96	537	A	376 - 698
	MN54	831.75	841	A	589 - 1093
	CO57	680.83	786	A	550 - 1022
	CO60	-0.14		A	False Positive Test
	ZN65	1159.58	1140	A	798 - 1482
	CS134	629.95	627	A	439 - 815
Required	CS137	0.86		A	False Positive Test
Matrix: MaW Water Bq/L					
Required	H3	400.44	395	A	277 - 514
	MN54	0.175		A	False Positive Test
	CO57	28.828	30.0	A	21.0 – 39.0
Required	CO60	16.385	17.0	A	11.9 – 22.1
	ZN65	11.827	11.3	A	7.9 – 14.7
Required	CS134	16.037	17.1	A	12.0 – 22.2
Required	CS137	17.21	16.8	A	11.8 – 21.8
	SR90	8.06	7.73	A	5.41 - 10.05
Matrix: RdV Vegetation, Bq/sample:					
	MN54	2.565	2.43	A	1.70 – 3.16
	CO57	0.009		A	False Positive Test
Required	CO60	4.751	4.62	A	3.23 – 6.01
	ZN65	8.035	7.49	A	5.24 – 9.74
	CS134	-0.02		A	False Positive Test
Required	CS137	1.224	1.083	A	0.758 – 1.408

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

A false positive test with an "A" designation flag identifies the result as less than the detectable activity, since MAPEP does not report zero values. Sensitivity Evaluation has no acceptance range but an identified value at low activity.

Attachment 4

Industry Initiative Ground Water Protection Program 2022

1.0 Description of Program

Turkey Point Nuclear maintains a sampling and analysis program to meet procedural requirements. The procedures that govern the performance are EV-AA-100-1001, *Fleet Ground Water Protection Program Implementing Guideline* and 0-ADM-654, *Ground Water Protection Program*.

The sampling frequency is quarterly; more often if conditions warrant.

Sample assay is performed by a private contractor GEL labs.

2.0 Discussion

The Turkey Point Nuclear site is surrounded on three sides by the closed cooling canal system. This canal system, in addition to being the source of tertiary cooling, is the body of water receiving permitted liquid radiological waste the canal system tritium level averages was 5,005 pCi/L in 2022 with a max concentration of 11,679 pCi/L. This supports the expectation to see tritium in subsurface water collected either on-site or off-site close to the (within the Owner Controlled Area) cooling canal system. Twenty-eight (28) wells were involved in the 2022 monitoring program; some locations have multiple (two or three) depths.

Samples are analyzed for Tritium & Gamma emitters. As conditions warrant, analysis included Fe-55, Ni-63, Sr-89/90 and alpha (all were < LLD).

3.0 Results

The tritium results for the groundwater wells were from <MDA to 3,980 pCi/L. All results were less than the limits of the Offsite Dose Calculation Manual, Table 5.1-2, Reporting Levels for Radioactivity Concentrations in Environmental Samples. Storm drain outfalls occasionally are below the tidal mark of the canal and will have ingress of canal water into the storm drain. The higher levels of tritium in the storm drain section are due to the canal water ingress into the storm drain.

Tabular results follow:

Monitoring Results Tables

Table 27: Ground Water – Tritium

Analysis: Tritium		Units: pCi/L		
Location	First Quarter 2022 H-3	Second Quarter 2022 H-3	Third Quarter 2022 H-3	Fourth Quarter 2022 H-3
REQUIRED LLD ➔	3,000	3,000	3,000	3,000
PTPED-1	299	199	281	409
CD-1	459	0.282	262	559
P-94-2	408		347	
P-94-4	867	595	356	843
STP-1	65		92.7	
PTN-MW-1s	32		-38.3	
PTN-MW-1i	277		343	
PTN-MW-1d	1050		1330	
PTN-MW-2s	140		-55	
PTN-MW-3s	47		170	
PTN-MW-4s	96	-7.31	95.3	128
PTN-MW-4i	3510	-7.22	3690	**3980**
PTN-MW-4d	22	33.3	-29.1	86
PTN-MW-5s	86	-12.1	55.2	108
PTN-MW-5i	97	23.4	-38.6	97
PTN-MW-5d	1050	1170	1120	1560
PTN-MW-6s	51		65.4	-10.5
PTN-MW-6SR				127/-46.4[(1)]
PTN-MW-6d	1430		1120	1570
PTN-MW-6DR				748/223[(1)]
PTN-MW-7s	1340	969	1540	2160
PTN-MW-7i	3240	3100	83.3	3560
PTN-MW-7d	159	3.51	103	162
PTN-MW-8s	2750	427	3390	2520
PTN-MW-9s	1120	885	784	843
PTN-MW-10s	-35		0.0478	
PTN-MW-10i	19		16.3	
PTN-MW-10d	-39		-0.0245	
PTN-MW-11s	151	30.3	139	222
PTN-MW-12s	1120	789	731	1220
NE StrmDrain	431	5700	2550	2370
SE StrmDrain	647	(3)	4940	(2)
W StrmDrain	6150	(3)	1390	(2)
CRF StrmDrain	Dry	Dry	Dry	Dry

(1) Replacement wells 6DR & 6SR were sampled twice in Qtr. 4.

(2) Storm Drain submerged underwater at time of collection.

(3) Sample inadvertently discarded prior to shipping off for analysis.

Industry Initiative Ground Water Protection Program 2022

D. List of wells and their locations

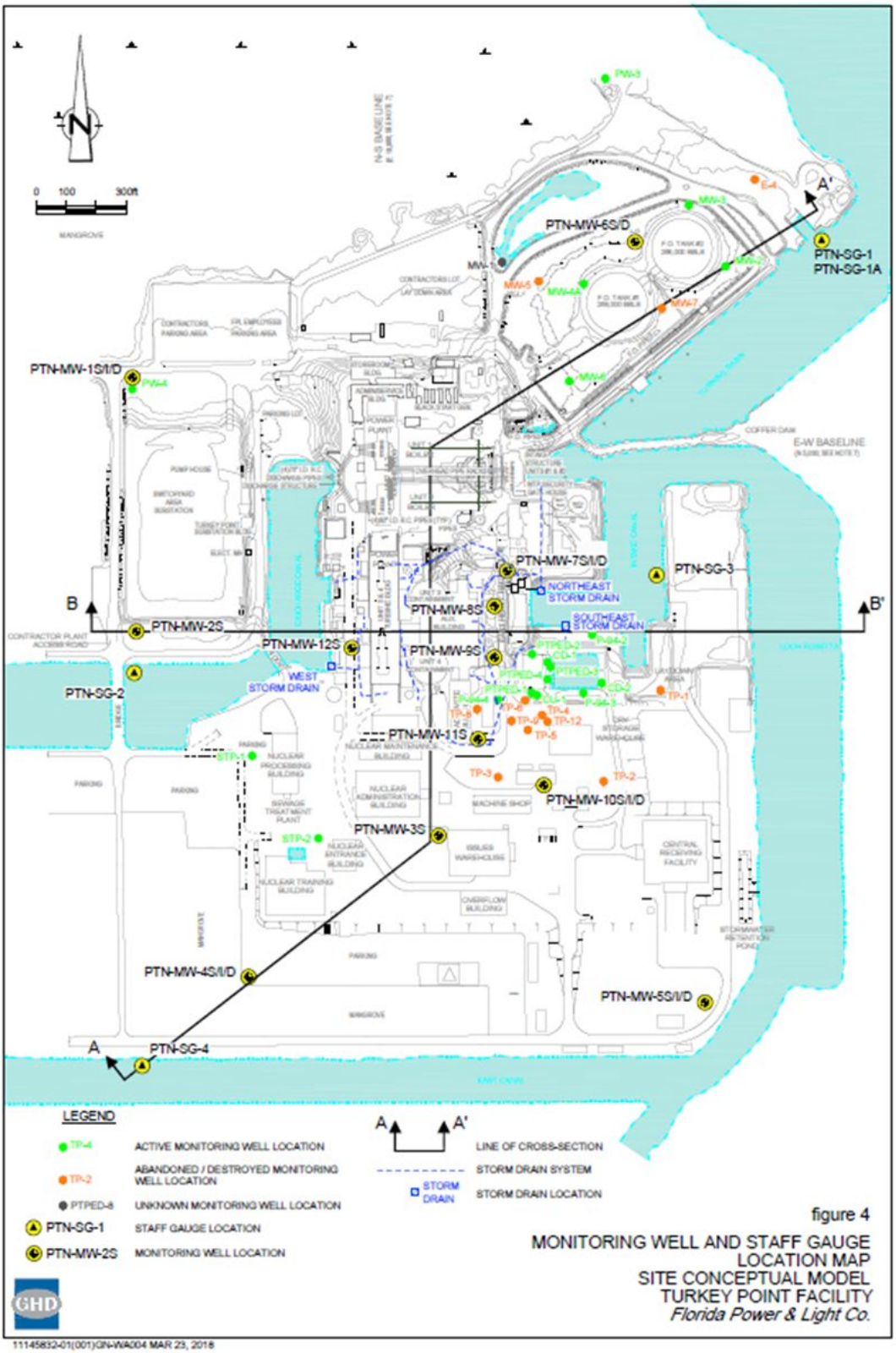
Well Name	Location
PTN-MW-1s PTN-MW-1i PTN-MW-1d	Northeast of Switch Yard, South of entrance road to Fossil Plant
PTN-MW-2s	South Switch Yard by parking lot
PTN-MW-3s	Northeast of new Issues Warehouse
PTN-MW-4s PTN-MW-4i PTN-MW-4d	SW corner of parking lot South of Training Bldg.
PTN-MW-5s PTN-MW-5i PTN-MW-5d	SW of CRF, by canal
PTN-MW-6s PTN-MW-6SR PTN-MW-6d PTN-MW-6DR	NE of site in the berm for fossil oil tanks
PTN-MW-7s PTN-MW-7i PTN-MW-7d	NE of RCA, by Neutralization Tank
PTN-MW-8s	Near U3 RWST
PTN-MW-9s	Near U4 RWST
PTN-MW-10s PTN-MW-10i PTN-MW-10d	SE of Radwaste Bldg. by S/G Bldg.
PTN-MW-11s	South of truck entrance to Rad Waste Bldg.
PTN-MW-12s	West of Condenser Polisher road
STP-1	West of Maintenance Bldg. on corner or road into parking lot
P-94-4	East of Dressout Building, under delay fence
P-94-2	By Neutralization Basin, East of the RCA
CD-1	By Neutralization Basin, East of the RCA
PTPED-1	By Neutralization Basin, East of the RCA

Note: s, i and d refer to well depth: shallow - 20 ft., intermediate - 40 ft. and deep - 60 ft
Maps depicting the well locations follow.

Attachment 4 **Page 4 of 4**

Industry Initiative Ground Water Protection Program 2022

Figure 5: Onsite Tritium Monitoring Wells



Attachment 5

ERRATA Data 2022

Significant errors should be corrected within one year of discovery, and the correction may be submitted with the next (normally scheduled) submittal of the AREOR as follows. A brief narrative explanation of the errors should be included in, "Errata/Corrections to Previous AREORs," "Supplemental Information." The narrative should include a statement that the affected pages, in their entirety, are included as attachments to the AREOR. Additionally, the affected, corrected pages, in their entirety, should be submitted as an attachment to the AREOR. The corrected pages should reference the affected calendar year and should contain revision bars in the margins of the page to indicate the locations of the changes. If submitting corrections to multiple AREORs, make a separate attachment for each of the affected years. Other methods of correcting previous AREORs may be used provided the corrections are clearly and completely described.

Significant errors include:

- Inaccurate reporting of samples collected and analyzed.
- Inaccurate reporting of sample results.
- Omissions that impede the NRC's ability to adequately assess the information supplied by the licensee, or other errors that alter the intent of the report.

1.0 List of changes from the 2021 AREOR.

1. Page 30 of 55: The entries that indicated tritium reporting levels exceeded were removed. According to the ODCM this value does not exceed the reporting limit nor level.

2. Page 31 of 55: Comment number 13, now Comment number 8, had the incorrect AR# listed in the Evaluation/Actions box. The AR# was changed from "AR# 0422809" to "AR# 02422809".

Sample Deviations

Table 7: Sample Deviations Table

Comment No.	Sample Media Affected	Sample Location	Date	Problem	Evaluation / Actions
1	Air Sample	T72	01/06/21	Pump Failure	Vacuum Pump failed, estimated run time was 64 out of 191 hours. T72 vacuum pump was replaced. AR# 02399193
2	Air Sample	T72	01/20/21	Power Outage	Power outage at station T72, estimated run time was 20 out of the 150 hours. The power was restored 01/22/21 at 14:03. AR# 02399193
3	Air Sample	T72	01/25/21	Power Outage	Due to previous power outage, this week's filter ran for 74 hours. AR# 02399193
4	Air Sample	T51	05/26/21	Pump Failure	Vacuum Pump failed, estimated run time 91 hours out of 149 hours. T51 Vacuum pump was replaced. AR# 02399193
5	Air Sample	T51	06/02/21	Power Outage	Power outage at station T51, estimated run time was 124 out of the 161 hours. AR# 02399193
6	Air Sample	T72	06/09/21	Sample Missing	Air Cartridge lost somewhere between shipping it and receiving it. AR# 02399193
7	Air Sample	T58	08/18/21	Pump Failure	Vacuum Pump failed, estimated run time was 74.3 out of 120.9 hours. T58 sample pump was replaced. AR# 02411663
8	Milk	T99	2021	Sample Unavailable	Goat milk sample was unavailable this year. The farm has not had any milking goats. AR# 02422809

ERRATA Data 2022

3. Page 52 of 55: The value listed for canal system's tritium level average of 7,126 pCi/L was corrected to 7,970 pCi/L.

2.0 Discussion

The Turkey Point Nuclear site is surrounded on three sides by the closed cooling canal system. This canal system, in addition to being the source of tertiary cooling, is the body of water receiving permitted liquid radiological waste the canal system tritium level averages was 7,970 pCi/L in 2021 with a max concentration of 13,492 pCi/L. This supports the expectation to see tritium in subsurface water collected either on-site or off-site close to the (within the Owner Controlled Area) cooling canal system. Twenty-eight (28) wells were involved in the 2021 monitoring program; some locations have multiple (two or three) depths.

Samples are analyzed for Tritium & Gamma emitters. As conditions warrant, analysis included Fe-55, Ni-63, Sr-89/90 and alpha (all were < LLD).