

TS 6.9.1.7(Salem)
TS 5.6.1 (Hope Creek)

April 30,2026

LR-N26-0039

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington DC 20555-0001

Salem Nuclear Generating Station, Unit Nos. 1 and 2
Renewed Facility Operating License Nos. DPR-70 and DPR-75
NRC Docket NOS. 50-272 and 50-311

Hope Creek Generating Station
Renewed Facility Operating License No. NPF-57
Docket No. 50-354

Subject: 2025 Annual Radiological Environmental Operating Report

As required with Section 6.9.1.7 of Appendix A to Renewed Facility Operating License Nos. DPR-70 (Unit 1) and DPR-75 (Unit 2) for SGS, and Section 5.6.1 of Appendix A to Renewed Facility Operating License NPF-57 for HCGS, PSEG Nuclear hereby transmits one (1) copy of the combined 2025 Annual Radiological Environmental Operating Report (Enclosure 1). This report summarizes the results of the radiological environmental surveillance program for 2025 in the vicinity of the Salem and Hope Creek Generating Stations. The result of this program for 2025 was specifically compared to the result of the pre-operational program.

There are no commitments contained in this letter.

If you have any questions or comments on this transmittal, please contact Mr. Rick Heathwaite at Frederick.Heathwaite@PSEG.com.

Sincerely,



Shane Jurek
Regulatory Programs Manager
PSEG Nuclear LLC

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Enclosure 1: 2025 Annual Radiological Environmental Operating Report for Salem and Hope
Creek Generating Stations

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April 30, 2026
LR-N26-0039

Enclosure

2025 Annual Radiological Environmental Operating Report

For

Salem and Hope Creek Generating Stations

(Total Pages 103)



Annual Radiological Environmental Operating Report

2025

Document Number: SGS-AREOR-74 / HCGS-AREOR-48

Unit 1		Unit 2	Unit 1
Docket No. 50-272		Docket No. 50-311	Docket No. 50-354
Operating License No. DPR-070	Operating License No. DPR-075		Operating License No. NPF-057

AREOR (REMP) Review and Approval Confirmation in SAP (I.A.W. AD-AA-1006 SIGNATURE AUTHORITY)

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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.

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

Salem and Hope Creek Generating Stations 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 SGS/HCGS 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 Common REMP (ODCM). 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 SGS/HCGS for the reporting period of January 1st through December 31st, 2025. During that time period 1616 analyses were performed on 1262 samples and there was no instance of radioactivity from plant effluents observed in the environment that exceeded any Reporting Levels identified in Salem and Hope Creek Common ODCM Table 3.12-2 [23]. Also, in assessing all the data gathered for this report and comparing these results with preoperational data it was concluded that the operation of SGS/HCGS, had no significant radiological impact on the health and safety of the public or on the environment.

2.1 Summary of Conclusions:

There were no instances of plant related radionuclides above baseline during the reporting period January 1 through December 31, 2025. 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, 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].

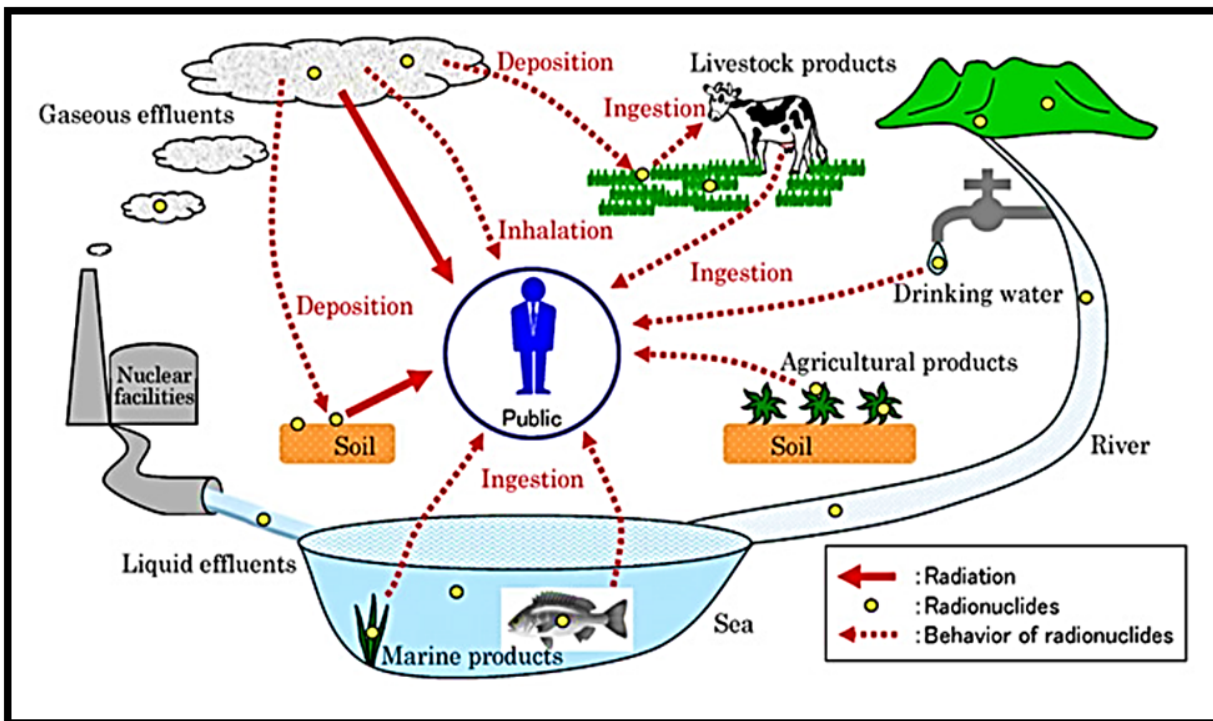


Figure 1, Potential exposure pathways to Members of the Public due to Plant Operations [7]

Quality assurance aspects of the sampling program and TLD/OSLD data collection are conducted in accordance with Regulatory Guides 4.15 [8] and 4.13 [9]. REMP also adheres to the requirements of New Jersey, SGS/HCGS Technical Specifications, and Common REMP 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

The Site is located in Lower Alloway's Creek Township, Salem County, New Jersey. SGS consists of two operating pressurized water nuclear power reactors. SGS Unit 1 has an approximate net electrical rating of 1,180 megawatts electric (MWe) and SGS Unit 2 has an approximate net electrical rating of 1,178 MWe. The licensed core thermal power rating for both Units is 3,459 megawatts thermal (MWth). HCGS consists of an operating boiling water nuclear power reactor, which has an approximate net electrical rating of 1,212 MWe. The licensed core thermal power rating is 3,902 MWth.

The Site is located on a man-made peninsula on the east bank of the Delaware River called Artificial Island. The peninsula was created by the deposition of hydraulic fill from dredging operations. The surrounding environment is characterized mainly by the Delaware River Estuary, extensive tidal marshlands, and low-lying meadowlands. These land types make up a vast majority of the land area within five miles of the Site, with most of the remaining land used for agriculture.

Since 1968, a Radiological Environmental Monitoring Program (REMP) has been conducted at the Site. Starting in December 1972, a more extensive radiological monitoring program was initiated in preparation for the operation of SGS Unit 1. The operational REMP was initiated in December 1976 when SGS Unit 1 achieved criticality.

SGS/HCGS sampling media are 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 sample collected are captured in the following tables and figures:

- Table 1, Radiological Environmental Sampling Program – Exposure Pathway – Direct Radiation
- Table 2, Radiological Environmental Sampling Program – Exposure Pathway - Airborne
- Table 3, Radiological Environmental Sampling Program – Exposure Pathway - Waterborne
- Table 4, Radiological Environmental Sampling Program – Exposure Pathway - Ingestion

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- Table 5, Radiological Environmental Sampling Program – Exposure Pathway - Terrestrial
- Table 6, REMP Sampling Locations – Direct Radiation
- Figure 2, REMP Sample Locations (On-Site Sampling Locations To 1 Mile)
- Figure 3, REMP Sample Locations (Off-Site Sampling Locations 1 to 10 Miles)
- Figure 4, REMP Sample Locations (Off-Site Sampling Locations Greater Than 10 Miles).

5.0 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM REQUIREMENTS

Table 1, Radiological Environmental Sampling Program – Exposure Pathway – Direct Radiation

Requirement	Sample Location Description, Distance, and Direction	Sampling Collection/Frequency	Type of Analyses
<p>DIRECT RADIATION</p> <p>a. Dosimeters (IDM)</p> <p>Fifty-nine routine monitoring locations with two or more dosimeters placed as follows:</p> <p>An inner ring of locations, one in each of the land based meteorological sectors in the general area of the SITE BOUNDARY; and</p> <p>An outer ring of locations, one in each of the land based meteorological sector in the 5 to 11 km (3.1 - 6.8 miles) range from the site; and</p> <p>The balance of the locations placed in areas of special interest such as population centers, nearby residences, and schools and in one or two areas to serve as control locations.</p>	<p>See Table 6, REMP Sampling Locations – Direct Radiation</p>	<p>Quarterly</p>	<p>Gamma dose</p>

Table 2, Radiological Environmental Sampling Program – Exposure Pathway - Airborne

Requirement	Sample Location Description, Distance, and Direction	Sampling Collection/ Frequency	Type and Frequency of Analyses
<p>ATMOSPHERIC</p> <p>a. Air Particulate (APT)</p> <p>b. Air Iodine (AIO)</p> <p>3 samples close to the Site Boundary: 05X1, 06S1, 15S2.</p> <p>One duplicate sample from close to the site boundary: 05S2.</p> <p>3 samples from different land-based sectors: 01F1, 02F6, 05D1.</p> <p>One sample from the vicinity of a community having a highest annual average ground level D/Q: 16E1.</p> <p>One sample from a control location; for example, 15 - 30 km distant (9.3 - 18.6 miles) and in the least prevalent wind direction: 14G1</p>	05X1 0.86 mi. E; site access road	<p>Particulate: Continuous sampler operation with sample collection weekly or more frequently if required by dust loading</p> <p>Iodine: Continuous sampler operation with sample collection weekly or more frequently if required by dust loading</p>	<p>Gross Beta / weekly</p> <p>Gamma isotopic analysis / quarterly composite</p> <p>Iodine-131</p>
	05S2 0.86 mi. E; site access road		
	06S1 0.19 mi. ESE; station personnel gate		
	15S1 0.57 mi. NW; near river and HCGS barge slip		
	15S2 0.59 mi. NW; near river and HCGS barge slip		
	05D1 3.5 mi. E; local farm along SGS/HCGS access road.		
	16E1 4.1 mi. NNW; Port Penn, DE		
	01F1 5.7 mi. N; Fort Elfsborg, NJ		
	02F6 7.3 mi. NNE; Energy & Envmt Resource Center, Salem NJ		
	14G1 13.4 mi. WNW; Route 286, Bethel Church Road, DE		

Table 3, Radiological Environmental Sampling Program – Exposure Pathway - Waterborne

Requirement	Sample Location Description, Distance, and Direction	Sampling Collection/Frequency	Type of Analyses
<p>Surface Water (SWA) One sample upstream: 01F2. One sample downstream: 07E1. One sample outfall: 11A1. One sample cross-stream (mouth of Appoquinimink River): 12B1. And an additional location in the Chesapeake & Delaware Canal: 16F1.</p>	<p>11A1 0.22 mi. SW; SGS outfall area 11A1A 0.15 mi. SE; Located in the plant barge slip area 12B1 1.8 mi. WSW; West bank of Delaware River 12B1A 3.7 mi. NW; Tip of Augustine Beach Boat Ramp 07E1 4.4 mi. SE; riverbank 1 mi. W of Mad Horse Creek 07E1A 9.2 mi. SE; Located at the end of Bayside Road, NJ 01F2 7.1 mi. N; midpoint of Delaware River 16F1 6.9 mi. NNW; C&D Canal, DE 16F1A 6.5 mi. NNW; Located at the C&D Canal Tip, DE</p>	Semi-Monthly (composited)	Gamma scan Tritium Iodine-131*
<p>Potable Water (Drinking Water) (PWR, PWT) Although no potable water samples are required as liquid effluents discharged from SGS/HCGS do not directly affect this pathway and it is not required by SGS/HCGS ODCM, one raw and one treated water sample from a public water supply (City of Salem Water and Sewer Department) are collected: 02F3 as management audit samples.</p>	<p>02F3 8.0 mi. NNE; Salem Water Company</p>	Monthly (composited weekly)	Gross alpha** Gross beta Tritium Gamma scan Iodine-131*
<p>Well Water (Ground) (WWA) Although wells in the vicinity of SGS/HCGS are not directly affected by plant operations so sampling is not required by SGS/HCGS ODCM, samples of 03E1 farm's well are collected as management audit samples.</p>	<p>03E1 4.2 mi. NE; local farm</p>	Monthly	Gamma scan Gross alpha** Gross beta** Tritium Iodine-131*

Table 3, Radiological Environmental Sampling Program – Exposure Pathway - Waterborne

Requirement	Sample Location Description, Distance, and Direction	Sampling Collection/ Frequency	Type of Analyses
Sediment (ESS) One sample from downstream area: 07E1. One sample from cross-stream area and control location: 12B1. One sample from outfall area: 11A1. One sample from upstream, the C & D Canal: 16F1. One sample from shoreline area: 05A1. One sample from Cooling Tower Blowdown discharge: 15A1. One sample south storm drain discharge line: 15A2.	05A1 0.89 mi. E, shoreline 07E1 4.4 mi. SE; riverbank 1 mi. W of Mad Horse Creek 11A1 0.22 mi. SW; SGS outfall area 12B1 1.8 mi. WSW; West bank of Delaware River 15A1 0.69 mi. NW; HCGS outfall area 15A2 0.66 mi. NW; South Storm Drain outfall 16F1 6.9 mi. NNW; C&D Canal, DE	Semi-Annually	Gamma scan

*Iodine-131 Low Level, 1 pCi/L LLD, is performed but not required by ODCM, only 15 pCi/L LLD is required.

** Not required by ODCM

Table 4, Radiological Environmental Sampling Program – Exposure Pathway - Ingestion

Requirement	Sample Location Description, Distance, and Direction	Sampling Collection/ Frequency	Type of Analyses
<p>Milk (MLK) Samples from milking animals in 3 locations within 5 km distance (3.1 miles) having the highest dose potential. If there are none, then 1 sample from milking animals in each of 3 areas between 5 - 8 km distant (3.1 - 5.0 miles) where doses are calculated to be greater than 1 mrem per yr: 13E3. 1 Sample from milking animals at a control location 15 - 30 km distant (9.3 - 18.6 miles): 02G3.*</p> <p>NOTE: <i>Milk animals are not prevalent in the vicinity of the plant. Only one farm met the requirement for milk. In lieu of samples, broad-leaf vegetation sampling is being conducted.</i></p>	<p>13E3 5.0 mi. W; local farm, DE 02G3 11.8 mi. NNE; Local Milk Farm, Corner of Routes 540 & 45, Mannington, NJ 14F4 7.6 mi. WNW; local farm</p>	Semi-monthly (when animals are on pasture)	Gamma scan I-131 (Low Level)
		Monthly (when animals are not on pasture)	Gamma scan I-131 (Low Level)
<p>Edible Fish (ESF) One sample of each commercially and recreationally important species in vicinity of plant discharge area: 11A1. One sample of same species in area not influenced by plant discharge: 12B1, and an additional location downstream: 07E1.</p>	<p>07E1 4.4 mi. SE; riverbank 1 mi. W of Mad Horse Creek 11A1 0.22 mi. SW; SGS outfall area 12B1 1.8 mi. WSW; West bank of Delaware River</p>	Semi-Annually	Gamma scan (flesh)

Table 4, Radiological Environmental Sampling Program – Exposure Pathway - Ingestion

Requirement	Sample Location Description, Distance, and Direction	Sampling Collection/ Frequency	Type of Analyses
<p>Blue Crabs (ECH) One sample of each commercially and recreationally important species in vicinity of plant discharge area 11A1.</p> <p>One sample of same species in area not influenced by plant discharge 12B1.</p>	<p>11A1 0.22 mi. SW; SGS outfall area</p> <p>12B1 1.8 mi. WSW; West bank of Delaware River</p>	Semi-Annually	Gamma scan (on edible portions)
<p>Vegetables (FPL, FPV) Although the Delaware River at the location of SGS/HCGS is a brackish water source and is not used for irrigation of food products and so sampling is not required by SGS/HCGS ODCM, samples of vegetables are collected as management audit samples from various locations during harvest. In addition, broad leaf vegetation is collected from various offsite locations as well as being planted & collected onsite (06S1, 16S1, 10D1). This is in lieu of having a milk farm within 5 km (3.1 miles) of the Site.</p> <p>* Samples were not taken from these locations in 2025. They are Management Audit samples that are not required by the ODCM and may not be sampled every year due to crop rotation.</p>	<p>06S1 0.19 mi. SE</p> <p>16S1 0.57 mi. NNW</p> <p>10D1 3.91 mi. SSW; Taylor’s Bridge Spur</p> <p>Locations below are Management Audit samples</p> <p>01G1 10.9 mi. NNE; Rte. 49, South Broadway</p> <p>03H5 25 mi. NE; Farm Market, Rt 77</p> <p>02F9 7.5 mi. NNE; Local Farm, Tilbury Rd, Salem</p> <p>02G2* 13.5 mi. NNE; Local Farm; Pointers Auburn Road</p> <p>01S3* 0.58 mi. N; Garden</p> <p>15S2* 0.57 mi. NNW</p> <p>02F10* 9.2 mi. NNE; Local Farm, South Broadway, Pennsville</p> <p>03F6* 6.5 mi. NE; Local Farm, Salem/Hancocks Bridge Road</p> <p>03F7* 7.2 mi. NE; Local Farm, Beasley Neck Road, RD#3</p> <p>03F8 9.28 mi. NNE Circle “M” Orchard</p> <p>09F1 5.3 mi. S; Off Route #9, DE</p> <p>14F4 7.6 mi. WNW; local farm</p> <p>15F4 7.0 mi. NW; local farm; Port Penn Road; DE</p> <p>02G4* 11.3 mi. NNE; Rt 45 & Welchville Rd, Mannington, NJ</p> <p>09G1* 10.3 mi. S; Woodland Beach Rd., Smyrna, DE</p> <p>09G2* 10.7 mi. S; Woodland Beach Rd, Smyrna, DE</p>	Monthly (during growing season)	Gamma scan

Table 4, Radiological Environmental Sampling Program – Exposure Pathway - Ingestion

Requirement	Sample Location Description, Distance, and Direction	Sampling Collection/ Frequency	Type of Analyses
Fodder Crops (VGT) Although not required by SGS/HCGS ODCM, samples of crops normally used as cattle feed (silage) were collected from milk farms as management audit samples: 14F4, 02G3, 13E3.	13E3 5.0 mi. W; Local Farm, Odessa, DE 14F4 7.6 mi. WNW; local farm 02G3 11.8 mi. NNE; Local Milk Farm	Annually (at harvest)	Gamma scan
Game (GAM) Although not required by SGS/HCGS ODCM, game samples were collected as management audit samples from two indicator locations: 03E1 and 13E3	03E1* 4.2 mi. NE; Local Farm 13E3* 5.0 mi. W; Local Farm, Odessa, DE	Annually	Gamma scan
* Sample was not taken at this location in 2025			

Table 5, Radiological Environmental Sampling Program – Exposure Pathway - Terrestrial

Requirement	Number of Representative Samples and Sample Locations	Sampling Collection/ Frequency	Type of Analyses
Soil (SOL) Although not required by SGS/HCGS ODCM, samples of soil are collected as management audit samples.	10D1 3.9 mi. SSW; Taylor's Bridge Spur 13E3 5.0 mi. W; Local Farm, Odessa, DE 14F4 7.6 mi. WNW; Local Farm 16E1 4.1 mi. NNW; Port Penn 02F9 7.5 mi. NNE; Local Farm, Tilbury Rd, Salem 02G3 11.8 mi. NNE; Local Milk Farm 03G1 16.5 mi. NE; Milk Farm, Woodstown 05F1 6.5 mi. E; Canton 06S1 0.23 mi. ESE	Every 3 years (2022-2025-2028)	Gamma scan

Table 6, REMP Sampling Locations – Direct Radiation

Site #	Location Type	Sector	Distance (miles)	Description
01Q1	Special Interest	N	0.58	N side of road near ISFSI pad
02S2a	Inner Ring	NNE	0.41	Lamp pole 65 near HC switch yard
07S1	Inner Ring	SE	0.12	Station personnel gate
08S1	Inner Ring	SSE	0.14	Fuel oil storage
08S2	Inner Ring	SSE	0.17	Fuel oil storage
10S1	Inner Ring	SSW	0.11	Circulating water building
11S1	Inner Ring	SW	0.12	Circulating water building
12S1	Inner Ring	WSW	0.09	Outside security fence
14S2	Inner Ring	WNW	0.12	Outside security fence
15S1	Inner Ring	NW	0.57	Near river and HCGS barge slip
15S2	Inner Ring	NW	0.59	Near river and HCGS barge slip
15S3	Inner Ring	NW	0.17	Outside security fence
16S1	Inner Ring	NNW	0.57	On road near fuel oil storage tank
16Q2	Special Interest	NNW	0.6	Near security firing range
01X2	Inner Ring (SB)	N	0.59	382 feet from TLD 01Q1
02X4	Inner Ring (SB)	NNE	0.65	In the equipment laydown area
03X1	Inner Ring (SB)	NE	0.58	Behind refrigeration building
04X1	Inner Ring (SB)	ENE	0.6	Access road near intersection to LDC
05X1	Inner Ring (SB)	E	0.86	Site access road
06X2	Inner Ring (SB)	ESE	0.23	Area around helicopter pad
16X3	Inner Ring (SB)	NNW	0.89	Consolidated spoils facility
04D2	Outer Ring	ENE	3.9	Alloway Creek Neck Road
05D1	Outer Ring	ENE	3.5	Local farm along SGS/HCGS access road.
10D1	Outer Ring	SSW	3.9	Taylor's Bridge Spur, DE
14D1	Outer Ring	WNW	3.3	Bay View, DE

Table 6, REMP Sampling Locations – Direct Radiation

Site #	Location Type	Sector	Distance (miles)	Description
15D1	Outer Ring	NW	3.7	Route 9, Augustine Beach, DE
02E1	Outer Ring	NNE	4.4	Local farm, NJ
03E1	Outer Ring	NE	4.1	Local farm, NJ
12E1	Outer Ring	WSW	4.4	Thomas Landing, DE
13E1	Outer Ring	W	4.1	Diehl House Lab, DE
16E1	Outer Ring	NNW	4.1	Port Penn, DE
11E2	Outer Ring	SW	5	Route 9, DE
01F1	Outer Ring	N	5.7	Fort Elfsborg, NJ
02F2	Outer Ring	NNE	8.5	Salem Substation, Salem, NJ
02F5	Special Interest	NNE	7.3	Salem High School, Salem, NJ
02F6	Outer Ring	NNE	7.3	Energy & Envmt Resource Center, Salem, NJ
03F2	Outer Ring	NE	5.1	Hancocks Bridge, NJ, Munc Bldg
03F3	Special Interest	NE	8.6	Quinton Township Elem. School, NJ
04F2	Outer Ring	ENE	6	Mays Lane, Harmersville, NJ
05F1	Outer Ring	E	6.4	Canton, NJ
06F1	Outer Ring	ESE	6.4	Stow Neck Road, NJ
07F2	Outer Ring	SE	9.3	Bayside, NJ
09F1	Outer Ring	S	5.3	Off Route #9, DE
09F2	Outer Ring	S	5.2	Collins Beach boat ramp.
10F2	Outer Ring	SSW	5.7	Route #9, DE
11F1	Outer Ring	SW	6	Taylor's Bridge, DE
12F1	Outer Ring	WSW	9.4	Townsend Elementary School, DE
13F2	Outer Ring	W	6.5	Odessa, DE
13F3	Special Interest	W	9.3	Redding Middle School, Middletown, DE
13F4	Special Interest	W	9.8	Middletown, DE

Table 6, REMP Sampling Locations – Direct Radiation

Site #	Location Type	Sector	Distance (miles)	Description
14F2	Outer Ring	WNW	6.7	Route 13 and Boyds Corner Rd, DE
15F3	Outer Ring	NW	5.4	Port Penn Rd. At Pole Bridge Rd., DE
16F2	Special Interest	NNW	8.1	Delaware City Public School, DE
01G3	Control	N	19	N. Church Street Wilmington, DE
03G1	Outer Ring	NE	16.5	Local farm, NJ
10G1	Control	SSW	11.6	Smyrna, DE
14G1	Outer Ring	WNW	13.4	Route 286, Bethel Church Road, DE
16G1	Outer Ring	NNW	15.1	Wilmington Airport, DE
03H1	Control	NE	33.1	National Park, NJ

6.0 MAPS OF COLLECTION SITES

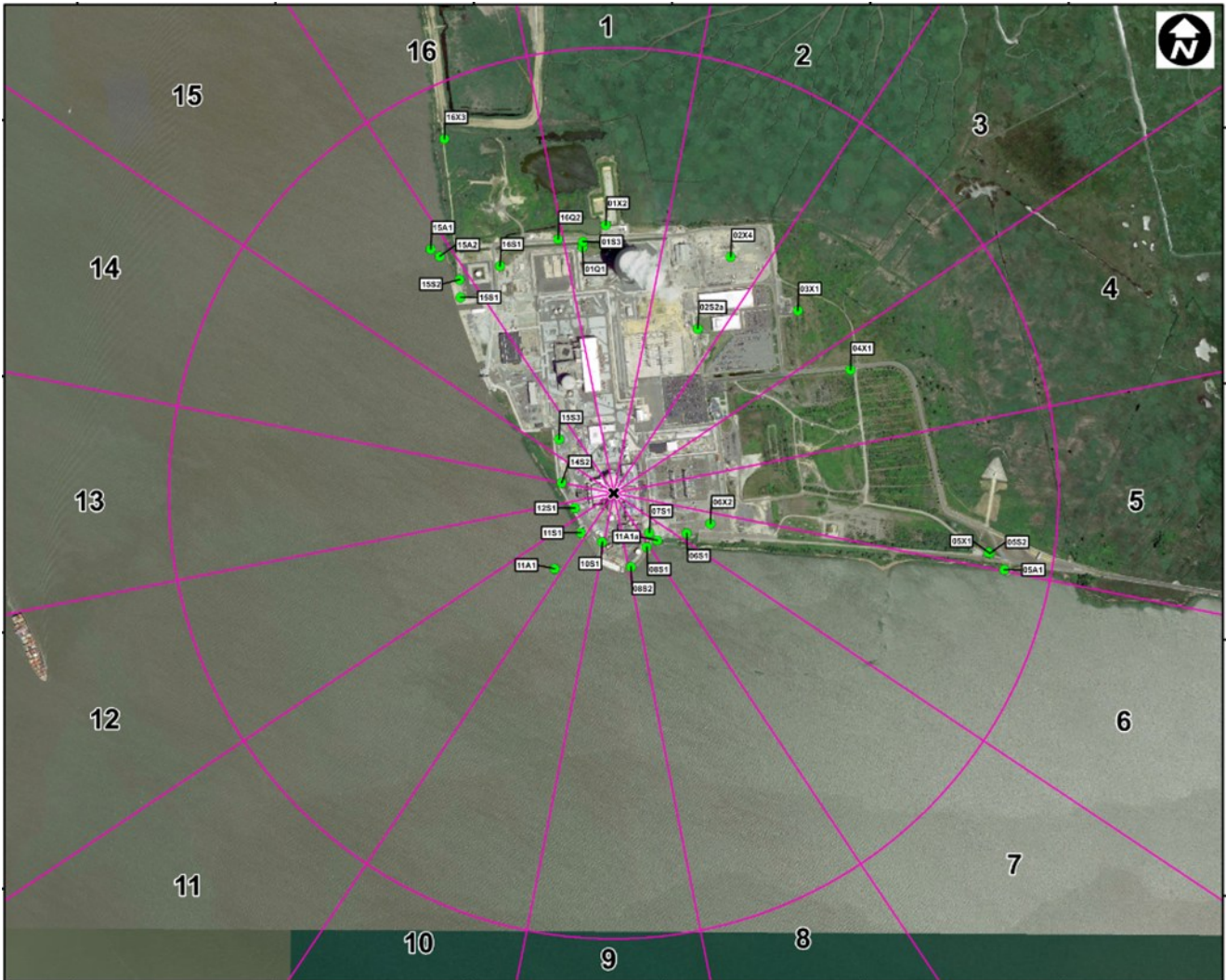


Figure 2, REMP Sample Locations (On-Site Sampling Locations To 1 Mile)

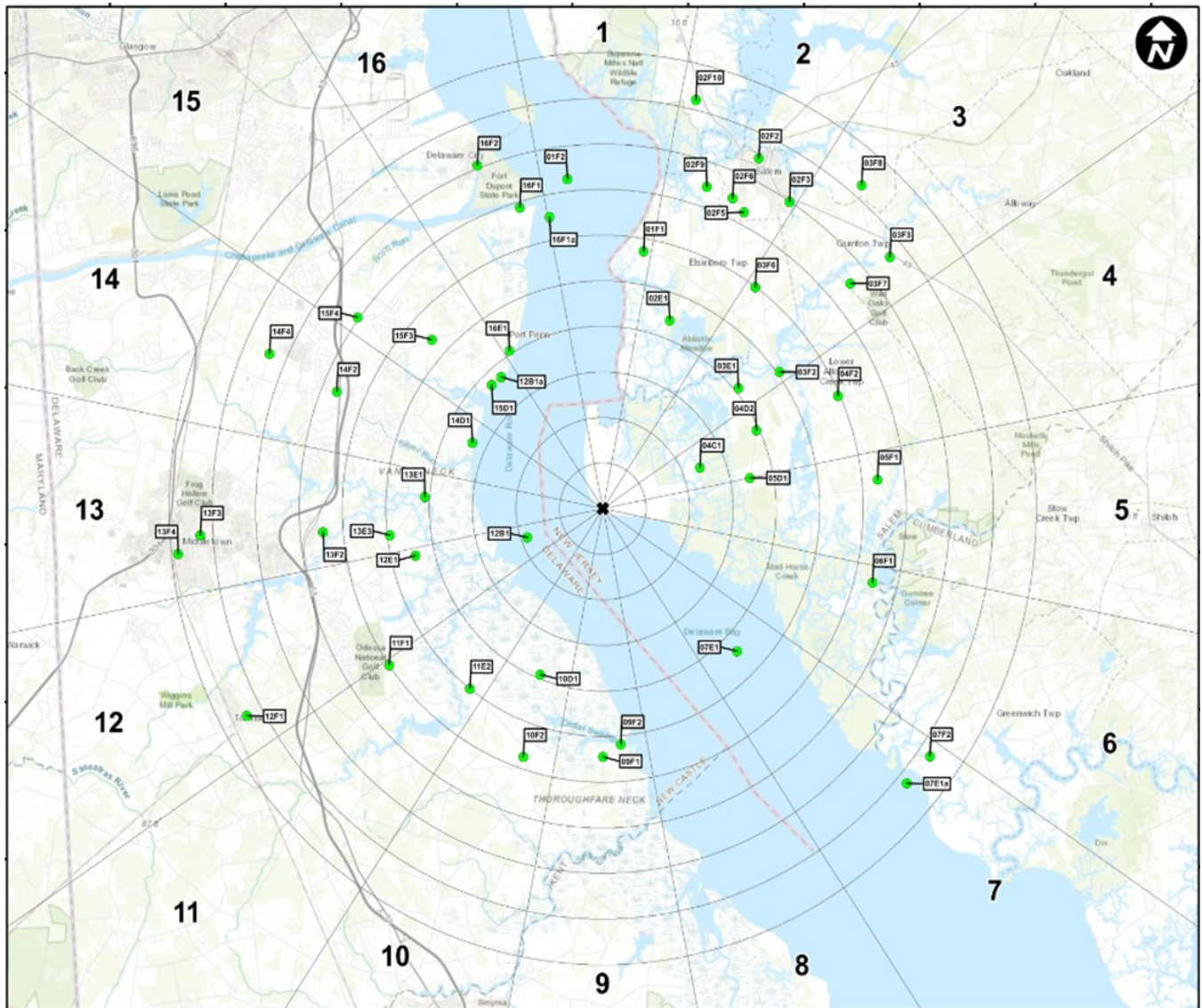


Figure 3, REMP Sample Locations (Off-Site Sampling Locations 1 to 10 Miles)

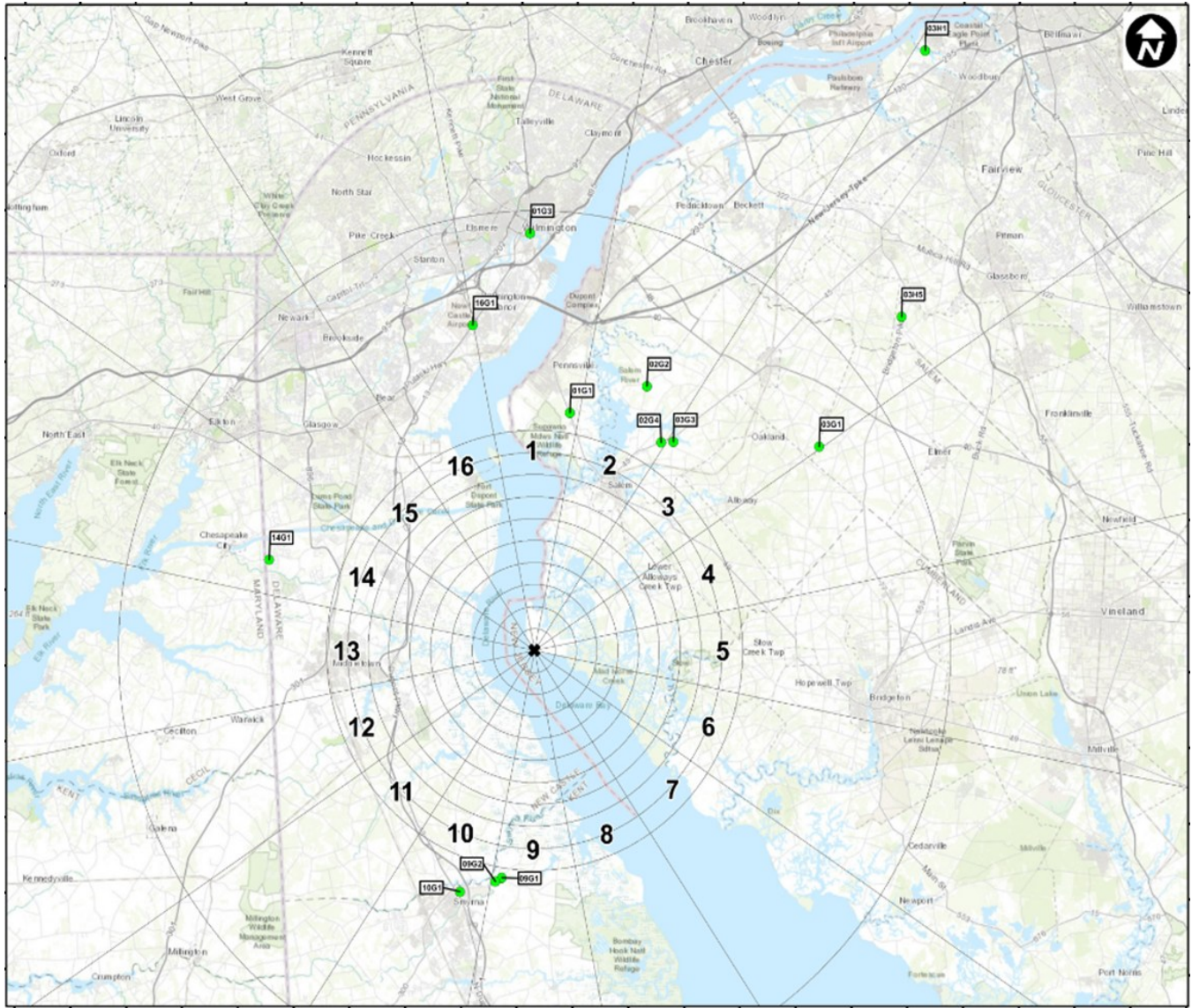


Figure 4, REMP Sample Locations (Off-Site Sampling Locations Greater Than 10 Miles)

7.0 REPORTING LEVELS FOR RADIOACTIVITY CONCENTRATIONS IN ENVIRONMENTAL SAMPLES

Table 7, 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	30,000 ¹	NA	NA	NA	NA
Mn-54	1,000	NA	30,000	NA	NA
Fe-59	400	NA	10,000	NA	NA
Co-58	1,000	NA	30,000	NA	NA
Co-60	300	NA	10,000	NA	NA
Zn-65	300	NA	20,000	NA	NA
Zr-Nb-95	400	NA	NA	NA	NA
I-131	20 ²	0.9	NA	3	100
Cs-134	30	10	1,000	60	1,000
Cs-137	50	20	2,000	70	2,000
Ba-La-140	200	NA	NA	300	NA

Table 8, Maximum Values for the Lower Limit of Detection (LLD)

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	0.01	NA	NA	NA	NA
H-3	3,000 ³	NA	NA	NA	NA	NA
Mn-54	15	NA	130	NA	NA	NA
Fe-59	30	NA	260	NA	NA	NA
Co-58, Co-60	15	NA	130	NA	NA	NA
Zn-65	30	NA	260	NA	NA	NA
Zr-Nb-95	15	NA	NA	NA	NA	NA
I-131	15 ⁴	0.07	NA	1	60	NA
Cs-134	15	0.05	130	15	60	150
Cs-137	18	0.06	150	18	80	180
Ba-La-140	15	NA	NA	15	NA	NA

¹ For surface water samples: If a drinking water pathway exists, a value of 20,000 pCi/L shall be used.

² For surface water samples: If a drinking water pathway exists, a value of 2 pCi/L shall be used.

³ For surface water samples: If a drinking water pathway exists, a value of 2,000 pCi/L shall be used.

⁴ For surface water samples: If a drinking water pathway exists, a value of 1 pCi/L shall 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 as a results of 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.

In the following sections, results from direct radiation, air, water, and food products analyzed as part of REMP in 2025 will be discussed. Sampling program descriptions and deviations will also be discussed.

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. Minimum Differential Doses for Annual and Quarterly periods have been determined based on 3-times the 90th percentile standard deviation for monitoring locations. Doses that exceed the Minimum Differential Dose value above the Baseline Background Dose are considered to indicate Facility-Related Dose; a quality assurance review is performed to verify that any results indicating Facility-Related Dose are accurate.

ANSI/HPS N13.37-2014 uses the concept of minimum differential dose (MDD), which is the minimum facility-related dose that can be detected above the baseline background. Due to natural background variations and measurement sensitivities and uncertainties, minimum differential dose is not zero. MDD is calculated based on performance of the dosimetry system in the environment and is about 5 mrem per quarter and 10 mrem per year. If a dosimeter indicates dose greater than background plus MDD, then the net dose (above background) is reported as Facility Related Dose.

Ambient radiation levels in the environment were monitored at locations on the Site and in the surrounding areas with pairs of passive dosimeters (PD) supplied and analyzed by Stamford Dosimetry/Environmental Dosimetry Co. Packets containing the PDs were placed in the owner-controlled area, around the Site at various distances, and in each land based meteorological sector, Table 6, REMP Sampling Locations – Direct Radiation.

The PDs at each location are changed and analyzed quarterly. The laboratory utilizes a Panasonic based system using UD-814 dosimeters that are constructed of three rectangular, lead-shielded (protects against low-energy gamma radiation) Teflon wafers, impregnated with 25% calcium sulfate phosphor ($\text{CaSO}_4:\text{Dy}$) to monitor gamma radiation. Additionally, each PD has one lithium borate ($\text{LiBO}:\text{Mn}$) element to monitor beta radiation (which is not used). Two PDs (Panasonic type UD-814) are placed at each location.

In 2019 PSEG implemented American National Standards Institute (ANSI) N13.37-2014 Environmental Dosimetry - Criteria for System Design and Implementation [10] for comparing each PD location dose result to its historical background dose. Per the standard a well-functioning dosimetry system should be able to detect a 5 mrem difference in the quarterly data and a 10 mrem difference in the yearly data above background.

8.1.1 Quarterly Facility Dose

During this calendar year 2025, a total of 236 samples were collected and analyzed in accordance with the requirements in Table 1, Radiological Environmental Sampling Program – Exposure Pathway – Direct Radiation.

All of the quarterly “inner ring” and “outer ring” indicator locations (Table 6, REMP Sampling Locations – Direct Radiation) resulted in non-detectable dose.

All of the quarterly offsite “special interest” locations resulted in non-detectable dose.

All of the quarterly control locations resulted in non-detectable dose.

The direct radiation sample results are in Table 12, Environmental Direct Radiation Dosimetry Sample Results.

8.1.2 Calculated Annual Facility Dose

All annual “inner ring” (Table 6, REMP Sampling Locations – Direct Radiation) resulted in non-detectable dose except for location 16X3 (14.0 mrem annual dose). See section 8.1.4 TLD anomalies.

All annual offsite “outer ring” locations resulted in non-detectable dose.

All annual offsite “special interest” locations resulted in non-detectable dose.

The direct radiation sample results are in Table 12, Environmental Direct Radiation Dosimetry Sample Results.

8.1.3 ISFSI Dose

Two on site ISFSI locations, in the controlled area, 01Q1 and 16Q2 showed measurable dose rates above background as seen in Table 12. The net dose radiation levels as measured by these special interest locations ranged from 11.1 to 26.4 mrem/Standard Quarter and annual doses of 55.6 and 48.8 mrem/year for locations 01Q1 and 16Q2, respectively. 01Q1 and 16Q2 annual doses are below the regulatory limit of 100 mrem/year per 10 CFR 20.1301.

Dose to the nearest resident due to direct radiation from ISFSI was calculated to be 5.27E-03 mrem/yr, which is a very small fraction (0.021%) of the 25 mrem/yr limit per 40 CFR 190 and 10 CFR 72.104. Both regulations limit the dose to a real member of the public to 25 mrem in a year to the total body. The calculation was performed using the inverse square law provided in ANSI/HPS N13.37-2014 as follows:

Where:
$$D_2 = OF * \left((D_1 * R_1^2) / R_2^2 \right)$$

D1 = Dose that was measured from TLD Location 16Q2 (1Q1 was also calculated and had a slightly lower dose)

D2 = Dose that will be extrapolated to Nearest Resident

R1 = Distance from the source to the location where D1 was obtained. (Distance from ISFSI to TLD at 16Q2)

R2 = Distance from ISFSI to the location that dose will be extrapolated (Nearest Resident)

OF = Occupancy Factor (1 = full time)

Location	R₁ (ft)	D₁ Annual Net Dose (mrem)	R₂ (ft)	OF	D₂ Annual Net Dose (mrem)
Nearest Resident	203	48.8	19,536	1.0	5.27E-03

8.1.4 TLD anomalies

In 2024 TLD 16X3 had a net-positive annual dose of 13.6 mrem. The data was thought to be anomalous because other TLDs closer to the source, i.e., ISFSI pad, do not have net positive results. Following the initial net-positive result, a comparison TLD was added to validate the dose at 16X3. The 2025 TLD at location 16X3 had a net annual dose of 14.0 mrem which confirmed the 2024 results. Notification 21016360 was initiated to investigate the area by taking soil samples and determining if any radiography work is being performed in the area. All calculated doses to the maximally exposed individual remain well below regulatory limits, and the observed trend does not challenge compliance with 10 CFR 20 or 40 CFR 190.

8.2 Air Particulate and Radioiodine Sample Results

Air particulate filters and charcoal canisters were collected from locations specified in Table 2, Radiological Environmental Sampling Program – Exposure Pathway - Airborne. During this calendar year 2025, a total of 808 samples (404 particulate filters and 404 iodine cartridges) were collected and analyzed for gross beta, gamma emitters and Iodine-131. Particulate samplers are used to analyze gross beta activity following filter change out which occurs weekly. Gamma isotopic analysis is performed on composite samples collected at each location and is analyzed quarterly. Radioiodine (I-131) analysis is performed weekly on radioiodine sample cartridges.

APT (Air Particulate) samples were collected on glass fiber filters with low-volume air samplers sampling at approximately 1.5 SCFM. Air sample volumes were measured with calibrated dry-gas meters.

AIO samples (Air Iodine) were collected from the air by adsorption on triethylene-diamine (TEDA) impregnated charcoal cartridges connected in series after the APT filters.

8.2.1 Air Particulates

APT samples were collected weekly at seven indicator locations (05X1, 06S1, 15S2, 05D1, 16E1, 01F1, and 02F6), one duplicate location (05S2) and one control location (14G1). Each weekly sample collected was analyzed for gross beta by TBE. Quarterly composites of the weekly samples from each location were analyzed for specific gamma emitters. The duplicate air location sample was shipped to GEL for analysis (Table 13, Table 14, and Table 15).

8.2.2 Gamma Spectroscopy

Gamma spectroscopy was performed on each of the 32 quarterly particulate composite samples. Naturally occurring Be-7 was detected, and no other gamma emitters were detected in any of the samples. RMC-TR-77-03 [11].

Naturally occurring Be-7, attributed to cosmic ray activity in the atmosphere, was detected in all 28 indicator location composites at concentrations ranging from 30E-03 pCi/m³ to 106E-03 pCi/m³ with an average concentration of 45E-03 pCi/m³, and in the four control location composites ranging in concentration from 35E-03 pCi/m³ to 90E-03 pCi/m³ with an average concentration of 57E-03 pCi/m³. The maximum preoperational level detected was 330E-03 pCi/m³ with an average concentration of 109E-03 pCi/m³ (Table 9, Table 13 and RMC-TR-77-03 [11]).

Gross beta activity was detected in 357 of 364 of indicator location samples at concentrations ranging from 3E-03 pCi/m³ to 26E-03 pCi/m³ with an average concentration of 13E-03 pCi/m³, and in 46 of 52 of the control location samples at concentrations ranging from 4E-03 pCi/m³ to 26E-03 pCi/m³ with an average of 14E-03 pCi/m³. Gross beta activity was less than ten times the yearly mean of control samples. Therefore, per the ODCM gamma isotopic analysis was not required to be performed on the individual samples. The maximum preoperational level detected was 920E-03 pCi/m³ with an average concentration of 74E-03 pCi/m³ (Table 9, Table 14, and RMC-TR-77-03 [11]. See Figure 5).

8.2.3 Air Iodine

AIO samples were collected weekly at seven indicator locations (05X1, 06S1, 15S2, 05D1, 16E1, 01F1, and 02F6), one duplicate location (05S2) and one control location (14G1). The duplicate air location sample was shipped to GEL for analysis. Each sample was analyzed by TBE for I-131, and all samples were less than the MDC for both indicator and control samples during the reporting period. The maximum preoperational level detected was 42E-03 pCi/m³ (Table 9, Table 15 and RMC-TR-77-03 [11]).

Air particulate and radioiodine results from this monitoring period, 2025, were compared to preoperational data as shown in Table 9, Air Particulate and Radioiodine Comparison of Current Year and Historic Data, and there were no significant changes.

Table 9, Air Particulate and Radioiodine Comparison of Current Year and Historic Data

Analysis	Preoperational Data (pCi/m³)	2025 Sample Result Average (pCi/m³)
Gamma	109E-03	45E-03
Beta	74E-03	13E-03
Iodine	42E-03	< MDC

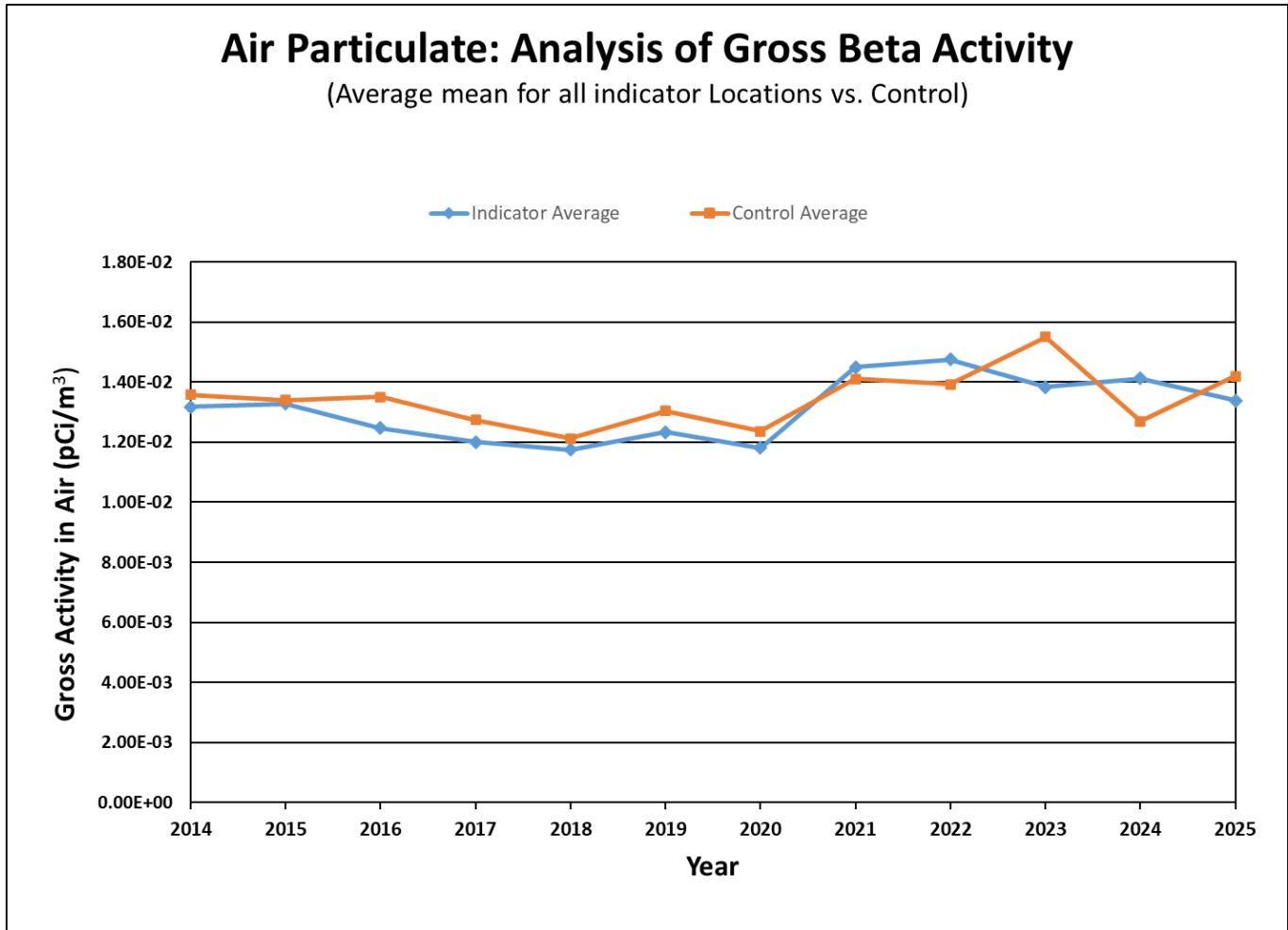


Figure 5, Air Particulate: Analysis for Gross Beta, Average Mean for All Indicator Vs. Control

8.3 Waterborne Sample Results

8.3.1 Surface Water (i.e., Bay, Lake etc.)

Surface water samples were collected twice a month at four indicator locations and one control location in the Delaware River Estuary. The two samples for the month were combined to create a single monthly composite sample that was then analyzed. One location (11A1) is at the outfall area (which is the area potentially impacted by effluents discharged from the Site into the Delaware River), one location is downstream from the outfall area (07E1), and one location is directly west of the outfall area at the mouth of the Appoquinimink River (12B1). Samples were collected upstream in the Delaware River (01F2) and at the mouth of the Chesapeake and Delaware Canal (16F1), the latter being sampled when the flow was from the Canal into the river.

Surface water samples were collected offshore in new polyethylene containers that were rinsed twice with the sample medium prior to collection. The surface water samples were transported to TBE for analysis.

Location 12B1, located directly west of the Site, at the mouth of the Appoquinimink River, serves as the control. 12B1 was chosen as the control location because the physical characteristics of this location more closely resemble those of the outfall area than those at the farther upstream location (01F2). As discussed in the preoperational summary report, due to its tidal nature, there were flow rate and salinity variations in the Delaware River Estuary. These variations accounted for the differences in K-40 concentrations.

During this calendar year 2025, a total of 59 surface water samples were collected and analyzed in accordance with the requirements of Table 3, Radiological Environmental Sampling Program – Exposure Pathway - Waterborne.

1. Tritium

Tritium activity was not detected above the MDC in any of the 47 indicator location samples or any of the 12 control location samples. The maximum preoperational level detected was 600 pCi/L, with an average concentration of 210 pCi/L (Table 16 and RMC-TR-77-03 [11]). See Figure 6 for a graphical presentation.

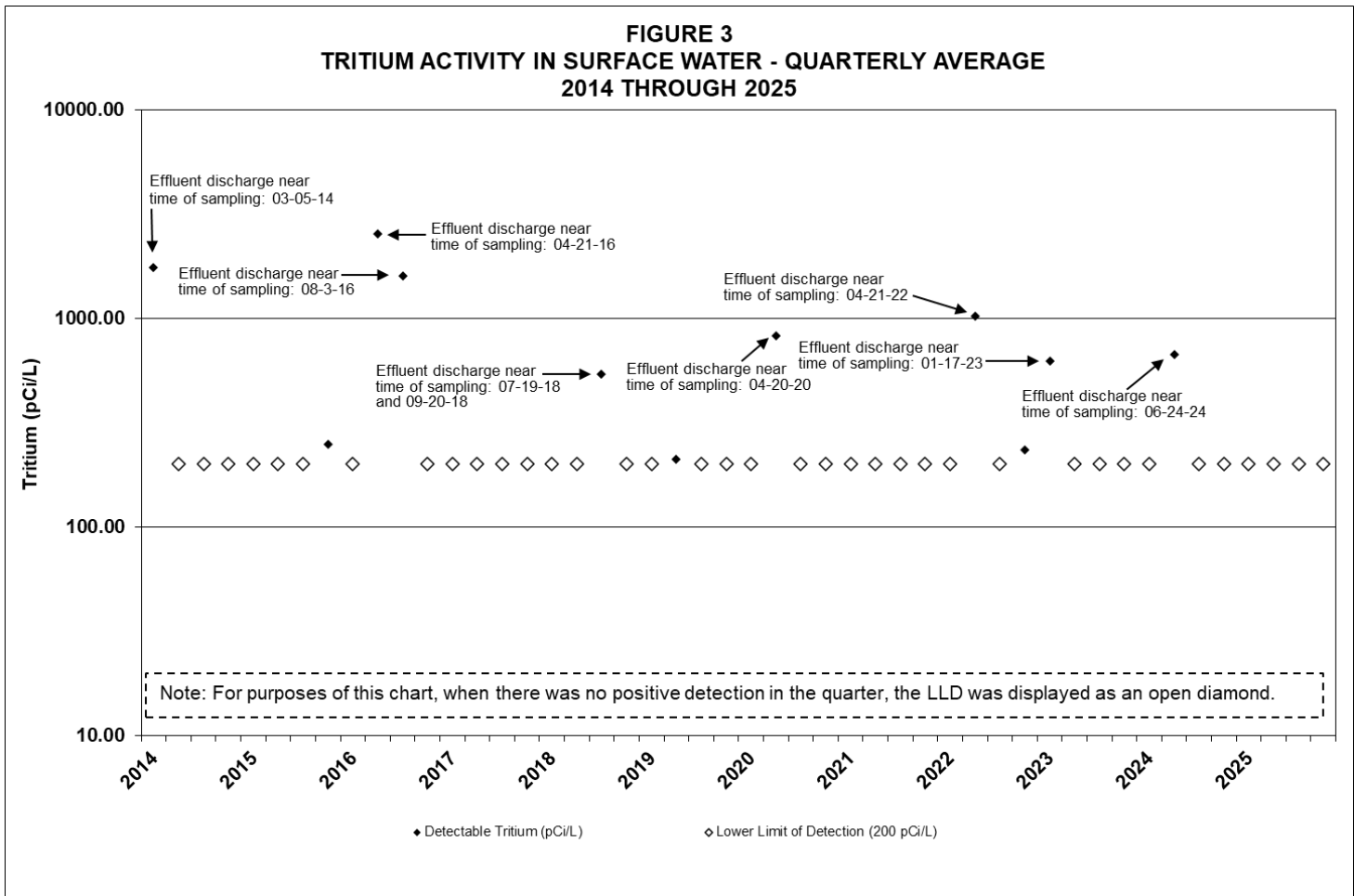


Figure 6, Surface Water Tritium Results

2. Gamma Spectroscopy

No plant related gamma emitters were detected above the MDC in any of the indicator or control surface water samples.

Naturally occurring K-40 was detected in 28 of the 47 indicator location samples at concentrations ranging from 33 pCi/L to 156 pCi/L, with an average of 96 pCi/L. K-40 was detected in 10 of the 12 control location samples at concentrations ranging from 68 pCi/L to 176 pCi/L, with an average concentration of 106 pCi/L. The maximum preoperational level detected for K-40 was 200 pCi/L with an average concentration of 48 pCi/L (Table 17 and RMC-TR-77-03 [11]).

3. I-131 Low Level

I-131 was not detected above the MDC in any of the 48 indicator samples or in any of the control location samples (Table 17).

8.3.2 Potable Water (Drinking Water)

Both raw and treated potable water samples were collected and composited at the local water treatment facility. Each sample consisted of weekly aliquots composited into a monthly sample. The raw water source for this plant is a combination of surface water from Laurel Lake and groundwater from its adjacent wells. These are Management Audit samples as no liquid effluents discharged from the Site directly affect this pathway.

1. Gross Alpha

No Gross alpha activity was detected above the MDC in any of the raw or treated water samples. The maximum preoperational level detected was 2.7 pCi/L (Table 18 and RMC-TR-77-03 [11]).

2. Gross Beta

Gross beta activity was detected in 12 of 12 raw water samples and 12 of 12 treated water samples. The concentrations for the raw samples ranged from 5.6 pCi/L to 11.1 pCi/L, with an average concentration of 8.5 pCi/L. Concentrations for the treated water ranged from 6.0 pCi/L to 10.9 pCi/L, with an average concentration of 9.0 pCi/L. The maximum preoperational level detected was 9.0 pCi/L with an average concentration of 4.2 pCi/L (Table 18 and RMC-TR-77-03 [11]).

3. Tritium

Tritium activity was not detected above the MDC in any of the 12 raw or 12 treated water samples. The maximum preoperational level detected was 350 pCi/L with an average of 179 pCi/L (Table 18 and RMC-TR-77-03 [11]).

4. I-131

I-131 activity was not detected above the MDC in any of the 12 raw or 12 treated water samples. No preoperational data were available for comparison, since I-131 was not analyzed as a specific radionuclide prior to 1989. However, I-131 analytical results to date have been below the MDC (Table 19 and RMC-TR-77-03 [11]).

5. Gamma Spectroscopy

No plant related gamma emitters were detected above the MDC in any of the 12 raw potable water samples. Naturally occurring K-40 was detected in 1 of 12 raw potable water samples and none of the treated water samples. The K-40 concentration in the raw potable water sample was 87 pCi/L. No preoperational data was available for comparison. Naturally occurring Ra-226 was not detected in any raw or treated water samples. The maximum preoperational level detected for Ra-226 was 1.4 pCi/L (Table 19 and RMC-TR-77-03 [11]).

8.3.3 Well Water (Ground Water)

Although offsite wells in the vicinity of the Site are not directly affected by plant operations, well water samples were collected monthly from one farm (03E1). Samples from this well are considered Management Audit samples.

1. Gross Alpha

Gross alpha activity was not detected above the MDC in any of the 12 well water samples. The maximum preoperational level detected was 9.6 pCi/L (Table 20 and RMC-TR-77-03 [11]).

2. Gross Beta

Gross beta activity was detected in 1 of the 12 well water samples at a concentration of 3.1 pCi/L. The preoperational results ranged from <2.1 pCi/L to 38 pCi/L, with an average value of 9 pCi/L (Table 20 and RMC-TR-77-03 [11]).

3. Tritium

Tritium activity was not detected above the MDC in any of the 12 well water samples. The maximum preoperational level detected was 380 pCi/L (Table 20 and RMC-TR-77-03 [11]).

4. I-131

I-131 activity was not detected in any of the 12 well water samples. No preoperational data were available for comparison, since I-131 was not analyzed as a specific radionuclide prior to 1989. However, I-131 analytical results to date have been below the MDC (Table 21 and RMC-TR-77-03 [11]).

5. Gamma Spectroscopy

No plant related gamma emitters were detected above the MDC in any of the indicator or control location well water samples. Naturally occurring K-40 was not detected in any of the well water samples. The maximum preoperational levels detected were 30 pCi/L (Table 21 and RMC-TR-77-03 [11]).

8.3.4 Sediment

Sediment samples were collected semi-annually from five indicator locations and one control location. Location 05A1 was the only shoreline sediment sample location that was directly subjected to tidal fluctuations. The remaining locations were located offshore. Location 15A2, South Storm Drain outfall, was not sampled due to the Windport Project. Only one outfall location is required (obtained from 15A1) by ODCM table 3.12-1.

Sediment samples were taken with a bottom grab sampler and frozen in sealed polyethylene containers before being transported in ice chests to TBE. For the river bottom sediment, a marine GPS was used to locate the correct site and the sampling boat was maneuvered over the area until the correct amount of sample was obtained (grabbed) with the sediment dredge.

Location 05A1 shoreline sediment sample (an onsite location) was sampled as follows: A square area, measuring one meter on each side was staked out and then divided into a grid of nine smaller boxes, three per side. A one inch deep scoop from the center of each of the small grids was taken. All the aliquots were combined and the total sample transported in the ice chest to TBE and analyzed for gamma emitters.

Naturally occurring K-40 was detected in all 10 indicator location samples at concentrations ranging from 2,561 pCi/kg (dry) to 25,160 pCi/kg (dry), with an average concentration of 9,138 pCi/kg (dry). Both control locations samples had concentrations ranging from 12,320 pCi/kg (dry) to 16,970 pCi/kg (dry) with an average concentration of 14,645 pCi/kg (dry). The maximum preoperational level detected was 21,000 pCi/kg (dry) with an average concentration of 15,000 pCi/kg (dry) Table 22 and RMC-TR-77-03 [11]).

Cs-137 was not detected in any of the indicator or control samples. The maximum preoperational level detected was 400 pCi/kg (dry) with an average concentration of 150 pCi/kg (dry) (Table 22 and RMC-TR-77-03 [11]).

Naturally occurring Ra-226 was not detected in any indicator location samples. Ra-226 was detected in 1 of the 2 control location samples with a concentration of 2,558 pCi/kg (dry). The maximum preoperational level detected was 1,200 pCi/kg (dry) with an average concentration of 760 pCi/kg (dry) (Table 22 and RMC-TR-77-03 [11]).

Naturally occurring Th-232 was detected in 5 of the 10 indicator location samples, with concentrations ranging from 355 pCi/kg (dry) to 1,132 pCi/kg (dry) and an average concentration of 843 pCi/kg (dry). Th-232 was not detected any control location samples. The maximum preoperational level detected was 1,300 pCi/kg (dry) with an average concentration of 840 pCi/kg (dry). All other gamma emitters were less than the MDC (Table 22 and RMC-TR-77-03 [11]).

8.4 Ingestion Pathway Sample Results

8.4.1 Milk

Milk samples (MLK) were taken semi-monthly when cows were on pasture and monthly when cows were not grazing on open pasture, from two indicator locations (13E3, and 14F4) and one control location (02G3). Animals were considered on pasture from April to November of each year. Samples were collected in new polyethylene containers, sodium bisulfite was added as a sample preservative, and then samples were frozen and transported in ice chests to TBE. Each sample was analyzed for I-131 and gamma emitters.

There is no dairy farm within three miles of the Site, and there is only one dairy farm within five miles (13E3). Therefore, broadleaf vegetation is grown, maintained, and harvested monthly during the growing season.

1. I-131

I-131 was not detected above MDC in any of the 60 samples analyzed. The maximum preoperational level detected was 65 pCi/L, which occurred following a period of atmospheric nuclear weapons (Table 23 and RMC-TR-77-03 [11]).

2. Gamma Spectroscopy

No plant related gamma emitters were detected above the MDC in any of the indicator or control location milk samples.

Naturally occurring K-40 was detected in all 40 indicator samples with concentrations ranging from 1,053 pCi/L to 1,594 pCi/L with an average concentration of 1,275 pCi/L, and the 20 control location sample concentrations ranging from 994 pCi/L to 1,417 pCi/L, with an average concentration of 1,209 pCi/L. The maximum preoperational level detected was 2,000 pCi/L with an average concentration of 1,437 pCi/L (Table 23 and RMC-TR-77-03 [11]).

8.4.2 Fish and Invertebrates

A total of 10 fish and 4 invertebrate samples were analyzed in 2025, for gamma emitting radionuclides in accordance with requirements of Table 4, Radiological Environmental Sampling Program – Exposure Pathway - Ingestion. These samples are collected from the indicator and control areas as required by the ODCM.

1. Fish

Edible species of fish were collected semi-annually at two indicator locations and one control location and analyzed for gamma emitters in edible flesh. Sample species collected in 2025, were striped bass, white perch and white catfish. Edible fish were collected using gill nets. These samples were processed by separating the flesh from the bone. The flesh was placed in sealed containers and frozen before being transported in ice chests to TBE for analysis.

No plant related gamma emitters were detected above the MDC in any of the indicator or control location fish samples. Naturally occurring K-40 was detected in all 6 indicator location samples at concentrations ranging from 2,697 pCi/kg (wet) to 4,482 pCi/kg (wet) with an average concentration of 3,483 pCi/kg (wet). The 4 control location samples had concentrations ranging from 2,726 pCi/kg (wet) to 5,560 pCi/kg (wet), with an average of 3,834 pCi/kg (wet). The maximum preoperational detection was 13,000 pCi/kg (wet) with an average concentration of 2,900 pCi/kg (wet) (Table 24 and RMC-TR-77-03 [11]).

2. Blue Crab

Blue crab samples were caught in commercial traps and collected twice during the season at one indicator and one control location. The edible portions were analyzed for gamma emitters. No plant related gamma emitters were detected above the MDC in any of the indicator or control location blue crab samples. Naturally occurring K-40 was detected in both indicator samples at concentrations of 2,791 pCi/kg (wet) and 3,521 pCi/kg (wet) with an average concentration of 3,156 pCi/kg (wet). The control location samples had concentrations ranging from 2,913 pCi/kg (wet) to 4,284 pCi/kg (wet), with an average concentration of 3,599 pCi/kg (wet). The maximum preoperational level for K-40 detected was 12,000 pCi/kg (wet) with an average concentration of 2,835 pCi/kg (wet). All other gamma emitters were less than the MDC (Table 25 and RMC-TR-77-03 [11]).

8.4.3 Vegetation

A total of 28 food samples were analyzed in 2025, for gamma emitting radionuclides in accordance with requirements of Table 4, Radiological Environmental Sampling Program – Exposure Pathway - Ingestion.

Locally grown vegetables (FPV) were collected at the time of harvest at six locations (02F9, 03F8, 01G1, 09F1, 15F4 and 03H5); fodder crops (VGT) were sampled at three locations (13E3, 14F4, and 02G3); and broad leaf vegetation (FPL) was sampled at four locations (06S1, 16S1, 10D1, and 03H5). The vegetables and fodder samples are additional samples (Management Audit) taken to enhance the radiological monitoring program.

1. Broadleaf Vegetation (FPL)

Broadleaf vegetation samples were collected since there were no dairy farms operating within the five km (three mile) radius of the Site. The closest dairy farm (13E3) was located in Odessa, DE at 5.0 miles to the West.

All samples were analyzed for gamma emitters and included cabbage, kale and lamb's ear. These samples were obtained from three indicator locations and one control location. The results for these samples are discussed below.

No plant related gamma emitters were detected above the MDC in any of the indicator or control location broadleaf vegetation samples.

Naturally occurring Be-7, attributed to cosmic ray activity in the atmosphere, was detected above the MDC in 3 of the 7 indicator location samples with concentrations ranging from 310 pCi/kg (wet) to 1,946 pCi/kg (wet), with an average concentration of 1,243 pCi/kg (wet). Be-7 was detected in 1 of the 3 control location samples, with a concentration of 2,548 pCi/kg (wet). No preoperational Be-7 data was available for comparison (Table 26).

Naturally occurring K-40 was detected in all 7 indicator samples, with concentrations ranging from 1,656 pCi/kg (wet) to 7,125 pCi/kg (wet) with an average concentration of 4,430 pCi/kg (wet). K-40 was detected in all of the control location samples, with concentrations ranging from 3,461 pCi/kg (wet) to 12,650 pCi/kg (wet), and an average concentration of 7,825 pCi/kg (wet). The maximum preoperational level detected was 4,800 pCi/kg (wet) with an average concentration of 2,140 pCi/kg (wet) (Table 26 and RMC-TR-77-03 [11]).

Naturally occurring Th-232 was not detected in any of the indicator location samples or control location samples (Table 26).

2. Vegetables

There are no farm products that are irrigated with water in which plant effluents have been discharged. The Delaware River at the location of the Site is brackish and therefore is not used for irrigation.

A variety of food products were sampled on and around the Site; however, the variety was dependent on the farmer's preference. These vegetables were collected as Management Audit samples.

All samples were analyzed for gamma emitters and included asparagus, sweet corn, peppers, tomatoes, collards and peaches. These samples were obtained from six indicator locations (15 samples). The results for these samples are discussed below.

No plant related gamma emitters were detected above the MDC in any of the indicator or control location vegetable samples.

Naturally occurring Be-7, attributed to cosmic ray activity in the atmosphere, was not detected above the MDC in any of the vegetable samples.

Naturally occurring K-40 was detected in all 15 indicator samples, with concentrations ranging from 1,200 pCi/kg (wet) to 3,775 pCi/kg (wet) with an average concentration of 2,013.8 pCi/kg (wet). The maximum preoperational level detected was 4,800 pCi/kg (wet) with an average concentration of 2,140 pCi/kg (wet) (Table 27 and RMC-TR-77-03 [11]).

3. Fodder Crops

Although not required by the Site ODCM, three samples of silage normally used as cattle feed were collected from three indicator locations. It was determined that these products could be an element in the food-chain pathway. These fodder crops were collected as Management Audit samples and analyzed for gamma emitters. All three locations from which samples were collected are milk sampling locations.

No plant related gamma emitters were detected above the MDC in any of the indicator or control location fodder crop samples. Naturally occurring Be-7, attributed to cosmic ray activity in the atmosphere, was detected in 2 of 3 indicator samples with concentrations ranging from 342 pCi/kg (wet) to 473 pCi/kg (wet) with an average concentration of 408 pCi/kg. The maximum preoperational level detected for fodder was 4,700 pCi/kg (wet) with an average concentration of 2,000 pCi/kg (wet) (Table 28 and RMC-TR-77-03 [11]).

Naturally occurring K-40 was detected in all three indicator samples at concentrations ranging from 2,401 pCi/kg (wet) to 3,524 pCi/kg (wet) with an average concentration of 2,887 pCi/kg (wet). Preoperational results averaged 7,000 pCi/kg (wet) (Table 28 and RMC-TR-77-03 [11]).

8.4.4 Game

No game samples were available in 2025. Game samples are not required by the Site ODCM. Game samples are collected as a Management Audit samples and analyzed for gamma emitters when available.

No preoperational data was available for comparison (Table 29 and RMC-TR-77-03 [11]).

8.5 Terrestrial

8.5.1 Soil

Soil is sampled every three years and analyzed for gamma emitters. Nine locations were sampled in 2025. These Management Audit samples were collected in areas that have been relatively undisturbed since the last collection in order to determine any change in the radionuclide inventory of the area.

The 2025 samples had naturally occurring K-40 was detected in all nine indicator samples at concentrations ranging from 4,690 to 16,440 pCi/kg (dry) with an average concentration of 9,526 pCi/kg (dry). The maximum preoperational level detected was 24,000 pCi/kg (dry) with an average of 10,000 pCi/kg (dry) (Table 30).

Cs-137 was detected in 2 of 9 indicator samples at concentrations ranging from 138 to 154 pCi/kg (dry) with an average concentration of 146 pCi/kg (dry). The maximum preoperational level detected was 2,800 pCi/kg (dry) with an average of 800 pCi/kg (dry). See Figure 7 for graphical presentation (Table 30 and RMC-TR-77-03 [11]).

Naturally occurring Ra-226 was not detected in any indicator locations. (Table 30).

Naturally occurring Th-232 was detected in 5 of 9 indicator samples at concentrations ranging from 571 pCi/kg (dry) to 1,059 pCi/kg (dry) with an average concentration of 800 pCi/kg (dry). All the other gamma emitters were less than the MDC (Table 30).

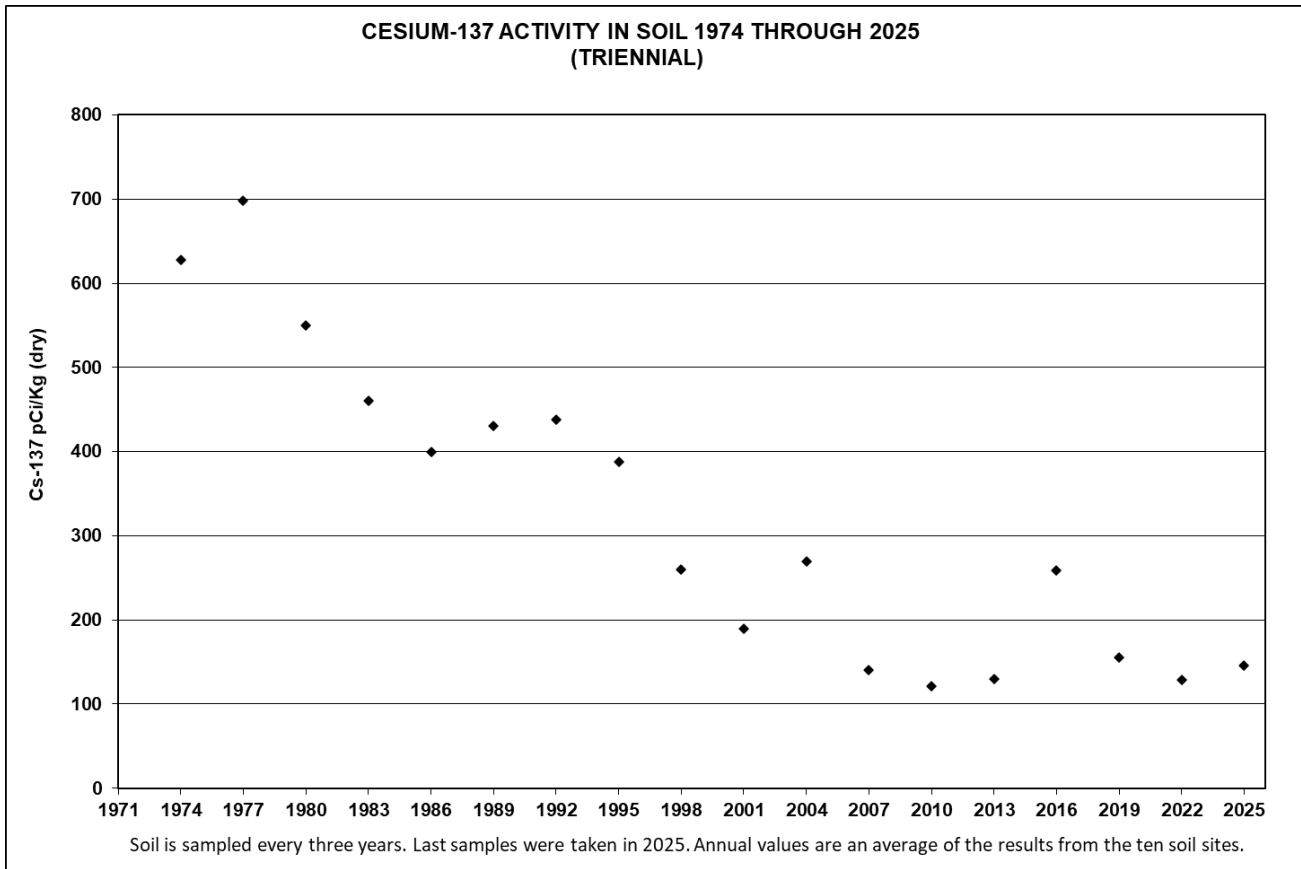


Figure 7, Cesium-137 Activity in Soil 1974 Through 2025

Historically, Cs-137 has been observed in REMP soil samples and attributed to weapons testing. The values observed in these samples are consistent with prior results and are below the NRC’s predicted values of Cs-137 for the New Jersey area soils as a result of fallout from atmospheric weapons testing. Furthermore, the analyzed samples were at concentrations many orders of magnitude above the theoretical impact by plant operation given the Cs-137 concentrations in plant effluents back through 2005.

Additionally, soil is not a formal component of the REMP, nor is it required to be collected as part of the REMP in accordance with the ODCM; it is collected as a REMP Management Audit sample. As such, the ODCM specifies no reportability or LLD thresholds for soil samples. PSEG REMP Implementation procedure, Attachment 1 (Analytical Results Investigation Levels) provides an investigation threshold of 1,000 pCi/kg for Cs-137 in soil and sediment, which is based on the expected concentrations for our region from sources other than plant operation as recognized by the NRC in DOCKET NO.50-219, RFTA NO. 99-040.

This evaluation validated suppositions and will appropriately characterize positive sample results obtained in future sampling evolutions as related to atmospheric testing, provided that:

- Soil concentrations are less than 1,000 pCi/kg
- Annual gaseous Cs-137 effluents are reviewed and do not show a significant increase
- Cs-134 is not detected (Cs-134 is plant related and has a much shorter half-life than Cs-137)
- D/Q values continue to be routinely evaluated and are updated as necessary

For the above reasons, it can be concluded that the samples are primarily the result of atmospheric testing, with negligible contribution from site operations at PSEG Nuclear's three reactors.

Although it has been concluded the Cs-137 in the soil is due to fallout from atmospheric weapons testing, there is no radiological impact to the environment or a member of the public with respect to the annual dose. To demonstrate this, a skin dose calculation was performed for a theoretical person who stood on the soil at location 05F1 (184 pCi/kg) for 1,000 hours per year (arbitrary number). This calculation concluded that the dose to a member of the public beyond the site boundary would be a mere 2.16E-01 mrem/yr (1.4% of the annual skin dose limit of 15 mrem/yr), which conforms to 10 CFR 50 Appendix I. Since this activity has been determined to be non-site related, a better comparison is the calculated skin dose against background radiation levels (or approximately 0.1% of the 300 mrem/yr background dose).

9.0 LAND USE CENSUS

The Land Use Census required by the Offsite Dose Calculation Manual is performed to ensure that changes in the use of areas at or beyond the site boundary are identified and modifications to REMP are made if required by changes in land use. Land use census satisfies the requirements of Section IV.B.3 of Appendix I to 10 CFR 50 [2]. NUREG-1301/1302 Control 3.12.2 specifies that "a land use census shall be conducted and shall identify within a distance of 8 km (5 mi.) the location in each of the 16 meteorological sectors of the nearest milk animal, the nearest residence and the nearest garden of greater than 50 m² (500 ft²) producing broad leaf vegetation." Note, per NUREG-1301/1302, Broad leaf vegetation sampling of at least three different kinds of vegetation may be performed at the SITE BOUNDARY in each of two different direction sectors with the highest predicted D/Qs in lieu of the garden census.

The Land Use Census was conducted during the calendar year, 2025, within the growing season to identify changes in land use, receptor locations, and new exposure pathways. The results for the 2025 Land Use Census are listed in Table 10, Land Use Census – Nearest Pathway within 5 miles. In summary, the highest D/Q locations for nearest garden, nearest residence and nearest milk animal did not change following the 2025 census.

Table 10, Land Use Census – Nearest Pathway within 5 miles

Sector	Direction	Nearest Residence (Miles)	Nearest Milk Animal (Miles)	Garden (Miles)	Meat Animal Distance (Miles)
1	N	None	None	None	None
2	NNE	5.0	None	None	None
3	NE	3.9	None	None	None
4	ENE	3.9	None	None	None
5	E	None	None	None	None
6	ESE	None	None	None	None
7	SE	None	None	None	None
8	SSE	None	None	None	None
9	S	None	None	None	None
10	SSW	3.9	None	None	None
11	SW	4.3	None	None	None
12	WSW	4.4	None	None	None
13	W	4.0	5.0	None	None
14	WNW	3.4	None	None	None
15	NW	3.7	None	None	None
16	NNW	4.2	None	None	None

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/OSLDs, 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 as “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 11, Sample Deviation Summary					
Sample Type and Analysis	Analysis	Location	Collection Date or Period	Reason for not conducting REMP sampling as required by ODCM	Plans for preventing reoccurrence
SWA ¹	Gamma, H-3, I-131	01F2	1/13/25 - 1/24/25	Weather Condition	N/A
APT/AIO ²	Gross β Iodine	05X1/05S2	3/24//25 – 3/31/25	Power Outage	N/A
APT/AIO ³	Gross β Iodine	15S2	3/24//25 – 3/31/25	Power Outage	N/A
SWA ⁴	Gamma, H-3, I-131	01F2	2/5/25 - 2/21/25	Weather Condition	N/A
APT/AIO ⁵	Gross β Iodine	All Locations	5/19/25 – 5/27/25	Anomaly	N/A
APT/AIO ⁶	Gross β Iodine	01F1	6/2/25 – 6/9/25	Blown Fuse	Pump Replaced
APT/AIO ⁷	Gross β Iodine	14G1	6/16/25 – 7/31/25	Power Outage	N/A
APT/AIO ⁸	Gross β Iodine	05D1	6/23/25 – 8/21/25	Power Outage	Invoices go to program owner
APT/AIO ⁹	Gross β Iodine	01F1	11/3/25 – 11/10/25	Power Outage	N/A

1. Sample Unavailability (Order 80138168/20): Due to weather conditions, alternate samples were collected for all locations except SA-SWA-01F2. No alternate sample location exists for 01F2.
2. Sample Deviation (Order 80138168/30): Air samplers 05X1/05S2 power was lost during the 3/24/25 to 3/31/25 collection period due to planned maintenance. The total time the samplers were in operation was 142.6 hours. The total outage duration was 21.4 hours. A total volume of 12,700 (05X1) and 13,600 (05S2) cubic feet were collected for the sample period. Adequate sample volume was achieved during the sample collection period to meet the ODCM LLD requirements for Gross Beta and I-131.

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3. Sample Deviation (Order 80138168/40): Air sampler 15S2 power was lost during the 3/24/25 to 3/31/25 collection period due to planned maintenance. The total time the sampler was in operation was 141.8 hours. The total outage duration was 21.7 hours. A total volume of 12,400 cubic feet was collected for the sample period. Adequate sample volume was achieved during the sample collection period to meet the ODCM LLD requirements for Gross Beta and I-131.
4. Sample Unavailability (Order 80138168/50): Due to weather conditions, alternate samples were collected for all locations except SA-SWA-01F2 in the second sampling period. No alternate sample location exists for 01F2, therefore only one liter of sample was available for 01F2 from 2/5/25. Adequate sample volume was available to meet the ODCM LLD for gamma analysis, H-3 and I-131.
5. Sample Anomaly (80138168/160): Vendor informed station personnel that the gross beta results on all air samples during the 5/19/25 to 5/27/25 collection period were lower than normal. The vendor also reported that the results are similar to other utilities from the mid to eastern part of the US during that time period. No actions were needed other than documenting the anomaly.
6. Sample Deviation (Order 80138168/100): Air sampler 01F1 power was lost due to a blown fuse on the 6/2/25 to 6/9/25 collection period. The total time the sampler was in operation was 18.6 hours. The total outage duration was 149.4 hours. A total volume of 1,700 cubic feet was collected for the sample period. Due to the low sample volume, the ODCM LLD requirements for Gross Beta and I-131 were not met with this sample.
7. Sample Deviation/Sample Unavailability (Order 20995002 and 80138168/120): Air sampler 14G1 lost power for the 6/16/25 to 6/23/25 collection period. The total time the sampler was in operation was 87.7 hours. The total outage duration was 81.4 hours. A total volume of 8,600 cubic feet was collected for the sample period. Adequate sample volume was available to meet the ODCM LLD for gamma analysis, Gross Beta and I-131. Power was not restored until 7/31/25.

Samples were unavailable from 6/24/25 through 7/28/25 (five weekly samples). Sample station 14G1 serves as the control location. During this period, the six operable air sampling stations did not indicate any significant increases in gross beta activity and no detectable I-131 was observed.

Power was restored on 7/31/25. For the air sample location at 14G1, a total volume of 9,100 cubic feet was collected from 7/28/25 to 8/4/25. Adequate sample volume was available to meet the ODCM LLD for gamma analysis, H-3 and I-131.

The loss of power was due to damage to the utility meter and junction box. The cause of the damage is unknown. A licensed electrician was contracted to restore the equipment to the utility pole and rewire the junction box.

8. Sample Deviation/Sample Unavailability (Order 209964692 and 80138168/140): Air sampler 05D1 lost power for the 6/23/25 to 7/1/25 collection period. The total time the sampler was in operation was 45.6 hours. The total outage duration was 145.2 hours. A total volume of 4,100 cubic feet was collected for the sample period. Adequate sample volume was available to meet the ODCM LLD for I-131. The sample volume was not adequate to meet the ODCM LLD for Gross Beta. Power was not restored until 8/21/25.

Samples were unavailable from 7/1/25 through 8/18/25 (seven weekly samples). Sample station 05D1 serves as an indicator location. During this period, the six operable air sampling stations did not indicate any significant increases in gross beta activity and no detectable I-131 was observed. Also, one of the six operable air samplers was in the same sector as 05D1 and was closer to the site.

Power was restored on 8/21/25. For the air sample location at 05D1, a total volume of 7,800 cubic feet was collected from 8/18/25 to 8/25/25. Adequate sample volume was achieved during the sample collection period to meet the ODCM LLD requirements for Gross Beta and I-131.

The loss of power was due to a service disconnect. Neither PSEG nor Atlantic City Electric could find the account information to restore power, because it was an un-metered location. Additionally, the meter pole was removed due to the wind port project and the sampler was no longer affiliated with an active pole for referencing the account. A new account was established and power was restored.

9. Sample Deviation (Order 80138168/210): Air sampler 01F1 lost power during the 11/3/25 to 11/10/25 collection period. The total time the sampler was in operation was 163.3 hours. The total outage duration was 4.7 hours. A total volume of 14,500 cubic feet was collected for the sample period. Adequate sample volume was achieved during the sample collection period to meet the ODCM LLD requirements for Gross Beta and I-131.

11.0 PROGRAM CHANGES

The Salem and Hope Creek Offsite Dose Calculation Manual (ODCM) for the Common Radiological Environmental Monitoring Program was revised in 2025. A total of 29 changes were made, all of which were editorial in nature. A description of the changes is provided in the attached ODCM Revision 1.

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12.0 OTHER SUPPLEMENTAL INFORMATION

12.1 NEI 07-07 Onsite Radiological Groundwater Monitoring Program

Salem and Hope Creek Generating Stations 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.

12.2 Independent Spent Fuel Storage Installation (ISFSI) Monitoring Program

ISFSI information is reported in the Salem and Hope Creek Generating Stations ARERR.

12.3 Corrections to Previous Reports

No errata from previous reports.

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Attachment 1, Data Table Summary

Attachment 1, Data Table Summary

SALEM GENERATING STATION
HOPE CREEK GENERATING STATION
SALEM COUNTY, NEW JERSEY

DOCKET NO. 50-272/-311
DOCKET NO. 50-354
REPORTING PERIOD: January 1, 2025 to December 31, 2025

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	ANALYSIS AND <i>TOTAL NUMBER OF ANALYSIS PERFORMED</i>	LOWER LIMIT OF DETECTION (LLD*)	ALL INDICATOR LOCATIONS	LOCATION WITH HIGHEST MEAN		CONTROL LOCATION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
			MEAN (f) ** <i>(RANGE)</i>	NAME DISTANCE AND DIRECTION	MEAN (f) ** <i>(RANGE)</i>	MEAN (f) ** <i>(RANGE)</i>	
I. DIRECT							
DIRECT RADIATION (mR/standard quarter)	TLD- QUARTERLY <u>236</u>	N/A	14.4 (224/224) <i>(10.6/30.1)</i>	SA-IDM-01Q1 0.58 MILES N	27.5 (4/4) <i>(26.4/30.1)</i>	14.0 (12/12) <i>(12.5/15.6)</i>	0
II. AIRBORNE							
AIR PARTICULATE (E-3 pCi/m ³)	Gr-B <u>404</u>	10	13 (357/364) <i>(3/26)</i>	SA-APT-16E1 4.1 MILES NNW	14 (52/52) <i>(5/22)</i>	14 (47/52) <i>(4/26)</i>	0
	GAMMA Be-7 <u>32</u>	N/A	45 (28/28) <i>(30/106)</i>	SA-APT-05D1 3.50 MILES E	57 (4/4) <i>(38/106)</i>	57 (4/4) <i>(35/90)</i>	0
	K-40	N/A	<MDC	N/A	N/A	<MDC	0
	Cs-134	50	<MDC	N/A	N/A	<MDC	0
	Cs-137	60	<MDC	N/A	N/A	<MDC	0
AIR IODINE (E-3 pCi/m ³)	GAMMA I-131 <u>404</u>	70	<MDC	N/A	N/A	<MDC	0
III. WATERBORNE							
SURFACE WATER (pCi/L)	H-3 <u>59</u>	200	<MDC	N/A N/A	N/A N/A	N/A N/A	0
	I-131 (LOW LVL) <u>59</u>	1	<MDC	N/A	N/A	<MDC	0
	GAMMA K-40 <u>59</u>	N/A	96 (28/47) <i>(33/156)</i>	SA-SWA-11A1 0.15 MILES SW	112 (8/12) <i>(65/142)</i>	106 (9/12) <i>(68/176)</i>	0

Attachment 1, Data Table Summary

**SALEM GENERATING STATION
HOPE CREEK GENERATING STATION
SALEM COUNTY, NEW JERSEY**

**DOCKET NO. 50-272/-311
DOCKET NO. 50-354
REPORTING PERIOD: January 1, 2025 to December 31, 2025**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	ANALYSIS AND <i>TOTAL NUMBER OF ANALYSIS PERFORMED</i>	LOWER LIMIT OF DETECTION (LLD*)	ALL INDICATOR LOCATIONS	LOCATION WITH HIGHEST MEAN		CONTROL LOCATION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS	
			MEAN (f) ** <i>(RANGE)</i>	NAME DISTANCE AND DIRECTION	MEAN (f) ** <i>(RANGE)</i>	MEAN (f) ** <i>(RANGE)</i>		
SURFACE WATER (CONT.) (pCi/L)	Mn-54	15	<MDC	N/A	N/A	<MDC	0	
	Co-58	15	<MDC	N/A	N/A	<MDC	0	
	Fe-59	30	<MDC	N/A	N/A	<MDC	0	
	Co-60	15	<MDC	N/A	N/A	<MDC	0	
	Zn-65	30	<MDC	N/A	N/A	<MDC	0	
	ZrNb-95	15	<MDC	N/A	N/A	<MDC	0	
	Cs-134	15	<MDC	N/A	N/A	<MDC	0	
	Cs-137	18	<MDC	N/A	N/A	<MDC	0	
	BaLa-140	15	<MDC	N/A	N/A	<MDC	0	
POTABLE WATER (RAW) (pCi/L)	Gr-A <u>12</u>	3	<MDC	N/A	N/A	N/A	0	
	Gr-B <u>12</u>	4	8.5 (12/12) (5.6/11.1)	SA-PWR-02F3 8.0 MILES NNE	8.5 (12/12) (5.6/11.1)	N/A	0	
	H-3 <u>12</u>	200	<MDC	N/A	N/A	N/A	0	
	I-131 (LOW LVL) <u>12</u>	1	<MDC	N/A	N/A	N/A	0	
	GAMMA <u>12</u> K-40	N/A	87 (1/12)	87 (1/12)	SA-PWR-02F3 8.0 MILES NNE	87 (1/12)	N/A	0
	Mn-54	15	<MDC	N/A	N/A	N/A	0	
	Co-58	15	<MDC	N/A	N/A	N/A	0	

Attachment 1, Data Table Summary

**SALEM GENERATING STATION
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MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	ANALYSIS AND <i>TOTAL NUMBER OF</i> ANALYSIS PERFORMED	LOWER LIMIT OF DETECTION (LLD*)	ALL INDICATOR LOCATIONS	LOCATION WITH HIGHEST MEAN		CONTROL LOCATION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
			MEAN (f) ** <i>(RANGE)</i>	NAME DISTANCE AND DIRECTION	MEAN (f) ** <i>(RANGE)</i>	MEAN (f) ** <i>(RANGE)</i>	
POTABLE WATER (RAW) (cont.) (pCi/L)	Fe-59	30	<MDC	N/A	N/A	N/A	0
	Co-60	15	<MDC	N/A	N/A	N/A	0
	Zn-65	30	<MDC	N/A	N/A	N/A	0
	ZrNb-95	15	<MDC	N/A	N/A	N/A	0
	Cs-134	15	<MDC	N/A	N/A	N/A	0
	Cs-137	18	<MDC	N/A	N/A	N/A	0
	BaLa-140	15	<MDC	N/A	N/A	N/A	0
	Ra-226	N/A	<MDC	N/A	N/A	N/A	0
POTABLE WATER (TREATED) (pCi/L)	Gr-A <u>12</u>	3	<MDC	N/A	N/A	N/A	0
	Gr-B <u>12</u>	4	9.0 (12/12) (6.0/10.9)	SA-PWT-02F3 8.0 MILES NNE	9.0 (12/12) (6.0/10.9)	N/A	0
	H-3 <u>12</u>	200	<MDC	N/A	N/A	N/A	0
	I-131 (LOW LVL) <u>12</u>	1	<MDC	N/A	N/A	N/A	0
	GAMMA <u>12</u>						
	K-40	N/A	<MDC	N/A	N/A	N/A	0
	Mn-54	15	<MDC	N/A	N/A	N/A	0
Co-58	15	<MDC	N/A	N/A	N/A	0	

Attachment 1, Data Table Summary

**SALEM GENERATING STATION
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MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	ANALYSIS AND <i>TOTAL NUMBER OF</i> ANALYSIS PERFORMED	LOWER LIMIT OF DETECTION (LLD*)	ALL INDICATOR LOCATIONS	LOCATION WITH HIGHEST MEAN		CONTROL LOCATION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
			MEAN (f) ** <i>(RANGE)</i>	NAME DISTANCE AND DIRECTION	MEAN (f) ** <i>(RANGE)</i>	MEAN (f) ** <i>(RANGE)</i>	
POTABLE WATER (TREATED) (Cont.) (pCi/L)	Fe-59	30	<MDC	N/A	N/A	N/A	0
	Co-60	15	<MDC	N/A	N/A	N/A	0
	Zn-65	30	<MDC	N/A	N/A	N/A	0
	ZrNb-95	15	<MDC	N/A	N/A	N/A	0
	Cs-134	15	<MDC	N/A	N/A	N/A	0
	Cs-137	18	<MDC	N/A	N/A	N/A	0
	BaLa-140	15	<MDC	N/A	N/A	N/A	0
	Ra-226	N/A	<MDC	N/A	N/A	N/A	0
WELL WATER (pCi/L)	Gr-A <u>12</u>	3	<MDC	N/A	N/A	N/A	0
	Gr-B <u>12</u>	4	3.1 (1/12)	SA-WWA-03E1 4.2 MILES NE	3.1 (1/12)	N/A	0
	H-3 <u>12</u>	200	<MDC	N/A	N/A	N/A	0
	I-131 (LOW LVL) <u>12</u>	1	<MDC	N/A	N/A	N/A	0
	GAMMA <u>12</u>						
	K-40	N/A	<MDC	N/A	N/A	N/A	0
	Mn-54	15	<MDC	N/A	N/A	N/A	0
Co-58	15	<MDC	N/A	N/A	N/A	0	

Attachment 1, Data Table Summary

**SALEM GENERATING STATION
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SALEM COUNTY, NEW JERSEY**

**DOCKET NO. 50-272/-311
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MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	ANALYSIS AND <i>TOTAL NUMBER OF</i> ANALYSIS PERFORMED	LOWER LIMIT OF DETECTION (LLD*)	ALL INDICATOR LOCATIONS	LOCATION WITH HIGHEST MEAN		CONTROL LOCATION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
			MEAN (f) ** <i>(RANGE)</i>	NAME DISTANCE AND DIRECTION	MEAN (f) ** <i>(RANGE)</i>	MEAN (f) ** <i>(RANGE)</i>	
WELL WATER (cont.) (pCi/L)	Fe-59	30	<MDC	N/A	N/A	N/A	0
	Co-60	15	<MDC	N/A	N/A	N/A	0
	Zn-65	30	<MDC	N/A	N/A	N/A	0
	ZrNb-95	15	<MDC	N/A	N/A	N/A	0
	Cs-134	15	<MDC	N/A	N/A	N/A	0
	Cs-137	18	<MDC	N/A	N/A	N/A	0
	BaLa-140	15	<MDC	N/A	N/A	N/A	0
	Ra-226	N/A	<MDC	N/A	N/A	N/A	0
SEDIMENT (pCi/kg dry)	GAMMA <u>12</u>						
	Be-7	N/A	<MDC	N/A	N/A	<MDC	0
	K-40	N/A	9138 (10/10) (2561/25160)	SA-ESS-16F1 6.9 MILES NNW	19165 (2/2) (13170/25160)	14645 (2/2) (12320/16970)	0
	Cs-134	150	<MDC	N/A	N/A	<MDC	0
	Cs-137	180	<MDC	N/A	N/A	<MDC	0
	Ra-226	N/A	<MDC	SA-ESS-12B1 C 1.8 MILES WSW	2558 (1/2)	2558 (1/2)	0
	Th-232	N/A	843 (5/10) (355/1132)	SA-ESS-16F1 6.9 MILES NNW	980 (2/2) (829/1132)	<MDC	0

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MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	ANALYSIS AND <i>TOTAL NUMBER OF ANALYSIS PERFORMED</i>	LOWER LIMIT OF DETECTION (LLD*)	ALL INDICATOR LOCATIONS	LOCATION WITH HIGHEST MEAN		CONTROL LOCATION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
			MEAN (f) ** (<i>RANGE</i>)	NAME DISTANCE AND DIRECTION	MEAN (f) ** (<i>RANGE</i>)	MEAN (f) ** (<i>RANGE</i>)	
IV. INGESTION							
MILK (pCi/L)	I-131 (LOW LVL) <u>60</u>	1	<MDC	N/A	N/A	<MDC	0
	GAMMA K-40 <u>60</u>	N/A	1275 (40/40) (1053/1594)	SA-MLK-14F4 7.6 MILES WNW	1279 (20/20) (1053/1536)	1209 (20/20) (994/1417)	0
	Cs-134	15	<MDC	N/A	N/A	<MDC	0
	Cs-137	18	<MDC	N/A	N/A	<MDC	0
	BaLa-140	15	<MDC	N/A	N/A	<MDC	0
	Ra-226	N/A	<MDC	N/A	N/A	<MDC	0
FISH (pCi/kg wet)	GAMMA K-40 <u>10</u>	N/A	3483 (6/6) (2697/4482)	SA-ESF-12B1 C 2.5 MILES WSW	3834 (4/4) (2726/5560)	3834 (4/4) (2726/5560)	0
	Mn-54	130	<MDC	N/A	N/A	<MDC	0
	Co-58	130	<MDC	N/A	N/A	<MDC	0
	Fe-59	260	<MDC	N/A	N/A	<MDC	0
	Co-60	130	<MDC	N/A	N/A	<MDC	0
	Zn-65	260	<MDC	N/A	N/A	<MDC	0
	Cs-134	130	<MDC	N/A	N/A	<MDC	0
	Cs-137	150	<MDC	N/A	N/A	<MDC	0
	Ra-226	N/A	<MDC	N/A	N/A	<MDC	0

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MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	ANALYSIS AND <i>TOTAL NUMBER OF</i> ANALYSIS PERFORMED	LOWER LIMIT OF DETECTION (LLD*)	ALL INDICATOR LOCATIONS	LOCATION WITH HIGHEST MEAN		CONTROL LOCATION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
			MEAN (f) ** <i>(RANGE)</i>	NAME DISTANCE AND DIRECTION	MEAN (f) ** <i>(RANGE)</i>	MEAN (f) ** <i>(RANGE)</i>	
BLUE CRABS (pCi/kg wet)	GAMMA <u>4</u> K-40	N/A	3156 (2/2) (2791/3521)	SA-ECH-12B1 C 1.8 MILES WSW	3599 (2/2) (2913/4284)	3599 (2/2) (2913/4284)	0
	Mn-54	130	<MDC	N/A	N/A	<MDC	0
	Co-58	130	<MDC	N/A	N/A	<MDC	0
	Fe-59	260	<MDC	N/A	N/A	<MDC	0
	Co-60	130	<MDC	N/A	N/A	<MDC	0
	Zn-65	260	<MDC	N/A	N/A	<MDC	0
	Cs-134	130	<MDC	N/A	N/A	<MDC	0
	Cs-137	150	<MDC	N/A	N/A	<MDC	0
	Ra-226	N/A	<MDC	N/A	N/A	<MDC	0
BROAD-LEAF VEGETATION, FPL (pCi/kg wet)	GAMMA <u>10</u> Be-7	N/A	1243 (3/7) (310/1946)	SA-FPL-10D1 C 3.9 MILES SSW	2548 (1/3)	2548 (1/3)	0
	K-40	N/A	4430 (7/7) (1656/7125)	SA-FPL-10D1 C 3.9 MILES SSW	7825 (3/3) (3461/12650)	7825 (3/3) (3461/12650)	0
	I-131	60	<MDC	N/A	N/A	<MDC	0
	Cs-134	60	<MDC	N/A	N/A	<MDC	0
	Cs-137	80	<MDC	N/A	N/A	<MDC	0
	Ra-226	N/A	<MDC	N/A	N/A	<MDC	0
	Th-232	N/A	<MDC	N/A	N/A	N/A	0

Attachment 1, Data Table Summary

SALEM GENERATING STATION
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MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	ANALYSIS AND <i>TOTAL NUMBER OF</i> ANALYSIS PERFORMED	LOWER LIMIT OF DETECTION (LLD*)	ALL INDICATOR LOCATIONS	LOCATION WITH HIGHEST MEAN		CONTROL LOCATION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
			MEAN (f) ** <i>(RANGE)</i>	NAME DISTANCE AND DIRECTION	MEAN (f) ** <i>(RANGE)</i>	MEAN (f) ** <i>(RANGE)</i>	
VEGETABLES, FPV (pCi/kg wet)	GAMMA Be-7 <u>15</u>	N/A	<MDC	N/A	N/A	N/A	0
	K-40	N/A	2014 (15/15) (1200/3775)	SA-FPV-1G1 10.9 MILES NNE	2255 (12/12) (1200/3775)	N/A	0
	I-131	60	<MDC	N/A	N/A	N/A	0
	Cs-134	60	<MDC	N/A	N/A	N/A	0
	Cs-137	80	<MDC	N/A	N/A	N/A	0
	Ra-226	N/A	<MDC	N/A	N/A	N/A	0
	Th-232	N/A	<MDC	N/A	N/A	N/A	0
FODDER CROPS (pCi/kg wet)	GAMMA Be-7 <u>3</u>	N/A	408 (2/3) (342/473)	SA-VGT-14F4 7.6 MILES WNW	473 (1/1)	N/A	0
	K-40	N/A	2887 (3/3) (2401/3524)	SA-VGT-02G3 11.8 MILES NNE	3524 (1/1)	N/A	0
	I-131	60	<MDC	N/A	N/A	N/A	0
	Cs-134	60	<MDC	N/A	N/A	N/A	0
	Cs-137	80	<MDC	N/A	N/A	N/A	0
	Ra-226	N/A	<MDC	N/A	N/A	N/A	0
	Th-232	N/A	<MDC	N/A	N/A	N/A	0

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			MEAN (f) ** <i>(RANGE)</i>	NAME DISTANCE AND DIRECTION	MEAN (f) ** <i>(RANGE)</i>	MEAN (f) ** <i>(RANGE)</i>	
GAME (pCi/kg wet)	GAMMA Be-7 <u>0</u>	N/A	N/A	N/A	N/A	N/A	0
	K-40	N/A	N/A	N/A	N/A	N/A	0
	I-131	60	N/A	N/A	N/A	N/A	0
	Cs-134	60	N/A	N/A	N/A	N/A	0
	Cs-137	80	N/A	N/A	N/A	N/A	0
V. TERRESTRIAL							
SOIL (pCi/kg dry)	GAMMA Be-7 <u>9</u>	N/A	<MDC	N/A	N/A	N/A	0
	K-40	N/A	9526 (9/9) (4690/16440)	SA-SOL-14F4 7.6 MILES WNW	16440 (1/1)	N/A	0
	Cs-134	150	<MDC	N/A	N/A	N/A	0
	Cs-137	180	146 (2/9) (138/154)	SA-SOL-10D1 3.9 MILES SSW	154 (1/1)	N/A	0
	Ra-226	N/A	<MDC	N/A	N/A	N/A	0
	Th-232	N/A	800 (5/9) (571/1059)	SA-SOL-03G1 16.5 MILES NE	1059 (1/1)	N/A	0

* The LLD listed is the Lower Limit of Detection, which was requested by PSEG to be achieved.
 ** Mean was calculated using values above the MDC only. f = the fraction of measurements above the MDC.
 (C) = Control Location
 N/A = Not Applicable

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**Attachment 2, Complete Data Table for All Analysis
Results Obtained In 2025**

Attachment 2 - Data Table

Table 12, Environmental Direct Radiation Dosimetry Sample Results

Monitoring Location	Quarterly Baseline, B _Q (mrem)	Minimum Differential Dose B _Q + 5 (mrem)	Normalized Quarterly Monitoring Data, M _Q (mrem)				Quarterly Facility Dose, F _Q =M _Q -B _Q (mrem)				Annual Baseline, B _A (mrem)	Minimum Differential Dose B _A + 13 (mrem)	Annual Monitoring Data, M _A (mrem)	Annual Facility Dose, F _A =M _A -B _A (mrem)
			1	2	3	4	1	2	3	4				
			01Q1	13.6	18.6	30.1	26.5	27.3	26.4	16.5				
16Q2	13.6	18.6	24.7	26.3	26.7	25.8	11.1	12.7	13.1	12.3	54.6	67.7	103.4	48.8
01X2	13.0	18.0	14.5	15.4	15.0	14.5	ND	ND	ND	ND	52.1	65.1	59.3	ND
02X4	13.7	18.7	14.2	14.6	14.6	14.5	ND	ND	ND	ND	54.7	67.7	57.9	ND
03X1	12.3	17.3	12.6	13.1	12.9	12.6	ND	ND	ND	ND	49.0	62.1	51.2	ND
04X1	11.9	16.9	13.3	13.2	13.2	13.9	ND	ND	ND	ND	47.8	60.8	53.5	ND
05X1	10.7	15.7	12.2	12.0	12.3	12.1	ND	ND	ND	ND	42.8	55.8	48.6	ND
06X2	15.0	20.0	13.4	14.5	13.9	13.8	ND	ND	ND	ND	60.5	73.5	55.6	ND
16X3	12.2	17.2	15.9	15.3	15.8	15.7	ND	ND	ND	ND	48.8	61.8	62.8	14.0
2S2A	14.6	19.6	14.4	15.1	14.8	14.4	ND	ND	ND	ND	58.4	71.5	58.7	ND
04X1 Dup	11.9	16.9	13.2	12.9	13.5	13.3	ND	ND	ND	ND	47.8	60.8	52.8	ND
07S1	12.5	17.5	12.8	12.9	13.0	12.9	ND	ND	ND	ND	49.9	63.0	51.6	ND
08S1	11.0	16.0	11.4	11.0	10.9	11.5	ND	ND	ND	ND	44.1	57.2	44.8	ND
08S2	11.3	16.3	10.7	10.6	11.1	11.3	ND	ND	ND	ND	45.3	58.3	43.7	ND
10S1	11.6	16.6	11.8	12.2	12.0	12.4	ND	ND	ND	ND	47.3	60.3	48.4	ND
11S1	10.7	15.7	11.6	12.3	12.1	12.5	ND	ND	ND	ND	43.8	56.8	48.5	ND
12S1	14.4	19.4	14.5	15.5	15.5	15.2	ND	ND	ND	ND	57.7	70.7	60.8	ND
14S2	16.3	21.3	15.9	17.4	17.8	16.1	ND	ND	ND	ND	65.2	78.3	67.1	ND
15S1	10.8	15.8	12.7	12.3	12.5	12.6	ND	ND	ND	ND	43.3	56.3	50.1	ND
15S2	13.2	18.2	13.2	13.1	13.7	13.7	ND	ND	ND	ND	52.6	65.7	53.6	ND
15S3	16.0	21.0	16.4	17.1	16.7	17.2	ND	ND	ND	ND	63.9	77.0	67.4	ND
16S1	12.8	17.8	14.3	14.2	15.2	14.3	ND	ND	ND	ND	51.4	64.5	58.0	ND
04D2	13.0	18.0	14.2	14.2	14.8	14.3	ND	ND	ND	ND	52.3	65.3	57.5	ND
05D1	13.6	18.6	13.6	13.2	14.2	13.8	ND	ND	ND	ND	54.3	67.3	54.8	ND
10D1	13.7	18.7	14.2	14.7	14.7	14.3	ND	ND	ND	ND	55.2	68.2	57.9	ND
14D1	12.0	17.0	13.3	13.2	13.7	13.2	ND	ND	ND	ND	48.1	61.2	53.3	ND
15D1	13.6	18.6	14.0	14.4	14.5	14.5	ND	ND	ND	ND	54.7	67.7	57.5	ND
02E1	12.3	17.3	13.2	13.5	13.8	13.6	ND	ND	ND	ND	49.5	62.6	54.1	ND
03E1	10.4	15.4	12.3	12.0	12.4	12.6	ND	ND	ND	ND	42.0	55.0	49.4	ND
11E2	13.6	18.6	14.8	15.0	15.9	15.3	ND	ND	ND	ND	54.7	67.8	61.0	ND
12E1	13.7	18.7	14.6	15.1	15.5	15.5	ND	ND	ND	ND	55.4	68.4	60.7	ND
13E1	10.9	15.9	12.2	12.4	12.3	12.6	ND	ND	ND	ND	44.0	57.0	49.4	ND
16E1	12.8	17.8	13.5	13.6	14.1	13.9	ND	ND	ND	ND	51.7	64.7	55.1	ND
01F1	17.8	22.8	17.0	17.6	18.5	18.1	ND	ND	ND	ND	68.3	81.3	71.2	ND

Attachment 2 - Data Table

02F2	12.8	17.8	12.9	13.0	13.0	13.4	ND	ND	ND	ND	51.2	64.2	52.2	ND
02F5	12.8	17.8	14.1	14.3	14.8	14.5	ND	ND	ND	ND	51.4	64.4	57.7	ND
02F6	11.9	16.9	13.8	13.5	14.0	13.7	ND	ND	ND	ND	47.6	60.7	55.0	ND
03F2	11.0	16.0	12.6	12.9	13.0	12.7	ND	ND	ND	ND	44.4	57.5	51.1	ND
03F3	11.0	16.0	12.9	12.7	12.8	13.0	ND	ND	ND	ND	44.2	57.3	51.5	ND
04F2	10.7	15.7	12.3	12.5	12.8	12.6	ND	ND	ND	ND	43.1	56.2	50.1	ND
05F1	11.5	16.5	12.9	13.1	13.1	13.3	ND	ND	ND	ND	46.1	59.2	52.3	ND
06F1	11.0	16.0	11.1	10.8	11.3	11.2	ND	ND	ND	ND	45.1	58.2	44.4	ND
07F2	13.0	18.0	12.8	13.1	13.6	13.1	ND	ND	ND	ND	52.3	65.3	52.6	ND
09F1	14.2	19.2	15.3	15.0	15.2	15.9	ND	ND	ND	ND	59.9	72.9	61.4	ND
09F2	14.1	19.1	12.1	12.0	12.7	12.4	ND	ND	ND	ND	56.3	69.3	49.1	ND
10F2	13.2	18.2	14.6	14.2	15.2	14.7	ND	ND	ND	ND	52.9	66.0	58.6	ND
11F1	13.8	18.8	15.0	15.0	15.9	17.1	ND	ND	ND	ND	55.4	68.4	63.0	ND
12F1	12.9	17.9	14.5	14.1	14.6	14.9	ND	ND	ND	ND	51.7	64.7	58.2	ND
13F2	12.7	17.7	14.4	14.3	14.5	14.3	ND	ND	ND	ND	51.2	64.2	57.4	ND
13F3	14.7	19.7	15.3	14.8	15.1	15.1	ND	ND	ND	ND	58.0	71.0	60.3	ND
13F4	13.0	18.0	15.1	15.0	15.2	15.2	ND	ND	ND	ND	59.7	72.7	60.5	ND
14F2	14.0	19.0	15.5	15.5	16.1	15.8	ND	ND	ND	ND	56.2	69.2	62.9	ND
15F3	14.5	19.5	15.1	15.5	16.0	15.6	ND	ND	ND	ND	58.2	71.2	62.2	ND
16F2	11.7	16.7	13.4	13.6	13.9	13.7	ND	ND	ND	ND	47.1	60.2	54.6	ND
01G3	14.9	19.9	14.3	13.8	14.5	14.5	ND	ND	ND	ND	60.2	73.3	57.1	ND
03G1	13.3	18.3	14.9	15.1	15.4	15.4	ND	ND	ND	ND	53.4	66.5	60.7	ND
10G1	14.8	19.8	14.6	14.7	15.6	14.6	ND	ND	ND	ND	58.8	71.9	59.5	ND
14G1	13.4	18.4	14.2	14.7	15.3	14.9	ND	ND	ND	ND	54.1	67.1	59.1	ND
16G1	12.7	17.7	13.2	12.6	13.4	13.2	ND	ND	ND	ND	50.1	63.2	52.4	ND
03H1	12.6	17.6	12.7	12.5	13.4	12.8	ND	ND	ND	ND	50.6	63.6	51.4	ND

MDD_Q = Quarterly Minimum Differential Dose = 5 mrem
MDD_A = Annual Minimum Differential Dose = 13 mrem
ND = Not Detected, where $M_Q \leq (B_Q + MDD_Q)$ or $M_A \leq (B_A + MDD_A)$

Attachment 2 - Data Table

Table 13, Concentrations of Gamma Emitters in Quarterly Composites of Air Particulates, 2025

Results in Units of E-03 pCi/m ³ ± 2σ							
STATION ID	COLLECTION PERIOD			<-----GAMMA EMITTERS----->			
	START		STOP	Be-7	K-40	Cs-134	Cs-137
SA-APT-14G1 (C)	12/31/24	-	03/31/25	34 ± 12	< 27	< 2	< 2
	03/31/25	-	07/01/25	55 ± 15	< 28	< 2	< 2
	07/01/25	-	09/29/25	90 ± 30	< 69	< 4	< 4
	09/29/25	-	12/29/25	47 ± 14	< 44	< 3	< 2
	AVERAGE*			57 ± 48	-	-	-
SA-APT-05X1	12/31/24	-	03/31/25	47 ± 19	< 25	< 2	< 2
	03/31/25	-	07/01/25	41 ± 11	< 13	< 1	< 1
	07/01/25	-	09/29/25	43 ± 18	< 47	< 2	< 2
	09/29/25	-	12/29/25	30 ± 13	< 30	< 2	< 2
	AVERAGE*			40 ± 15	-	-	-
SA-APT-06S1	12/31/24	-	03/31/25	48 ± 17	< 28	< 2	< 2
	03/31/25	-	07/01/25	43 ± 15	< 32	< 2	< 2
	07/01/25	-	09/29/25	45 ± 15	< 31	< 2	< 2
	09/29/25	-	12/29/25	43 ± 15	< 16	< 2	< 1
	12/31/24	-	03/31/25	45 ± 4	-	-	-
SA-APT-15S2	12/31/24	-	03/31/25	42 ± 15	< 18	< 1	< 1
	03/31/25	-	07/01/25	41 ± 16	< 26	< 1	< 1
	07/01/25	-	09/29/25	67 ± 19	< 36	< 3	< 2
	09/29/25	-	12/29/25	33 ± 12	< 16	< 2	< 2
	AVERAGE*			46 ± 30	-	-	-
SA-APT-05D1	12/31/24	-	03/31/25	40 ± 14	< 21	< 2	< 2
	03/31/25	-	07/01/25	38 ± 12	< 20	< 1	< 1
	07/01/25	-	09/29/25	106 ± 38	< 62	< 4	< 4
	09/29/25	-	12/29/25	43 ± 15	< 37	< 2	< 2
	AVERAGE*			57 ± 65	-	-	-
SA-APT-16E1	12/31/24	-	03/31/25	38 ± 16	< 25	< 1	< 1
	03/31/25	-	07/01/25	42 ± 8	< 16	< 1	< 1
	07/01/25	-	09/29/25	47 ± 21	< 35	< 2	< 1
	09/29/25	-	12/29/25	42 ± 13	< 29	< 2	< 2
	AVERAGE*			50 ± 32	-	-	-

Attachment 2 - Data Table

Table 13, Concentrations of Gamma Emitters in Quarterly Composites of Air Particulates, 2025

Results in Units of E-03 pCi/m ³ ± 2σ							
STATION ID	COLLECTION PERIOD			←-----GAMMA EMITTERS----->			
	START	-	STOP	Be-7	K-40	Cs-134	Cs-137
SA-APT-01F1	12/31/24	-	03/31/25	38 ± 14	< 21	< 2	< 1
	03/31/25	-	07/01/25	36 ± 10	< 19	< 1	< 1
	07/01/25	-	09/29/25	44 ± 14	< 30	< 2	< 2
	09/29/25	-	12/29/25	38 ± 20	< 41	< 2	< 2
	AVERAGE*			39 ± 7	-	-	-
SA-APT-02F6	12/31/24	-	03/31/25	57 ± 15	< 31	< 2	< 2
	03/31/25	-	07/01/25	38 ± 8	< 14	< 1	< 1
	07/01/25	-	09/29/25	50 ± 18	< 33	< 2	< 2
	09/29/25	-	12/29/25	44 ± 14	< 33	< 2	< 1
	AVERAGE*			47 ± 16	-	-	-
ALL INDICATOR AVERAGE * .				45 ± 28	-	-	-

(C) CONTROL LOCATION.
 THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE, THE AVERAGE AND THE ERROR ARE DISPLAYED.
 * POSITIVE VALUE, THE AVERAGE AND THE ERROR ARE DISPLAYED.
 - INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

Attachment 2 - Data Table

Table 14, Concentrations of Gross Beta Emitters in Air Particulates, 2025

Results in Units of E-03 pCi/m³ ± 2σ

COLLECTION PERIOD		CONTROL	INDICATORS						
START	STOP	SA-APT-14G1	SA-APT-05X1	SA-APT-06S1	SA-APT-15S2	SA-APT-05D1	SA-APT-16E1	SA-APT-01F1	SA-APT-02F6
12/31/24	- 01/07/25	13 ± 3	11 ± 3	9 ± 3	13 ± 3	11 ± 3	14 ± 3	9 ± 3	13 ± 3
01/07/25	- 01/13/25	14 ± 4	20 ± 4	16 ± 3	18 ± 4	17 ± 4	14 ± 3	14 ± 4	17 ± 4
01/13/25	- 01/21/25	19 ± 3	20 ± 3	15 ± 3	19 ± 3	19 ± 3	20 ± 3	16 ± 3	19 ± 3
01/21/25	- 01/27/25	26 ± 4	21 ± 4	25 ± 4	22 ± 4	26 ± 4	22 ± 4	18 ± 4	20 ± 4
01/27/25	- 02/03/25	15 ± 3	15 ± 3	14 ± 3	13 ± 3	13 ± 3	13 ± 3	12 ± 3	14 ± 3
02/03/25	- 02/10/25	17 ± 3	15 ± 3	15 ± 3	14 ± 3	14 ± 3	16 ± 3	12 ± 3	18 ± 3
02/10/25	- 02/18/25	11 ± 3	13 ± 3	10 ± 2	12 ± 3	12 ± 3	10 ± 2	12 ± 3	14 ± 3
02/18/25	- 02/24/25	10 ± 3	12 ± 3	12 ± 3	12 ± 3	13 ± 3	14 ± 4	9 ± 3	11 ± 3
02/24/25	- 03/03/25	18 ± 3	16 ± 3	14 ± 3	17 ± 3	18 ± 3	20 ± 3	14 ± 3	13 ± 3
03/03/25	- 03/10/25	13 ± 3	11 ± 3	11 ± 3	11 ± 3	11 ± 3	13 ± 3	10 ± 3	13 ± 3
03/10/25	- 03/17/25	16 ± 3	9 ± 3	12 ± 3	12 ± 3	13 ± 3	14 ± 3	9 ± 3	12 ± 3
03/17/25	- 03/24/25	13 ± 3	12 ± 3	11 ± 3	10 ± 3	12 ± 3	11 ± 3	10 ± 3	10 ± 3
03/24/25	- 03/31/25	13 ± 3	15 ± 3	14 ± 3	16 ± 4	14 ± 3	13 ± 3	13 ± 3	16 ± 3
03/31/25	- 04/07/25	12 ± 3	12 ± 3	10 ± 3	11 ± 3	10 ± 3	8 ± 3	9 ± 3	12 ± 3
04/07/25	- 04/14/25	11 ± 3	14 ± 3	10 ± 3	12 ± 3	11 ± 3	14 ± 3	10 ± 3	11 ± 3
04/14/25	- 04/21/25	14 ± 3	16 ± 3	12 ± 3	14 ± 3	12 ± 3	15 ± 3	12 ± 3	15 ± 3
04/21/25	- 04/29/25	14 ± 3	14 ± 3	13 ± 3	12 ± 3	14 ± 3	14 ± 3	14 ± 3	15 ± 3
04/29/25	- 05/05/25	16 ± 4	16 ± 3	16 ± 3	14 ± 3	16 ± 3	17 ± 4	14 ± 3	16 ± 4
05/05/25	- 05/13/25	12 ± 3	12 ± 3	11 ± 3	10 ± 3	12 ± 3	13 ± 3	10 ± 2	13 ± 3
05/13/25	- 05/19/25	11 ± 3	6 ± 3	12 ± 3	11 ± 3	12 ± 3	11 ± 3	9 ± 3	10 ± 3
05/19/25	- 05/27/25	4 ± 2	4 ± 2	4 ± 2	4 ± 2	3 ± 2	5 ± 2	3 ± 2	4 ± 2
05/27/25	- 06/02/25	9 ± 3	6 ± 3	8 ± 3	7 ± 3	8 ± 3	9 ± 3	7 ± 3	9 ± 3
06/02/25	- 06/09/25	12 ± 3	8 ± 3	8 ± 3	7 ± 3	7 ± 3	10 ± 3	E	10 ± 3
06/09/25	- 06/16/25	10 ± 3	8 ± 3	10 ± 3	10 ± 3	12 ± 3	15 ± 3	7 ± 3	14 ± 3
06/16/25	- 06/23/25	E	14 ± 3	12 ± 3	13 ± 3	12 ± 3	13 ± 3	9 ± 3	14 ± 3
06/23/25	- 07/01/25	E	16 ± 3	14 ± 3	14 ± 3	22 ± 10	15 ± 3	12 ± 3	16 ± 3
07/01/25	- 07/07/25	E	12 ± 3	17 ± 3	17 ± 4	E	16 ± 4	11 ± 3	16 ± 4
07/07/25	- 07/14/25	E	8 ± 3	8 ± 3	9 ± 3	E	8 ± 3	11 ± 3	11 ± 3
07/14/25	- 07/21/25	E	10 ± 3	8 ± 3	9 ± 3	E	11 ± 3	8 ± 3	10 ± 3
07/21/25	- 07/28/25	E	12 ± 3	12 ± 3	10 ± 3	E	9 ± 3	10 ± 3	12 ± 3
07/28/25	- 08/04/25	13 ± 4	17 ± 3	21 ± 4	16 ± 3	E	14 ± 3	14 ± 3	19 ± 3
08/04/25	- 08/11/25	16 ± 3	18 ± 3	16 ± 3	14 ± 3	E	16 ± 3	13 ± 3	15 ± 3
08/11/25	- 08/18/25	9 ± 3	7 ± 3	9 ± 3	10 ± 3	E	13 ± 3	8 ± 3	12 ± 3
08/18/25	- 08/25/25	8 ± 3	8 ± 3	9 ± 3	8 ± 3	13 ± 5	9 ± 3	7 ± 3	6 ± 3
08/25/25	- 09/02/25	12 ± 3	10 ± 3	13 ± 3	11 ± 3	11 ± 3	14 ± 3	10 ± 2	13 ± 3
09/02/25	- 09/08/25	17 ± 4	18 ± 4	16 ± 4	19 ± 4	15 ± 4	19 ± 4	16 ± 4	19 ± 4
09/08/25	- 09/15/25	20 ± 4	19 ± 3	18 ± 3	17 ± 3	16 ± 3	21 ± 3	17 ± 3	22 ± 4
09/15/25	- 09/22/25	16 ± 3	16 ± 3	15 ± 3	15 ± 3	16 ± 3	18 ± 3	15 ± 3	18 ± 3
09/22/25	- 09/29/25	26 ± 4	23 ± 4	20 ± 4	23 ± 4	19 ± 3	22 ± 3	18 ± 3	23 ± 4

Attachment 2 - Data Table

Table 14, Concentrations of Gross Beta Emitters in Air Particulates, 2025

Results in Units of E-03 pCi/m³ ± 2σ

COLLECTION PERIOD		CONTROL	INDICATORS							
START	STOP	SA-APT-14G1	SA-APT-05X1	SA-APT-06S1	SA-APT-15S2	SA-APT-05D1	SA-APT-16E1	SA-APT-01F1	SA-APT-02F6	
09/29/25 -	10/06/25	20 ± 3	18 ± 3	20 ± 3	18 ± 3	19 ± 3	19 ± 3	16 ± 3	20 ± 3	
10/06/25 -	10/13/25	10 ± 3	12 ± 3	11 ± 3	11 ± 3	9 ± 3	14 ± 3	8 ± 3	12 ± 3	
10/13/25 -	10/20/25	11 ± 3	11 ± 3	10 ± 3	13 ± 3	13 ± 3	13 ± 3	12 ± 3	12 ± 3	
10/20/25 -	10/27/25	12 ± 3	11 ± 3	12 ± 3	11 ± 3	9 ± 3	14 ± 3	10 ± 3	12 ± 3	
10/27/25 -	11/03/25	14 ± 3	13 ± 3	13 ± 3	11 ± 3	12 ± 3	13 ± 3	11 ± 3	13 ± 3	
11/03/25 -	11/10/25	19 ± 3	21 ± 3	17 ± 3	15 ± 3	18 ± 3	20 ± 3	18 ± 3	20 ± 3	
11/10/25 -	11/17/25	13 ± 3	14 ± 3	14 ± 3	12 ± 3	16 ± 3	14 ± 3	14 ± 3	14 ± 3	
11/17/25 -	11/24/25	22 ± 4	21 ± 4	17 ± 3	22 ± 3	16 ± 3	20 ± 3	18 ± 3	19 ± 3	
11/24/25 -	12/01/25	14 ± 3	14 ± 3	11 ± 3	14 ± 3	14 ± 3	13 ± 3	14 ± 3	16 ± 3	
12/01/25 -	12/08/25	16 ± 3	12 ± 3	14 ± 3	16 ± 3	17 ± 3	16 ± 3	16 ± 3	11 ± 3	
12/08/25 -	12/15/25	12 ± 3	9 ± 3	16 ± 3	12 ± 3	13 ± 3	12 ± 3	10 ± 3	14 ± 3	
12/15/25 -	12/22/25	20 ± 4	15 ± 3	15 ± 3	13 ± 3	19 ± 3	18 ± 3	16 ± 3	18 ± 3	
12/22/25 -	12/29/25	15 ± 3	13 ± 3	12 ± 3	13 ± 3	17 ± 3	15 ± 3	10 ± 3	14 ± 3	
AVERAGE*		14 ± 9	13 ± 9	13 ± 8	13 ± 8	14 ± 8	14 ± 7	12 ± 7	14 ± 8	
ALL INDICATOR AVERAGE* 13 ± 8										

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING ONLY THE POSITIVE VALUES. IF THERE IS ONLY 1 POSITIVE VALUE, THE AVERAGE AND THE ERROR ARE DISPLAYED.

E SEE SAMPLE ANOMOLIES AND PROGRAM EXCEPTIONS SECTION OF THIS REPORT

Attachment 2 - Data Table

Table 15, Concentrations of Iodine-131 in Filtered Air, 2025

Results in Units of E-03 pCi/m ³ ± 2σ										
COLLECTION PERIOD			CONTROL	INDICATORS						
START	STOP		SA-AIO-14G1	SA-AIO-05X1	SA-AIO-06S1	SA-AIO-15S2	SA-AIO-05D1	SA-AIO-16E1	SA-AIO-01F1	SA-AIO-02F6
12/31/24	-	01/07/25	< 25	< 24	< 23	< 24	< 25	< 27	< 25	< 25
01/07/25	-	01/13/25	< 24	< 23	< 10	< 23	< 25	< 24	< 25	< 23
01/13/25	-	01/21/25	< 26	< 18	< 25	< 24	< 17	< 25	< 16	< 18
01/21/25	-	01/27/25	< 27	< 26	< 25	< 25	< 26	< 26	< 25	< 26
01/27/25	-	02/03/25	< 20	< 18	< 19	< 9	< 17	< 19	< 13	< 18
02/03/25	-	02/10/25	< 16	< 19	< 15	< 15	< 18	< 16	< 17	< 19
02/10/25	-	02/18/25	< 19	< 18	< 12	< 18	< 18	< 18	< 20	< 18
02/18/25	-	02/24/25	< 28	< 27	< 26	< 29	< 26	< 28	< 27	< 27
02/24/25	-	03/03/25	< 21	< 20	< 19	< 19	< 14	< 20	< 20	< 19
03/03/25	-	03/10/25	< 25	< 19	< 26	< 25	< 18	< 25	< 19	< 19
03/10/25	-	03/17/25	< 13	< 14	< 13	< 13	< 14	< 13	< 14	< 6
03/17/25	-	03/24/25	< 20	< 15	< 20	< 10	< 15	< 20	< 16	< 14
03/24/25	-	03/31/25	< 29	< 31	< 30	< 36	< 17	< 29	< 28	< 27
03/31/25	-	04/07/25	< 26	< 21	< 26	< 26	< 20	< 26	< 20	< 21
04/07/25	-	04/14/25	< 25	< 20	< 22	< 25	< 20	< 24	< 20	< 19
04/14/25	-	04/21/25	< 22	< 20	< 19	< 22	< 20	< 21	< 20	< 21
04/21/25	-	04/29/25	< 20	< 17	< 18	< 19	< 17	< 18	< 18	< 18
04/29/25	-	05/05/25	< 26	< 23	< 25	< 25	< 23	< 25	< 23	< 25
05/05/25	-	05/13/25	< 9	< 17	< 19	< 21	< 17	< 19	< 18	< 18
05/13/25	-	05/19/25	< 28	< 23	< 27	< 18	< 24	< 28	< 25	< 25
05/19/25	-	05/27/25	< 20	< 19	< 19	< 18	< 19	< 20	< 18	< 19
05/27/25	-	06/02/25	< 30	< 23	< 30	< 31	< 24	< 31	< 23	< 25
06/02/25	-	06/09/25	< 13	< 14	< 18	< 18	< 15	< 18	E	< 16
06/09/25	-	06/16/25	< 23	< 21	< 25	< 25	< 22	< 26	< 21	< 24
06/16/25	-	06/23/25	< 34	< 14	< 20	< 19	< 15	< 20	< 15	< 15
06/23/25	-	07/01/25	E	< 19	< 17	< 17	< 62	< 18	< 20	< 20
07/01/25	-	07/07/25	E	< 24	< 9	< 19	E	< 19	< 25	< 27
07/07/25	-	07/14/25	E	< 17	< 22	< 22	E	< 24	< 17	< 18
07/14/25	-	07/21/25	E	< 12	< 18	< 19	E	< 20	< 23	< 24
07/21/25	-	07/28/25	E	< 20	< 28	< 29	E	< 31	< 21	< 23
07/28/25	-	08/04/25	< 26	< 21	< 16	< 17	E	< 16	< 22	< 23
08/04/25	-	08/11/25	< 18	< 18	< 27	< 26	E	< 27	< 19	< 18

Attachment 2 - Data Table

Table 15, Concentrations of Iodine-131 in Filtered Air, 2025

Results in Units of E-03 pCi/m ³ ± 2σ										
COLLECTION PERIOD		CONTROL	INDICATORS							
START	STOP	SA-AIO-14G1	SA-AIO-05X1	SA-AIO-06S1	SA-AIO-15S2	SA-AIO-05D1	SA-AIO-16E1	SA-AIO-01F1	SA-AIO-02F6	
08/11/25	-	08/18/25	< 24	< 19	< 26	< 17	E	< 25	< 19	< 20
08/18/25	-	08/25/25	< 22	< 21	< 23	< 22	< 32	< 23	< 21	< 22
08/25/25	-	09/02/25	< 18	< 16	< 19	< 18	< 17	< 19	< 16	< 16
09/02/25	-	09/08/25	< 30	< 25	< 29	< 27	< 26	< 30	< 26	< 26
09/08/25	-	09/15/25	< 27	< 15	< 23	< 23	< 15	< 24	< 15	< 15
09/15/25	-	09/22/25	< 23	< 23	< 21	< 21	< 22	< 21	< 24	< 24
09/22/25	-	09/29/25	< 22	< 18	< 22	< 21	< 17	< 20	< 18	< 19
09/29/25	-	10/06/25	< 48	< 30	< 44	< 44	< 30	< 47	< 31	< 31
10/06/25	-	10/13/25	< 17	< 19	< 17	< 17	< 19	< 17	< 19	< 19
10/13/25	-	10/20/25	< 24	< 17	< 22	< 23	< 13	< 23	< 17	< 17
10/20/25	-	10/27/25	< 24	< 17	< 17	< 23	< 17	< 23	< 18	< 12
10/27/25	-	11/03/25	< 15	< 22	< 7	< 15	< 22	< 15	< 22	< 21
11/03/25	-	11/10/25	< 38	< 35	< 37	< 36	< 25	< 38	< 36	< 34
11/10/25	-	11/17/25	< 34	< 36	< 31	< 32	< 36	< 32	< 36	< 35
11/17/25	-	11/24/25	< 29	< 36	< 28	< 28	< 35	< 29	< 36	< 35
11/24/25	-	12/01/25	< 28	< 25	< 13	< 26	< 24	< 26	< 25	< 18
12/01/25	-	12/08/25	< 21	< 22	< 20	< 21	< 21	< 20	< 22	< 15
12/08/25	-	12/15/25	< 31	< 24	< 30	< 28	< 23	< 25	< 23	< 11
12/15/25	-	12/22/25	< 38	< 33	< 35	< 32	< 33	< 37	< 30	< 31
12/22/25	-	12/29/25	< 28	< 25	< 28	< 26	< 25	< 27	< 22	< 23
AVERAGE*		-	-	-	-	-	-	-	-	-

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING ONLY THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE, THE AVERAGE AND THE ERROR ARE DISPLAYED.

- INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

E SEE 'SAMPLE ANOMOLIES AND PROGRAM EXCEPTIONS' SECTION OF THIS REPORT

Attachment 2 - Data Table

Table 16, Concentrations of Tritium in Surface Water, 2025

Results in Units of pCi/L $\pm 2\sigma$

COLLECTION PERIOD		CONTROL	INDICATORS			
START	STOP	SA-SWA-12B1 (C)	SA-SWA-11A1	SA-SWA-07E1	SA-SWA-01F2	SA-SWA-016F1
01/10/25	- 01/24/25	< 186	< 191	< 190	E	< 196
02/05/25	- 02/21/25	< 191	< 189	< 190	< 195	< 189
03/03/25	- 03/19/25	< 188	< 190	< 192	< 186	< 188
04/07/25	- 04/28/25	< 183	< 186	< 185	< 186	< 184
05/06/25	- 05/22/25	< 190	< 193	< 189	< 193	< 186
06/02/25	- 06/17/25	< 195	< 192	< 196	< 196	< 193
07/08/25	- 07/23/25	< 182	< 188	< 182	< 183	< 185
08/04/25	- 08/20/25	< 195	< 194	< 197	< 199	< 194
09/03/25	- 09/15/25	< 189	< 190	< 191	< 185	< 188
10/06/25	- 10/21/25	< 192	< 194	< 194	< 197	< 193
11/03/25	- 11/18/25	< 196	< 189	< 197	< 195	< 189
12/04/25	- 12/16/25	< 190	< 190	< 194	< 200	< 192
AVERAGE*		-	-	-	-	-

(C) CONTROL LOCATION.

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE, THE AVERAGE AND THE ERROR ARE DISPLAYED.

- INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

E SEE 'SAMPLE ANOMOLIES AND PROGRAM EXCEPTIONS' SECTION OF THIS REPORT

Attachment 2 - Data Table

Table 17, Concentrations of Iodine-131 and Gamma Emitters in Surface Water, 2025
Results in Units of pCi/L \pm 2 σ

STATION ID	Collection Date	<-----GAMMA EMITTERS----->										
		I-131 LL	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	ZrNb-95	Cs-134	Cs-137	BaLa-140
SA-SWA-12B1 (C)	01/13/25	< 0.8	176 ± 78	< 6	< 4	< 13	< 5	< 11	< 6	< 6	< 7	< 9
	02/05/25	< 0.8	107 ± 44	< 4	< 5	< 12	< 7	< 10	< 5	< 5	< 4	< 8
	03/03/25	< 0.9	81 ± 47	< 3	< 3	< 8	< 4	< 8	< 4	< 4	< 4	< 6
	04/07/25	< 0.6	109 ± 50	< 4	< 4	< 8	< 4	< 8	< 4	< 4	< 4	< 6
	05/06/25	< 0.9	< 53	< 5	< 5	< 13	< 6	< 10	< 5	< 6	< 7	< 10
	06/02/25	< 0.9	< 30	< 4	< 5	< 7	< 6	< 10	< 5	< 5	< 5	< 8
	07/08/25	< 0.9	77 ± 26	< 2	< 2	< 4	< 2	< 4	< 2	< 2	< 2	< 5
	08/04/25	< 0.9	< 72	< 6	< 6	< 11	< 6	< 12	< 5	< 7	< 5	< 8
	09/03/25	< 0.9	68 ± 38	< 2	< 2	< 5	< 3	< 5	< 2	< 3	< 2	< 4
	10/06/25	< 0.9	128 ± 31	< 3	< 3	< 6	< 3	< 6	< 3	< 3	< 3	< 5
	11/03/25	< 0.9	81 ± 36	< 1	< 2	< 4	< 2	< 3	< 2	< 2	< 1	< 5
	12/04/25	< 0.8	130 ± 43	< 3	< 3	< 6	< 3	< 5	< 3	< 3	< 3	< 5
	AVERAGE*	-	106 ± 69	-	-	-	-	-	-	-	-	-
SA-SWA-11A1	01/10/25	< 0.8	134 ± 78	< 5	< 5	< 13	< 7	< 12	< 7	< 6	< 6	< 8
	02/05/25	< 0.8	< 117	< 6	< 6	< 11	< 7	< 11	< 5	< 6	< 5	< 8
	03/03/25	< 0.8	112 ± 47	< 3	< 3	< 6	< 3	< 6	< 3	< 3	< 3	< 4
	04/07/25	< 0.7	< 128	< 4	< 6	< 11	< 5	< 14	< 6	< 5	< 7	< 9
	05/06/25	< 0.7	< 62	< 5	< 6	< 13	< 5	< 10	< 5	< 6	< 5	< 8
	06/02/25	< 0.8	< 92	< 5	< 4	< 10	< 7	< 10	< 5	< 5	< 5	< 8
	07/08/25	< 0.8	65 ± 29	< 2	< 2	< 4	< 2	< 4	< 2	< 2	< 2	< 6
	08/04/25	< 0.9	94 ± 55	< 6	< 6	< 12	< 6	< 11	< 6	< 5	< 5	< 8
	09/03/25	< 0.9	138 ± 37	< 2	< 2	< 5	< 2	< 5	< 3	< 2	< 2	< 4
	10/06/25	< 0.9	142 ± 28	< 2	< 2	< 4	< 2	< 4	< 2	< 2	< 2	< 4
	11/03/25	< 0.9	108 ± 29	< 1	< 2	< 3	< 1	< 3	< 1	< 1	< 1	< 5
	12/04/25	< 0.9	104 ± 46	< 3	< 3	< 6	< 3	< 5	< 3	< 3	< 3	< 6
	AVERAGE*	-	112 ± 52	-	-	-	-	-	-	-	-	-

(C) CONTROL LOCATION.

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE, THE AVERAGE AND THE ERROR ARE DISPLAYED.

- INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

Attachment 2 - Data Table

Table 17, Concentrations of Iodine-131 and Gamma Emitters in Surface Water, 2025
Results in Units of pCi/L \pm 2 σ

STATION ID	Collection Date	<-----GAMMA EMITTERS----->										
		I-131 LL	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	ZrNb-95	Cs-134	Cs-137	BaLa-140
SA-SWA-07E1	01/10/25	< 0.9	123 ± 77	< 7	< 6	< 12	< 5	< 14	< 5	< 6	< 6	< 8
	02/05/25	< 0.9	< 160	< 6	< 5	< 10	< 10	< 14	< 6	< 6	< 6	< 9
	03/03/25	< 0.8	144 ± 52	< 5	< 4	< 8	< 5	< 8	< 5	< 5	< 4	< 7
	04/07/25	< 0.8	147 ± 68	< 5	< 5	< 12	< 4	< 9	< 5	< 5	< 6	< 8
	05/06/25	< 0.8	< 117	< 5	< 5	< 11	< 6	< 13	< 5	< 5	< 6	< 11
	06/02/25	< 0.9	92 ± 50	< 4	< 5	< 10	< 6	< 8	< 4	< 5	< 4	< 7
	07/08/25	< 0.8	65 ± 26	< 2	< 2	< 5	< 2	< 4	< 2	< 2	< 2	< 6
	08/04/25	< 0.9	< 49	< 5	< 5	< 11	< 5	< 11	< 6	< 6	< 5	< 8
	09/03/25	< 0.9	55 ± 34	< 2	< 2	< 5	< 3	< 5	< 3	< 3	< 3	< 5
	10/06/25	< 1.0	101 ± 35	< 2	< 2	< 5	< 2	< 5	< 2	< 2	< 2	< 5
	11/03/25	< 0.9	156 ± 31	< 1	< 2	< 3	< 1	< 3	< 2	< 1	< 1	< 5
	12/04/25	< 0.9	< 29	< 4	< 4	< 7	< 4	< 7	< 4	< 4	< 3	< 8
AVERAGE*		-	110 ± 76	-	-	-	-	-	-	-	-	-
SA-SWA-01F2	N/A	-	-	-	-	-	-	-	-	-	-	-
	02/05/25	< 0.8	92 ± 19	< 1	< 1	< 3	< 1	< 2	< 1	< 1	< 1	< 5
	03/03/25	< 0.8	< 26	< 3	< 3	< 7	< 3	< 6	< 3	< 3	< 3	< 5
	04/07/25	< 0.8	< 63	< 5	< 4	< 11	< 6	< 9	< 5	< 5	< 5	< 8
	05/06/25	< 0.7	< 117	< 5	< 6	< 11	< 7	< 11	< 6	< 5	< 6	< 10
	06/02/25	< 0.7	< 48	< 4	< 5	< 14	< 7	< 10	< 6	< 6	< 5	< 6
	07/08/25	< 0.9	< 18	< 2	< 2	< 4	< 2	< 3	< 2	< 2	< 2	< 6
	08/04/25	< 0.9	< 125	< 6	< 6	< 13	< 7	< 10	< 6	< 6	< 6	< 11
	09/03/25	< 0.9	82 ± 30	< 2	< 2	< 4	< 2	< 4	< 2	< 2	< 2	< 5
	10/06/25	< 0.8	85 ± 33	< 2	< 2	< 4	< 2	< 5	< 2	< 2	< 2	< 4
	11/03/25	< 0.9	68 ± 32	< 1	< 2	< 4	< 2	< 3	< 2	< 2	< 2	< 5
	12/04/25	< 0.9	49 ± 27	< 2	< 2	< 4	< 2	< 4	< 2	< 2	< 2	< 4
AVERAGE*		-	75 ± 34	-	-	-	-	-	-	-	-	-

(C) CONTROL LOCATION.

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE, THE AVERAGE AND THE ERROR ARE DISPLAYED.

- INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

Attachment 2 - Data Table

Table 17, Concentrations of Iodine-131 and Gamma Emitters in Surface Water, 2025
Results in Units of pCi/L \pm 2 σ

STATION ID	Collection Date	<-----GAMMA EMITTERS----->										
		I-131 LL	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	ZrNb-95	Cs-134	Cs-137	BaLa-140
SA-SWA-16F1	01/13/25	< 0.9	< 56	< 6	< 6	< 13	< 7	< 13	< 5	< 6	< 6	< 8
	02/05/25	< 0.8	< 127	< 4	< 5	< 11	< 6	< 12	< 6	< 6	< 6	< 9
	03/03/25	< 0.7	100 \pm 36	< 3	< 3	< 6	< 3	< 6	< 3	< 3	< 3	< 5
	04/07/25	< 0.8	< 57	< 6	< 5	< 13	< 7	< 12	< 6	< 6	< 5	< 10
	05/06/25	< 0.8	< 49	< 5	< 5	< 13	< 5	< 11	< 6	< 5	< 6	< 8
	06/02/25	< 0.9	< 118	< 4	< 5	< 10	< 5	< 10	< 6	< 5	< 5	< 10
	07/08/25	< 0.8	33 \pm 22	< 1	< 1	< 3	< 2	< 3	< 2	< 2	< 1	< 4
	08/04/25	< 0.7	82 \pm 37	< 3	< 3	< 6	< 3	< 6	< 3	< 3	< 3	< 6
	09/03/25	< 0.8	60 \pm 34	< 2	< 2	< 5	< 3	< 5	< 2	< 2	< 2	< 5
	10/06/25	< 0.8	90 \pm 34	< 3	< 3	< 6	< 3	< 7	< 3	< 3	< 3	< 6
	11/03/25	< 0.9	65 \pm 36	< 1	< 1	< 3	< 1	< 3	< 1	< 1	< 1	< 5
	12/04/25	< 0.8	113 \pm 40	< 3	< 3	< 7	< 3	< 6	< 3	< 3	< 3	< 7
AVERAGE*		-	78 \pm 54	-	-	-	-	-	-	-	-	-
ALL INDICATOR AVERAGE*			96 \pm 54									

(C) CONTROL LOCATION.

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE, THE AVERAGE AND THE ERROR ARE DISPLAYED.

- INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

Attachment 2 - Data Table

Table 18, Concentrations of Gross Alpha and Gross Beta Emitters, and Tritium in Raw and Treated Potable Water, 2025

Results in Units of pCi/L $\pm 2\sigma$

STATION ID	COLLECTION PERIOD		Gross Alpha	Gross Beta	H-3
	START	STOP			
SA-PWR-02F3**	12/31/24	- 01/28/25	< 1.0	9.1 \pm 1.4	< 195
	01/28/25	- 02/25/25	< 2.3	9.9 \pm 2.8	< 193
	02/25/25	- 03/31/25	< 1.7	8.9 \pm 2.5	< 187
	03/31/25	- 04/29/25	< 2.8	7.6 \pm 2.1	< 185
	04/29/25	- 05/27/25	< 2.4	8.4 \pm 1.9	< 193
	05/27/25	- 06/30/25	< 2.8	5.9 \pm 2.8	< 191
	06/30/25	- 07/29/25	< 2.3	5.6 \pm 2.5	< 187
	07/29/25	- 08/25/25	< 1.3	7.3 \pm 1.8	< 195
	08/25/25	- 09/29/25	< 1.1	11.1 \pm 2.5	< 182
	09/30/25	- 10/27/25	< 1.5	10.1 \pm 2.6	< 191
	10/27/25	- 11/24/25	< 1.7	10.6 \pm 2.6	< 195
	11/24/25	- 12/29/25	< 2.3	6.9 \pm 2.5	< 186
AVERAGE*			-	8.5 \pm 3.6	-
SA-PWT-02F3**	12/31/24	- 01/28/25	< 1.1	10.0 \pm 1.5	< 190
	01/28/25	- 02/25/25	< 2.3	9.3 \pm 2.7	< 189
	02/25/25	- 03/31/25	< 1.9	10.2 \pm 2.7	< 189
	03/31/25	- 04/29/25	< 1.2	8.5 \pm 2.7	< 185
	04/29/25	- 05/27/25	< 1.5	9.5 \pm 3.5	< 193
	05/27/25	- 06/30/25	< 2.9	10.8 \pm 2.1	< 196
	06/30/25	- 07/29/25	< 2.3	8.4 \pm 2.7	< 189
	07/29/25	- 08/25/25	< 2.0	6.0 \pm 2.2	< 193
	08/25/25	- 09/29/25	< 1.1	10.9 \pm 2.5	< 183
	09/30/25	- 10/27/25	< 1.2	6.4 \pm 2.1	< 191
	10/27/25	- 11/24/25	< 1.7	10.8 \pm 2.6	< 194
	11/24/25	- 12/29/25	< 2.1	6.9 \pm 2.4	< 188
AVERAGE*			-	9.0 \pm 3.5	-

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE THE AVERAGE AND THE ERROR ARE DISPLAYED.

** MANAGEMENT AUDIT SAMPLE: NOT REQUIRED BY ODCM.

- INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

Attachment 2 - Data Table

Table 19, Concentrations of Iodine-131 and Gamma Emitters in Raw and Treated Potable Water, 2025
Results in Units of pCi/L ± 2σ

STATION ID	COLLECTION PERIOD		----- GAMMA EMITTERS -----												
	START	STOP	I-131 LL	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	ZrNb-95	Cs-134	Cs-137	BaLa-140	Ra-226	
SA-PWR-02F3**	12/31/24	- 01/28/25	< 0.5	< 111	< 5	< 6	< 10	< 6	< 13	< 5	< 4	< 7	< 6	< 192	
	01/28/25	- 02/25/25	< 0.8	< 116	< 7	< 6	< 13	< 8	< 13	< 6	< 7	< 5	< 11	< 161	
	02/25/25	- 03/31/25	< 0.8	< 69	< 3	< 3	< 8	< 3	< 6	< 3	< 4	< 3	< 5	< 80	
	03/31/25	- 04/29/25	< 0.8	< 55	< 6	< 6	< 13	< 7	< 14	< 5	< 6	< 6	< 9	< 141	
	04/29/25	- 05/27/25	< 0.9	< 127	< 6	< 8	< 13	< 8	< 15	< 7	< 5	< 6	< 8	< 147	
	05/27/25	- 06/30/25	< 0.4	87 ± 56	< 6	< 5	< 11	< 7	< 12	< 5	< 6	< 5	< 9	< 130	
	06/30/25	- 07/29/25	< 0.9	< 127	< 7	< 4	< 8	< 7	< 17	< 5	< 5	< 6	< 6	< 152	
	07/29/25	- 08/25/25	< 0.8	< 133	< 6	< 5	< 14	< 8	< 17	< 7	< 7	< 6	< 8	< 154	
	08/25/25	- 09/29/25	< 0.7	< 117	< 7	< 6	< 13	< 8	< 15	< 6	< 7	< 6	< 9	< 152	
	09/30/25	- 10/27/25	< 0.9	< 89	< 7	< 7	< 13	< 7	< 16	< 8	< 7	< 8	< 11	< 162	
	10/27/25	- 11/24/25	< 0.8	< 24	< 1	< 2	< 3	< 2	< 3	< 2	< 1	< 1	< 4	< 39	
	11/24/25	- 12/29/25	< 0.9	< 118	< 6	< 5	< 11	< 6	< 12	< 7	< 6	< 6	< 9	129	
AVERAGE*		-	87 ± 56	-	-	-	-	-	-	-	-	-	-	-	
SA-PWT-02F3**	12/31/24	- 01/28/25	< 0.5	< 98	< 5	< 5	< 11	< 7	< 15	< 7	< 7	< 6	< 5	< 146	
	01/28/25	- 02/25/25	< 0.9	< 114	< 6	< 5	< 13	< 8	< 18	< 7	< 6	< 7	< 10	< 170	
	02/25/25	- 03/31/25	< 0.9	< 57	< 3	< 4	< 8	< 3	< 5	< 3	< 4	< 3	< 5	< 77	
	03/31/25	- 04/29/25	< 0.7	< 97	< 5	< 4	< 9	< 5	< 10	< 4	< 6	< 5	< 9	< 114	
	04/29/25	- 05/27/25	< 0.9	< 102	< 5	< 6	< 13	< 5	< 12	< 7	< 7	< 7	< 8	< 179	
	05/27/25	- 06/30/25	< 0.3	< 120	< 6	< 6	< 12	< 9	< 12	< 5	< 7	< 5	< 10	< 152	
	06/30/25	- 07/29/25	< 0.8	< 88	< 6	< 6	< 10	< 6	< 16	< 7	< 7	< 7	< 9	< 160	
	07/29/25	- 08/25/25	< 0.9	< 110	< 7	< 6	< 11	< 8	< 9	< 6	< 7	< 7	< 8	< 149	
	08/25/25	- 09/29/25	< 0.2	< 112	< 5	< 4	< 13	< 8	< 11	< 6	< 6	< 6	< 12	< 151	
	09/30/25	- 10/27/25	< 0.8	< 52	< 5	< 5	< 8	< 8	< 17	< 6	< 8	< 6	< 9	< 166	
	10/27/25	- 11/24/25	< 0.7	< 14	< 2	< 2	< 4	< 2	< 3	< 2	< 2	< 2	< 5	< 35	
	11/24/25	- 12/29/25	< 0.7	< 36	< 5	< 5	< 11	< 6	< 11	< 6	< 6	< 5	< 8	< 141	
AVERAGE*		-	-	-	-	-	-	-	-	-	-	-	-	-	

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE THE AVERAGE AND THE ERROR ARE DISPLAYED.

** MANAGEMENT AUDIT SAMPLE: NOT REQUIRED BY ODCM.

- INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

Attachment 2 - Data Table

Table 20, Concentration of Gross Alpha and Beta Emitters, and Tritium in Well Water, 2025

Results in Units of pCi/L $\pm 2\sigma$				
STATION ID	COLLECTION DATE	Gross Alpha	Gross Beta	H-3
SA-WWA-03E1**	01/22/25	< 1.5	< 3.5	< 192
	02/24/25	< 2.1	< 3.7	< 189
	03/17/25	< 1.4	< 2.9	< 199
	04/23/25	< 1.6	< 3.1	< 195
	05/19/25	< 1.9	< 3.0	< 183
	06/16/25	< 1.0	< 1.9	< 195
	07/22/25	< 1.6	< 3.1	< 193
	08/26/25	< 1.4	< 2.0	< 192
	09/17/25	< 2.2	< 3.4	< 188
	10/20/25	< 2.0	< 3.1	< 191
	11/18/25	< 1.5	3.1 \pm 1.9	< 197
	12/22/25	< 1.1	< 3.2	< 199
AVERAGE*		-	3.1 \pm 1.9	-

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE THE AVERAGE AND THE ERROR ARE DISPLAYED.

** MANAGEMENT AUDIT SAMPLE: NOT REQUIRED BY ODCM.

- INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

Attachment 2 - Data Table

Table 21, Concentrations of Iodine-131 and Gamma Emitters in Well Water, 2025

Results in Units of pCi/L \pm 2 σ

STATION ID	COLLECTION DATE	----- GAMMA EMITTERS -----											
		I-131 LL	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	ZrNb-95	Cs-134	Cs-137	BaLa-140	Ra-226
SA-WWA-03E1**	01/22/25	< 0.7	< 31	< 3	< 3	< 7	< 4	< 7	< 4	< 3	< 4	< 4	< 94
	02/24/25	< 0.8	< 53	< 5	< 5	< 12	< 6	< 14	< 5	< 7	< 6	< 10	< 129
	03/17/25	< 0.8	< 42	< 4	< 4	< 10	< 5	< 9	< 5	< 5	< 5	< 6	< 128
	04/23/25	< 0.7	< 63	< 3	< 3	< 6	< 3	< 6	< 4	< 4	< 3	< 3	< 105
	05/19/25	< 0.8	< 119	< 8	< 7	< 13	< 7	< 17	< 8	< 8	< 7	< 11	< 187
	06/16/25	< 0.8	< 107	< 8	< 6	< 12	< 10	< 11	< 7	< 7	< 8	< 9	< 163
	07/22/25	< 0.8	< 80	< 5	< 5	< 10	< 6	< 10	< 5	< 6	< 5	< 8	< 131
	08/26/25	< 0.9	< 114	< 8	< 8	< 17	< 9	< 18	< 9	< 7	< 9	< 10	< 194
	09/17/25	< 0.8	< 99	< 6	< 6	< 14	< 8	< 14	< 6	< 7	< 7	< 10	< 153
	10/20/25	< 0.9	< 54	< 6	< 5	< 10	< 7	< 12	< 6	< 6	< 7	< 6	< 152
	11/18/25	< 0.8	< 96	< 5	< 5	< 11	< 7	< 10	< 7	< 6	< 5	< 5	< 146
	12/22/25	< 0.9	< 102	< 5	< 5	< 10	< 5	< 9	< 4	< 6	< 5	< 5	< 116
AVERAGE*		-	-	-	-	-	-	-	-	-	-	-	-

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE THE AVERAGE AND THE ERROR ARE DISPLAYED.

** MANAGEMENT AUDIT SAMPLE: NOT REQUIRED BY ODCM.

- INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

Attachment 2 - Data Table

Table 22, Concentrations of Gamma Emitters in Sediment, 2025

Results in Units of pCi/kg (dry) ± 2σ							
<-----GAMMA EMITTERS----->							
STATION ID	Collection Date	Be-7	K-40	Cs-134	Cs-137	Ra-226	Th-232
SA-ESS-12B1 (C)	06/30/25	< 903	16,970 ± 2,130	< 112	< 103	2,558 ± 1,579	< 635
	12/04/25	< 901	12,320 ± 1,875	< 113	< 95	< 1,735	< 600
	AVERAGE*	-	14,645 ± 6,576	-	-	2,558 ± 1579	-
SA-ESS-05A1	07/08/25	< 468	4,701 ± 872	< 56	< 55	< 998	< 240
	12/09/25	< 557	2,913 ± 1,011	< 54	< 58	< 1,230	< 382
	AVERAGE*	-	3,807 ± 2,529	-	-	-	-
SA-ESS-11A1	06/30/25	< 541	2,561 ± 793	< 70	< 56	< 1,323	< 300
	12/04/25	< 577	3,230 ± 1,149	< 94	< 63	< 1,415	< 337
	AVERAGE*	-	2,896 ± 946	-	-	-	-
SA-ESS-15A1	06/30/25	< 483	4,503 ± 831	< 62	< 51	< 1,342	< 284
	12/04/25	< 529	4,949 ± 826	< 48	< 44	< 1,155	355 ± 102
	AVERAGE*	-	4,726 ± 631	-	-	-	355 ± 102
SA-ESS-15A2	(a)						
	(a)						
	AVERAGE*	-	-	-	-	-	-
SA-ESS-07E1	06/30/25	< 619	13,810 ± 1,667	< 94	< 73	< 1,135	1,016 ± 218
	12/04/25	< 680	16,380 ± 1,647	< 96	< 72	< 1,962	884 ± 201
	AVERAGE*	-	15,095 ± 3,635	-	-	-	950 ± 187
SA-ESS-16F1	06/30/25	< 1072	25,160 ± 2,890	< 142	< 113	< 2,549	1,132 ± 434
	12/04/25	< 1046	13,170 ± 2,117	< 107	< 117	< 2,412	829 ± 275
	AVERAGE*	-	19,165 ± 16,956	-	-	-	980 ± 429
ALL INDICATOR AVERAGE		-	9,138 ± 15,244	-	-	-	843 ± 594

(C) CONTROL LOCATION.

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE, THE AVERAGE AND THE ERROR ARE DISPLAYED.

- INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

(a) STATION 15A2 COULD NOT BE COLLECTED DUE TO A WIND PORT PROJECT (TABLE 11).

Attachment 2 - Data Table

Table 23, Concentrations of Iodine-131 and Gamma Emitters in Milk, 2025
Results in Units of pCi/L \pm 2 σ

STATION ID	COLLECTION PERIOD		< ----- GAMMA EMITTERS ----- >						
	START	STOP	I-131 LL	K-40	Cs-134	Cs-137	BaLa-140	Ra-226	
SA-MLK-02G3 (C)	01/06/25	- 01/07/25	< 0.9	1,076 \pm 174	< 9	< 7	< 10	< 168	
	02/02/25	- 02/03/25	< 0.8	1,417 \pm 162	< 8	< 7	< 10	< 172	
	03/02/25	- 03/03/25	< 0.8	1,309 \pm 137	< 6	< 7	< 10	< 149	
	04/06/25	- 04/07/25	< 0.9	1,207 \pm 204	< 10	< 9	< 12	< 178	
	04/20/25	- 04/21/25	< 0.8	1,125 \pm 166	< 8	< 7	< 15	< 141	
	05/04/25	- 05/05/25	< 0.8	994 \pm 170	< 10	< 10	< 14	< 213	
	05/18/25	- 05/19/25	< 0.8	1,203 \pm 178	< 9	< 7	< 13	< 222	
	06/01/25	- 06/02/25	< 0.6	1,220 \pm 159	< 8	< 7	< 10	< 180	
	06/15/25	- 06/16/25	< 0.3	1,349 \pm 162	< 10	< 8	< 12	< 170	
	07/06/25	- 07/07/25	< 0.9	1,242 \pm 179	< 9	< 8	< 12	< 202	
	07/20/25	- 07/21/25	< 0.9	1,261 \pm 154	< 7	< 6	< 14	< 155	
	08/03/25	- 08/04/25	< 0.8	1,226 \pm 195	< 11	< 9	< 9	< 225	
	08/17/25	- 08/18/25	< 0.9	1,312 \pm 149	< 8	< 7	< 12	< 190	
	09/07/25	- 09/08/25	< 0.4	1,103 \pm 150	< 7	< 8	< 15	< 186	
	09/21/25	- 09/22/25	< 0.7	1,039 \pm 166	< 8	< 8	< 9	< 180	
	10/05/25	- 10/06/25	< 0.8	1,182 \pm 60	< 3	< 2	< 5	< 49	
	10/26/25	- 10/27/25	< 0.9	1,180 \pm 63	< 2	< 2	< 5	< 41	
	11/09/25	- 11/10/25	< 1.0	1,273 \pm 159	< 7	< 7	< 11	< 155	
11/16/25	- 11/17/25	< 0.9	1,184 \pm 132	< 5	< 5	< 9	< 142		
12/07/25	- 12/08/25	< 0.9	1,271 \pm 125	< 5	< 5	< 7	< 128		
	AVERAGE*		-	1,209 \pm 210	-	-	-	-	

Attachment 2 - Data Table

Table 23, Concentrations of Iodine-131 and Gamma Emitters in Milk, 2025
Results in Units of pCi/L \pm 2 σ

STATION ID	COLLECTION PERIOD		< ----- GAMMA EMITTERS ----- >						
	START	STOP	I-131 LL	K-40	Cs-134	Cs-137	BaLa-140	Ra-226	
SA-MLK-13E3	01/06/25	- 01/07/25	< 0.9	1,252 \pm 176	< 9	< 7	< 8	< 215	
	02/02/25	- 02/03/25	< 0.7	1,205 \pm 223	< 9	< 10	< 10	< 197	
	03/02/25	- 03/03/25	< 0.7	1,398 \pm 168	< 8	< 8	< 11	< 182	
	04/06/25	- 04/07/25	< 0.7	1,225 \pm 158	< 8	< 8	< 13	< 163	
	04/20/25	- 04/21/25	< 0.9	1,343 \pm 176	< 10	< 8	< 10	< 235	
	05/04/25	- 05/05/25	< 0.9	1,317 \pm 196	< 10	< 10	< 11	< 185	
	05/18/25	- 05/19/25	< 0.9	1,102 \pm 185	< 10	< 9	< 14	< 191	
	06/01/25	- 06/02/25	< 0.5	1,385 \pm 223	< 10	< 9	< 12	< 171	
	06/15/25	- 06/16/25	< 0.5	1,436 \pm 238	< 10	< 8	< 9	< 165	
	07/06/25	- 07/07/25	< 0.8	1,266 \pm 154	< 9	< 8	< 6	< 219	
	07/20/25	- 07/21/25	< 0.9	1,182 \pm 164	< 7	< 8	< 8	< 163	
	08/03/25	- 08/04/25	< 0.7	1,211 \pm 189	< 7	< 6	< 7	< 195	
	08/17/25	- 08/18/25	< 0.8	1,228 \pm 160	< 7	< 7	< 15	< 139	
	09/07/25	- 09/08/25	< 0.4	1,302 \pm 182	< 9	< 9	< 10	< 219	
	09/21/25	- 09/22/25	< 0.5	1,139 \pm 172	< 8	< 8	< 14	< 226	
	10/05/25	- 10/06/25	< 0.9	1,272 \pm 57	< 2	< 2	< 4	< 48	
	10/26/25	- 10/27/25	< 0.8	1,594 \pm 69	< 3	< 3	< 6	< 65	
	11/09/25	- 11/10/25	< 0.9	1,166 \pm 152	< 7	< 6	< 13	< 191	
11/16/25	- 11/17/25	< 0.9	1,288 \pm 185	< 7	< 8	< 12	< 208		
12/07/25	- 12/08/25	< 1.0	1,086 \pm 148	< 7	< 6	< 7	< 127		
AVERAGE*			-	1,270 \pm 243	-	-	-	-	

Attachment 2 - Data Table

Table 23, Concentrations of Iodine-131 and Gamma Emitters in Milk, 2025
Results in Units of pCi/L \pm 2 σ

STATION ID	COLLECTION PERIOD		< ----- GAMMA EMITTERS ----- >						
	START	STOP	I-131 LL	K-40	Cs-134	Cs-137	BaLa-140	Ra-226	
SA-MLK-14F4	01/06/25	- 01/07/25	< 0.8	1,321 \pm 160	< 8	< 7	< 6	< 157	
	02/02/25	- 02/03/25	< 0.7	1,506 \pm 174	< 8	< 7	< 14	< 169	
	03/02/25	- 03/03/25	< 0.7	1,335 \pm 166	< 9	< 8	< 14	< 166	
	04/06/25	- 04/07/25	< 0.7	1,282 \pm 184	< 9	< 9	< 5	< 169	
	04/20/25	- 04/21/25	< 0.9	1,107 \pm 149	< 9	< 7	< 14	< 168	
	05/04/25	- 05/05/25	< 0.7	1,229 \pm 189	< 10	< 8	< 10	< 244	
	05/18/25	- 05/19/25	< 0.9	1,290 \pm 121	< 6	< 6	< 12	< 145	
	06/01/25	- 06/02/25	< 0.6	1,212 \pm 162	< 8	< 7	< 10	< 193	
	06/15/25	- 06/16/25	< 0.4	1,243 \pm 197	< 9	< 8	< 7	< 242	
	07/06/25	- 07/07/25	< 0.8	1,245 \pm 207	< 7	< 8	< 9	< 163	
	07/20/25	- 07/21/25	< 0.9	1,207 \pm 174	< 9	< 8	< 11	< 171	
	08/03/25	- 08/04/25	< 0.9	1,452 \pm 139	< 7	< 6	< 12	< 147	
	08/17/25	- 08/18/25	< 0.8	1,053 \pm 187	< 9	< 9	< 7	< 189	
	09/07/25	- 09/08/25	< 0.3	1,054 \pm 187	< 10	< 8	< 8	< 180	
	09/21/25	- 09/22/25	< 0.7	1,144 \pm 201	< 12	< 9	< 13	< 175	
	10/06/25	- 10/07/25	< 0.8	1,413 \pm 58	< 3	< 2	< 5	< 65	
	10/26/25	- 10/27/25	< 0.8	1,536 \pm 47	< 2	< 2	< 4	< 42	
	11/09/25	- 11/10/25	< 0.9	1,144 \pm 128	< 6	< 6	< 11	< 147	
	11/16/25	- 11/17/25	< 0.9	1,424 \pm 217	< 9	< 8	< 13	< 170	
12/07/25	- 12/08/25	< 0.7	1,387 \pm 167	< 8	< 7	< 10	< 171		
AVERAGE*			-	1,279 \pm 285	-	-	-	-	
ALL INDICATOR AVERAGE*			-	1,275 \pm 262	-	-	-	-	

(C) CONTROL LOCATION.

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE, THE AVERAGE AND THE ERROR ARE DISPLAYED.

- INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

Attachment 2 - Data Table

Table 24, Concentrations of Gamma Emitters in Edible Fish, 2025

Results in Units of pCi/kg (wet) ± 2σ

		<-----GAMMA EMITTERS----->								
STATION ID	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226
SA-ESF-12B1 (C)	04/28/25	2,726 ± 1,129	< 62	< 90	< 204	< 88	< 180	< 75	< 64	< 1,311
	10/21/25	5,560 ± 1,662	< 92	< 108	< 240	< 46	< 197	< 71	< 70	< 1,475
	11/03/25	4,041 ± 1,024	< 74	< 74	< 175	< 67	< 138	< 66	< 70	< 1,448
	11/03/25	3,007 ± 1,866	< 95	< 95	< 168	< 85	< 211	< 106	< 74	< 1,454
	AVERAGE*	3,834 ± 2,565	-	-	-	-	-	-	-	-
SA-ESF-11A1	04/28/25	2,697 ± 1,224	< 71	< 84	< 174	< 91	< 160	< 66	< 65	< 1,103
	11/14/25	4,482 ± 1,039	< 67	< 78	< 109	< 56	< 145	< 71	< 41	< 1,293
	11/18/25	3,385 ± 1,004	< 67	< 50	< 177	< 61	< 139	< 64	< 61	< 1,287
	AVERAGE*	3,521 ± 1,801	-	-	-	-	-	-	-	-
SA-ESF-07E1	05/16/25	2,898 ± 1,082	< 88	< 92	< 157	< 96	< 166	< 101	< 87	< 1,632
	10/21/25	4,284 ± 1,295	< 89	< 103	< 247	< 97	< 144	< 91	< 65	< 1,551
	10/27/25	3,154 ± 1,131	< 84	< 98	< 245	< 76	< 149	< 90	< 96	< 1,830
	AVERAGE*	3,445 ± 1,475	-	-	-	-	-	-	-	-
ALL INDICATOR AVERAGE*		3,483 ± 1,474								

(C) CONTROL LOCATION.

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE, THE AVERAGE AND THE ERROR ARE DISPLAYED.

- INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

Attachment 2 - Data Table

Table 25, Concentrations of Gamma Emitters in Blue Crabs, 2025
Results in Units of pCi/kg (wet) ± 2σ

<-----GAMMA EMITTERS----->										
STATION ID	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226
SA-ECH-12B1 (C)	07/23/25	2,913 ± 1,019	< 60	< 83	< 159	< 58	< 129	< 48	< 50	< 1,061
	08/26/25	4,284 ± 1237	< 67	< 71	< 177	< 81	< 236	< 96	< 72	< 1,469
	AVERAGE*	3,599 ± 1,939	-	-	-	-	-	-	-	-
STATION ID	Collection Date	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137	Ra-226
SA-ECH-11A1	07/23/25	2,791 ± 1,053	< 75	< 67	< 124	< 93	< 167	< 77	< 57	< 1,330
	08/26/25	3,521 ± 1356	< 98	< 101	< 253	< 121	< 224	< 77	< 112	< 1,860
	AVERAGE*	3,156 ± 1,032	-	-	-	-	-	-	-	-

(C) CONTROL LOCATION.

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE, THE AVERAGE AND THE ERROR ARE DISPLAYED.

- INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

Attachment 2 - Data Table

Table 26, Concentrations of Gamma Emitters in Broadleaf Vegetation (FPL), 2025
Results in Units of pCi/kg (wet) ± 2σ

STATION ID	COLLECT ION DATE	SAMPLE TYPE	<----- GAMMA EMITTERS ----->						
			Be-7	K-40	I-131	Cs-134	Cs-137	Ra-226	Th-232
SA-FPL-03H5**	07/23/25	Cabbage	< 144	2,254 ± 345	< 27	< 21	< 18	< 419	< 63
SA-FPL-06S1	09/09/25	Lamb's Ear	1,946 ± 334	7,002 ± 722	< 56	< 30	< 30	< 641	< 127
SA-FPL-06S1	11/17/25	Cabbage	< 87	1,872 ± 216	< 60	< 9	< 8	< 206	< 36
SA-FPL-06S1	11/17/25	Kale	< 239	5,046 ± 530	< 52	< 30	< 27	< 681	< 106
SA-FPL-16S1	09/09/25	Lamb's Ear	1,472 ± 297	7,125 ± 738	< 54	< 35	< 28	< 664	< 136
SA-FPL-16S1	11/17/25	Cabbage	< 91	1,656 ± 208	< 59	< 10	< 10	< 158	< 37
SA-FPL-16S1	11/17/25	Kale	310 ± 115	6,058 ± 237	< 51	< 9	< 8	< 189	< 30
SA-FPL-10D1 (C)	09/09/25	Lamb's Ear	2,548 ± 427	12,650 ± 1,055	< 53	< 41	< 39	< 740	< 149
SA-FPL-10D1 (C)	11/17/25	Cabbage	< 293	3,461 ± 501	< 55	< 36	< 32	< 707	< 118
SA-FPL-10D1 (C)	11/17/25	Kale	< 321	7,363 ± 711	< 52	< 36	< 33	< 618	< 127
CONTROL AVERAGE*			2,548 ± 427	7,825 ± 9,224	-	-	-	-	-
ALL INDICATOR AVERAGE*			1,243 ± 1,684	4,430 ± 4,891	-	-	-	-	-

- (C) CONTROL LOCATION.
- * THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE THE AVERAGE AND THE ERROR ARE DISPLAYED.
- ** MANAGEMENT AUDIT SAMPLE: NOT REQUIRED BY ODCM.
- INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

Attachment 2 - Data Table

Table 27, Concentrations of Gamma Emitters in Vegetables (FPV), 2025
Results in Units of pCi/kg (wet) ± 2σ

----- GAMMA EMITTERS -----									
STATION ID	COLLECTION DATE	SAMPLE TYPE	Be-7	K-40	I-131	Cs-134	Cs-137	Ra-226	Th-232
SA-FPV-02F9**	05/14/25	Asparagus	< 101	2,192 ± 312	< 18	< 13	< 13	< 276	< 52
SA-FPV-03F8**	08/19/25	Peach	< 90	1,690 ± 365	< 22	< 19	< 16	< 348	< 59
SA-FPV-15F4**	08/19/25	Tomato	< 122	2,182 ± 296	< 23	< 12	< 15	< 343	< 53
SA-FPV-09F1**	08/19/25	Tomato	< 145	2,010 ± 329	< 36	< 23	< 20	< 426	< 70
SA-FPV-01G1**	05/14/25	Asparagus	< 157	2,433 ± 411	< 23	< 19	< 17	< 360	< 62
SA-FPV-01G1**	05/22/25	Collards	< 141	3,775 ± 408	< 23	< 17	< 19	< 367	< 59
SA-FPV-01G1**	07/29/25	Tomato	< 131	1,660 ± 335	< 32	< 25	< 19	< 307	< 73
SA-FPV-01G1**	07/29/25	Corn	< 212	2,390 ± 413	< 48	< 25	< 21	< 502	< 90
SA-FPV-01G1**	07/29/25	Peach	< 152	2,073 ± 326	< 41	< 17	< 18	< 424	< 82
SA-FPV-01G1**	07/29/25	Pepper	< 191	1,200 ± 414	< 46	27	< 21	< 457	< 79
SA-FPV-03H5**	05/14/25	Asparagus	< 124	1,855 ± 361	< 23	< 20	< 16	< 324	< 75
SA-FPV-03H5**	07/23/25	Tomato	< 221	1,398 ± 374	< 39	< 23	< 22	< 618	< 78
SA-FPV-03H5**	07/23/25	Peach	< 160	1,202 ± 412	< 30	< 21	< 25	< 491	< 87
SA-FPV-03H5**	07/23/25	Corn	< 269	2,528 ± 590	< 47	< 38	< 34	< 764	< 128
SA-FPV-03H5**	07/23/25	Pepper	< 171	1,619 ± 396	< 33	< 20	< 17	< 417	< 64
AVERAGE*			-	2,014 ± 1,294	-	-	-	-	-

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE THE AVERAGE AND THE ERROR ARE DISPLAYED.

** MANAGEMENT AUDIT SAMPLE: NOT REQUIRED BY ODCM.

- INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

Attachment 2 - Data Table

Table 28, Concentrations of Gamma Emitters in Fodder Crops, 2025

Results in Units of pCi/kg (wet) ± 2σ									
< ----- GAMMA EMITTERS ----- >									
STATION ID	COLLECTION DATE	SAMPLE TYPE	Be-7	K-40	I-131	Cs-134	Cs-137	Ra-226	Th-232
SA-VGT-13E3**	10/27/25	Silage	342 ± 152	2,736 ± 481	< 40	< 30	< 30	< 650	< 96
SA-VGT-14F4**	10/27/25	Silage	473 ± 155	2,401 ± 411	< 27	< 26	< 25	< 486	< 108
SA-VGT-02G3**	10/27/25	Silage	< 280	3,524 ± 481	< 50	< 33	< 26	< 1030	< 109
AVERAGE*			408 ± 185	2,887 ± 1,153	-	-	-	-	-

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES. IF THERE IS ONLY ONE POSITIVE VALUE THE AVERAGE AND THE ERROR ARE DISPLAYED.

** MANAGEMENT AUDIT SAMPLE: NOT REQUIRED BY ODCM.

- INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

Attachment 2 - Data Table

Table 29, Concentrations of Gamma Emitters in Game, 2025
 Results in Units of pCi/kg (wet) $\pm 2\sigma$

STATION ID	COLLECTION DATE	SAMPLE TYPE	<-----GAMMA EMITTERS----->				
			Be-7	K-40	I-131	Cs-134	Cs-137
There were no game samples available in 2025.							

Attachment 2 - Data Table

Table 30, Concentrations of Gamma Emitters in Soil, 2025**
Results in Units of pCi/kg (dry) \pm 2 σ

STATION ID	COLLECTION DATE	----- GAMMA EMITTERS -----					
		Be-7	K-40	Cs-134	Cs-137	Ra-226	Th-232
SA-SOL-10D1**	4/30/2025	< 704	12,060 \pm 1,971	< 121	154 \pm 99	< 1,700	921 \pm 213
SA-SOL-13E3**	4/30/2025	< 669	11,990 \pm 1,782	< 87	< 104	< 1,782	691 \pm 170
SA-SOL-16E1**	4/30/2025	< 616	9,593 \pm 1,651	< 88	< 94	< 1,537	758 \pm 144
SA-SOL-02F9**	4/30/2025	< 509	4,690 \pm 1,198	< 79	138 \pm 60	< 1,574	< 432
SA-SOL-05F1**	4/30/2025	< 974	6,921 \pm 1,547	< 104	< 150	< 2,396	< 727
SA-SOL-14F4**	4/30/2025	< 850	16,440 \pm 2,046	< 134	< 92	< 2,121	< 690
SA-SOL-02G3**	4/30/2025	< 962	8,099 \pm 1,550	< 123	< 133	< 2,392	571 \pm 204
SA-SOL-03G1**	4/30/2025	< 926	9,787 \pm 1,889	< 147	< 148	< 2,495	1059 \pm 258
SA-SOL-06S1**	4/30/2025	< 854	6,158 \pm 1,435	< 113	< 102	< 2,566	< 471
AVERAGE*		-	9,526 \pm 7,208	-	146 \pm 24	-	800 \pm 384

* THE AVERAGE AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES, IF THERE IS ONLY 1 POSITIVE VALUE THE AVERAGE AND THE ERROR ARE DISPLAYED.

** MANAGEMENT AUDIT SAMPLES TAKEN EVERY 3 YEARS, NEXT SAMPLE DUE 2025: NOT REQUIRED BY ODCM. INDICATES AVERAGE WAS NOT CALCULATED DUE TO NO POSITIVE VALUES FOR THE REPORTING PERIOD.

Attachment 3, Cross check Intercomparison Program

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Participation in cross check intercomparison studies is mandatory for laboratories performing analyses of REMP samples satisfying the requirements in the Offsite Site Dose Calculation Manual. Intercomparison studies provide a consistent and effective means to evaluate the accuracy and precision of analyses performed by a laboratory. Study results should fall within specified control limits and results that fall outside the control limits are investigated and corrected.

Teledyne Brown Engineering (TBE) and GEL Analytical Services (GEL) participated in the following proficiency testing studies provided by Environmental Resource Associates (ERA), Eckert Ziegler Analytics and DOE Mixed Analyte Performance Evaluation in 2025. The Laboratory's intercomparison program results for 2025 are summarized below.

Teledyne Brown Engineering Summary of Results

I. Quality Assurance Program Overview

This report outlines the Quality Assurance (QA) Program for the analytical services function of the Teledyne Brown Engineering – Environmental Services (TBE-ES), Knoxville Laboratory. Please note that while this report focuses on all data for 2025, it will also include certain summaries of 4th quarter only data.

2025 also represents the first full year under the laboratory's new management team: Laboratory Operations Manager Karli Arterburn and Quality Assurance Manager Kristin Peacock.

A. QA/QC Program Structure and Governance

To ensure direction and consistency in administering the QA Program, TBE-ES has developed and adheres to a comprehensive Quality Assurance Manual and a set of Standard Operating Procedures (SOPs). These documents outline the scheduled frequency and scope of Quality Assurance and Quality Control (QA/QC) activities deemed necessary to maintain an effective program throughout the year.

B. Quality Control Scope and Activities

- i. TBE-ES's QC is designed to monitor the integrity of analytical processes associated with:
 - Environmental samples
 - Effluent monitoring (per USNRC Regulatory Guide 4.15)
 - Bioassay testing
 - Industrial process evaluations
 - Waste characterization (per 10 CFR Part 61)
- ii. Quality control activities are maintained through a combination of internal process controls and twice annual participation in external third-party performance evaluation programs (crosschecks). These programs include:

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- Eckert & Ziegler Analytics (Analytics)
- Environmental Resource Associates (ERA)
- Department of Energy (DOE) Mixed Analyte Performance Evaluation Program* (MAPEP)
- Client-Supplied Crosschecks (analyzed throughout the year at varying intervals)

**MAPEP is designed to assess analytical capabilities critical to DOE services. These performance evaluation samples often contain both radiological and non-radiological “mixed” analytes, simulating real-world conditions encountered at DOE monitoring sites. Although TBE-ES is not currently contracted for DOE sample analysis, the laboratory voluntarily participates in MAPEP to maintain proficiency across a broad range of matrices and nuclides routinely analyzed (e.g., water, soil, air filters).*

iii. Internal QC efforts are scheduled throughout the year and include:

- Instrumentation checks
- Background measurements
- Blank sample analysis
- Duplicate sample analysis
- Spiked sample recovery evaluations
- Matrix spike assessments

These activities are designed to simulate client sample conditions and ensure method reliability. The combined external and internal QC effort is targeted to represent approximately 10% of the routine sample analysis load.

C. Quality Assurance Through Audit Evaluation

i. Audit Program Overview and Compliance Framework

TBE-ES maintains a robust audit program as part of its commitment to continuous improvement and regulatory compliance. **Internal audits** are conducted annually in accordance with the Department of Defense/Department of Energy Quality Systems Manual (DoD/DOE QSM) Version 6.0. These audits are essential for maintaining accreditation and ensuring alignment with ISO/IEC 17025:2017. The QSM 6.0 specifies that laboratories “shall conduct internal audits at planned intervals to determine whether the quality management system conforms to planned arrangements and to the requirements of the QSM and ISO/IEC 17025.” Similarly, the 2016 TNI Standard requires that internal audits be documented, comprehensive, and inclusive of all elements of the laboratory’s quality system.

In addition to internal audits, TBE-ES is subject to **external evaluations** conducted by clients, regulatory agencies, and accreditation bodies to ensure compliance with contractual, regulatory, and industry-specific standards. These include:

- **Client Audits:** performed by both prospective and existing clients to verify compliance with contractual specifications and technical expectations.
- **State Regulatory Audits:** required to maintain client-specific certifications and fulfill accreditation under the National Environmental Laboratory Accreditation Program (NELAP).
- **NUPIC Audits:** conducted every 33 to 36 months by the Nuclear Procurement Issues Corporation to assess laboratory service providers supporting nuclear utilities and Radiological Environmental Monitoring Programs (REMP).

Attachment 3 – Cross Check Program

- **Certified Accreditation Audits:** performed by Perry Johnson Laboratory Accreditation, Inc., TBE-ES's selected accreditation body, and conducted annually. Holding this accreditation certificate provides a formal, independent endorsement that verifies TBE-ES's competence and integrity.

D. Performance Characteristics

This section outlines the technical evaluation criteria and methodology used by TBE-ES to evaluate analytical accuracy and precision through both interlaboratory and intralaboratory quality control programs.

i. *Inter*laboratory Accuracy

TBE-ES evaluates interlaboratory performance using external proficiency testing programs and client-submitted verification samples. Acceptance criteria are based on either published standards or internal protocols when external benchmarks are not provided.

a. MAPEP Evaluation Criteria

- MAPEP reports include relative bias and flag values:
 - Acceptable (A): $|\text{Bias}| \leq 20\%$
 - Acceptable with Warning (W): $20\% < |\text{Bias}| \leq 30\%$
 - Not Acceptable (N): $|\text{Bias}| > 30\%$
- Uncertainty flags are informational and based on Relative Precision (RP):
 - $\text{RP} = (\text{Reported Uncertainty} / \text{Reported Result}) \times 100$
- False-positive tests: Identify results that incorrectly detect radionuclides below detection limits.
- Sensitivity evaluations: Assess whether results near detection limits are statistically valid.
- False-negative tests: Flag missed detections when known activity should have been measurable.
- Accurate uncertainty estimates are critical to avoid misclassification in these evaluations.

b. Eckert & Ziegler Analytics CrossCheck Program

- E&Z Analytics reports provide ratio-based comparisons between TBE-ES results and the known reference values.
- No formal pass/fail flags are assigned; results are evaluated using internal QC criteria modeled after DOE MAPEP standards.

c. ERA Proficiency Testing

- ERA reports include control and warning limits with flag values.
- Acceptance limits for drinking water follow TNI's Field of Proficiency Testing Tables: Mean \pm 2 Standard Deviation.
- Historical data is used for other matrices to establish performance thresholds.

Attachment 3 – Cross Check Program

- d. Nuclear Regulatory Commission (NRC) Verification Tests
- Some clients submit double-blind samples to TBE-ES under 10 CFR Part 50.
 - TBE-ES processes these as routine samples; results are evaluated using:
 - Resolution number: Known value / 1-sigma uncertainty
 - Ratio: Lab result / known value
 - Final evaluations are typically conducted by the client or third-party originator and may not be shared with TBE-ES.

ii. **Intralaboratory Accuracy**

Internal QC measures are used to assess precision and accuracy within the laboratory's own processes. These intralaboratory controls are designed to simulate client sample conditions and ensure method reliability across routine analyses.

a. Backgrounds and Method Blanks

Backgrounds, which represent the ambient signal response recorded by measuring instruments, are independent of radioactivity contributed by the radionuclides being measured in the sample. If possible, equivalent media for preparing laboratory processing blanks will be used.

Acceptable method blank sample results have no three-sigma statistically-positive activity for the target parameters. If all sample results associated with the blank are greater than the Minimum Detectable Concentration (MDC), then the blank MDC shall be less than the activity of the least active sample in the work order or it will be flagged with a qualifier in the client report with a case narrative.

b. Minimum Detectable Concentration (MDC)

Each analytical result includes the radionuclide concentration and the *a posteriori* MDC, calculated using actual measurement parameters (e.g., sample volume, chemical recovery, instrument background) to demonstrate that the Nuclear Regulatory Commission's (NRC) *a priori* MDC has been met for each radionuclide/sample. TBE-ES policy requires that the *a posteriori* MDC be less than the NRC's required *a priori* MDC for each radionuclide/sample.

c. Laboratory Control Samples (LCS) and Matrix Spikes (MS)

LCS (spikes) are used to evaluate the process of the analytical system from preparation through analysis. Spikes are a measure of accuracy for a group of test measurements to a given spike level. This is determined by calculating the recovery of the spike activity found versus the added (known) spike activity. The LCS are created by spiking a blank similar in nature to the tested samples. Accuracy is measured by percent recovery of spiked samples:

$$\% \text{ Recovery} = (A_m / A_s) 100$$

A_m = found spike activity amount

A_s = known spiked value

Attachment 3 – Cross Check Program

Acceptance criteria: 70%–130% spike recovery
Warning limits: 70%–79% and 121%–130%
Results outside these ranges are monitored for bias trends.

The laboratory’s internal acceptance criteria are based on MAPEP’s defined performance levels of bias greater than 30%.

A MS has the same known spike and volume of a target analyte added as the LCS and used to determine the effect of the matrix on recovery efficiency. This may be used to document the bias of a method in a sample matrix.

The activity of the MS should be greater than five times the minimum detectable amount of the target analyte in the sample. MS acceptance criteria is 60% - 140% recovery. As this analysis is matrix-dependent, it does not determine acceptability of the batch test results.

d. Duplicates (DUPs)

DUP samples are created by splitting a single sample into two aliquots, and each are assigned a unique Laboratory Sample Number (L#), and the samples are carried through the complete preparation process and analytical testing procedure.

Where there are no “known” values, duplicate analyses are evaluated for precision only, using Relative Percent Difference (RPD) between two samples. The RPD is calculated as the absolute difference between two values normalized to the average value, expressed as a percentage:

$$\% \text{ RPD} = (|\text{Original} - \text{Duplicate}| / [(\text{Original} + \text{Duplicate})/2]) \times 100$$

Acceptance criteria is a difference of

<=30% for water/liquid and

<= 50% for solids

Matrix Spike Duplicates (MSD) are split samples spiked with identical analyte concentrations of a target analyte and are used to assess both precision and bias. The matrix spike duplicate recovery is expressed as a percentage:

$$\% \text{ MSD} = (|\text{Original Activity}^* - \text{Duplicate Activity}| / \text{Spike Activity}) \times 100$$

**If the original activity is not detected, it is considered zero.*

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E. Investigations and Non-Conformance Reports

Investigations are initiated when quality control results fall outside of acceptable criteria. Other investigations may arise from unanticipated situations which are not clearly defined in the procedures or bounded by pre-established performance criteria but have the potential of becoming QA-related issues. The QA investigation is the mechanism to quickly ascertain if there is “due cause” to issue a formal Non-Conformance Report (NCR).

A NCR is issued to formally document the investigation of the non-conforming event, the corrective action taken to prevent recurrence, and effectiveness evaluation. Investigations may include review of procedures, interviews of personnel, review of laboratory and instrument logbooks, observation of analyst techniques, and any other items identified as necessary to resolve the issue. For interlaboratory performance evaluation (crosschecks) samples, it is TBE-ES’s policy to issue an NCR for unacceptable results for nuclides listed as part of the program. It should be noted that some nuclides are analyzed for internal information only.

F. Instrumentation Overview

TBE-ES utilizes a suite of calibrated radiological detection systems to support its analytical services. Each instrument type is subject to routine quality control checks and is maintained in accordance with manufacturer specifications and internal QA protocols. Instrument performance is evaluated using statistical control models (e.g., mean, 2-sigma, 3-sigma) or pre-set tolerance limits to ensure consistent and reliable operation.

TBE-ES instrumentation includes:

i. Gamma Spectroscopy

Gamma detectors are routinely monitored for energy, full width at half maximum, efficiency, and background. TBE-ES gamma detectors operated without incident during this reporting period. Occasional second runs (as allowed by our QA program) were necessary to verify acceptable operation. Some amplifier fine gain adjustments and liquid nitrogen addition to the dewars were also necessary when data trends indicate an energy drift on the detector.

ii. Liquid Scintillation Counters (LSC)

LSC instruments, used in tritium, carbon-14, nickel-63 and other low-energy beta-emitters, are monitored for background and efficiency. The reliability of these instruments is exceptional with zero instances of background or efficiency values outside of control limits.

iii. Alpha/Beta Gas Flow Proportional (GFP) Counters

GFP detectors used for gross alpha/beta, strontium-89/90, iodine-131 (low level) and other nuclides are monitored for background and efficiency. These detectors operated without incident during this reporting period. Occasionally, second runs (primarily for alpha due to the sensitivity of source placement) were necessary to verify acceptable operation or because of low P-10 pressure. After gas change-out and purging, control check values return to control norms.

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iv. Alpha Spectroscopy

Alpha detectors are routinely monitored for energy, full width at half maximum, efficiency, and background. TBE-ES alpha detectors operated without incident during this reporting period. Occasional second runs (as allowed by our QA program) were necessary to verify acceptable operation.

II. Quality Control Summary and Results

This section presents the quantitative and qualitative results of TBE-ES's QA/QC activities. It includes performance data from **interlaboratory** and **intralaboratory** programs, client-supplied crosschecks, non-conformance investigations, and audit results.

A. Interlaboratory Crosscheck Program

For all of 2025, provider-supplied studies involving 29 nuclides across 7 media types (air particulates, charcoal, milk, soil, urine, vegetation, and water) were received. Media types are intended to align with client-requested analyses and selected for inclusion.

i. Eckert & Zeigler Analytics Results

Overall, 15 radionuclides were evaluated across 5 matrices. Matrix assignments vary by nuclide, and the table in Attachment A outlines the specific combinations tested.

Results from September's study returned with **zero failures**.

Results for all of 2025 returned with **zero failures**.

ii. DOE's Mixed Analyte Performance (MAPEP) Results

Overall, 14 radionuclides were evaluated across 4 matrices. Matrix assignments vary by nuclide, and the table in Attachment A outlines the specific combinations tested.

Results from September's study returned with **2 failures**.

Results for all of 2025 returned with **4 failures**.

iii. ERA Proficiency Testing Results

Overall, 18 radionuclides were evaluated across 3 matrices. Matrix assignments vary by nuclide, and the table in Attachment A outlines the specific combinations tested.

Results from September's study returned with **2 failures**.

Results for all of 2025 returned with **3 failures**.

iv. NRC Verification Tests

For all of 2025, there were 81 total client-supplied crosscheck sample packages received with 16 different nuclides evaluated. Not all results were provided back to TBE-ES for acceptance comparison. Those that were received can be seen in the table in Attachment A.

Attachment 3 – Cross Check Program

B. Intralaboratory Quality Control Program

In 2025, almost 6,000 QC samples were analyzed across various matrices that include air particulate, charcoal, vegetation, milk, and water. These QC types are Blank, Spike, and Duplicate. Attachment B contains table summaries for the fourth quarter and for all of 2025 data and includes the gamma-emitting nuclides commonly observed in samples. Any QC samples that did not pass acceptance criteria were identified by the laboratory information management system (LIMS) and/or raw data review prior to client report submission and retested with passing results.

Total Evaluations by QC Type

QC Type	4 th Quarter Only		2025	
	Total Evaluated	Total Within Acceptance Criteria	Total Evaluated	Total Within Acceptance Criteria
Blank	440	440	1605	1605
Spike	446	445	1633	1627
Duplicate	370	368	2677	2674
Totals	1256	1253	5915	5906

C. Non-Conformance Reports (NCRs)

There were 16 NCRs opened in 2025. Details of each are found in Attachment C. NCRs marked as ‘In Progress’ were not completed at the time this report was published. Updated NCRs closed after distribution, as well as any supplemental documentation, are available upon request.

A summary of the NCRs is as follows:

- 1) NCR 25-01: The 2025 Utah TNI on-site assessment issued a nonconformance stating the laboratory did not perform annual verification of daily-use weight sets. TBE-ES’s weight sets are used to confirm the tolerance of the annually calibrated balances, prior to daily first use. The weights are not used directly in sample testing and are calibrated every 5 years. TBE-ES followed the requirements per accrediting body PJLA’s DoD/DOE QSM 6.0. TNI 2016 considers these weights to be “support equipment” that require annual calibration. TBE-ES implemented procedural updates, added a dedicated verification weight set for calibrations, revised documentation, and completed staff training. All weight sets used for daily balance checks will now be calibrated annually.

- 2) NCR 25-02: The 2025 Utah TNI on-site assessment issued a nonconformance related to an incorrect correction made on a printed copy of an electronically stored data report that a technician used as a personal reference. The printout was for internal use only and did not affect the official electronic record or data package. Data integrity training was provided to all staff to ensure proper correction technique is understood and performed and the training was revised to be more thorough and in-depth. No recurrence identified during effectiveness evaluation period.

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- 3) NCR 25-03: Technician hand key error when selecting instrument geometry, resulting in incorrect data result for a single sample nuclide. Comprehensive training provided and no recurrence identified during effectiveness evaluation period.
- 4) NCR 25-04: MAPEP 25, RdV52 vegetation study for Sr-90 evaluated as “Not Acceptable.” Possible sample interference issue. Study results stated 8 out of 18 participants passed the study. All internal data reviewed and deemed accurate with internal quality control measures for sample also passing. The laboratory performed testing with Sr-85 spike with successful outcomes. The following provider study, RdV53, returned with passing results.
- 5) NCR 25-05: Interlaboratory crosscheck failure: MAPEP 25-MaS52 Ni-63 in soil. A manual data-entry error in the carrier volume for one nuclide/matrix led to an incorrect LIMS value. Manual verification showed that the crosscheck would have passed with the correct volume. The procedure has been revised with more prominent notation to assist technicians. No recurrence identified and the following crosscheck study did not result in repeated error supporting effectiveness of corrective action.
- 6) NCR 25-06: Interlaboratory crosscheck failure: ERA RAD141 Gr-A in water. The provider’s acceptance range was 10.0–21.2, and their reported value of 15.6 fell within this interval. TBE-ES obtained 22.2 ± 3.76 , which satisfied internal QC criteria and would have aligned with the acceptance range if error margins had been considered. The QC duplicate result of 17.8 met internal requirements, and the 22% RPD demonstrated internal consistency. The provider’s Gr-A samples have historically been the lowest spiked. No internal failures identified so no corrective action deemed necessary. The following ERA RAD143 study’s performance evaluation results returned acceptable/passing.
- 7) NCR 25-07: Ni-59 for a single sample was physically assigned to one detector, however, assigned uncorrected within LIMS via hand key error, resulting in different detector data result for Ni-63 reported to the client. Comprehensive training provided and no recurrence identified during effectiveness evaluation period.
- 8) NCR 25-08: Technician hand key error on one client composite sample collection end date. Impact to strontium MDC as calculations are based on reference date. Comprehensive training provided and no recurrence identified during effectiveness evaluation period.
- 9) NCR 25-09: Interlaboratory crosscheck failure: Client provided H-3 sample. Failure due to technician pipetting error. Comprehensive training provided and no recurrence identified during effectiveness evaluation period.
- 10) NCR 25-10: *IN-PROGRESS* Interlaboratory crosscheck failure: ERA MRAD 43, PU-239/240 (AS) in Air Particulate (filter).
- 11) NCR 25-11: Interlaboratory crosscheck failure: ERA RAD-143 crosscheck failure of Uranium in water. Provider acceptance range: 48.0 – 60.0. TBE-ES result of 47.1 with internal acceptance

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ratio of 87.2 and no prior failures. No corrective action deemed necessary.

- 12) NCR 25-12: *IN-PROGRESS* Interlaboratory crosscheck failure: MAPEP Series 53, Ni-63 in Soil.
- 13) NCR 25-13: *IN-PROGRESS* Interlaboratory crosscheck failure: MAPEP Series 53, Th-232 in Soil.
- 14) NCR 25-14: LIMS queried sample labeling data for gamma detector incorrectly. IT Administrator investigated coding and performed program update resulting in correction of single occurrence issue. Revised report provided to client.
- 15) NCR 25-15: *IN-PROGRESS* Client requested reanalysis.
- 16) NCR 25-16: Client requested reanalysis. Investigation concluded that natural Thorium in sample caused a false positive for Plutonium isotopes. Additional chemical separation performed during retesting resulting in successful removal of interference. Revised report provided to client.

D. Audit Results

- In March, TBE-ES received assessment by the State of Utah – NELAP to evaluate compliance with Utah Rule R444-14 Rules for the Certification of Environmental Laboratories and the TNI standard. The audit resulted in **2 non-conformance findings**. TBE-ES promptly completed corrective action and approved for recertification.
- In July, TBE-ES underwent an external audit conducted by one of our longstanding clients. The assessment focused on evaluating compliance with contractual specifications, technical procedures, and overall quality system performance. The audit was completed successfully with zero non-conformance findings or corrective actions. The client expressed strong satisfaction with the laboratory's operations, documentation, and staff professionalism. This outcome reflects TBE-ES's continued commitment to excellence and reinforces the trust placed in our analytical services.
- In August of 2025, TBE-ES completed its scheduled internal Quality Assurance audit based on TBE-ES's K-QAM-1, Quality Assurance Manual. The audit resulted in **zero non-conformance findings** or corrective actions, affirming the effectiveness of the laboratory's quality system and adherence to documented procedures.
- In September, Perry Johnson Laboratory Accreditation, Inc. performed an on-site transition assessment to determine compliance with the mandatory upgrade to the Department of Defense (DoD) and Department of Energy (DOE) Quality Systems Manual (QSM) accreditation from version 5.4 to 6.0. Compliance failure consequences result in accreditation suspension.

Over the course of the last year, the QA Manager identified and implemented all necessary changes required for the accreditation upgrade. The Laboratory Operations Manager and team actively supported and complied with these changes.

TBE-ES successfully completed the exceptionally rigorous and meticulous audit assessment, achieving full compliance with **zero non-conformances** or corrective actions. This outcome reflects the collective commitment across both teams to quality, preparation, and operational excellence.

Audit reports and additional details can be found in Attachment D of "4th Quarter 2025 Quality Assurance Report," Teledyne Brown Engineering Environmental Services, 2025 [12]

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Attachment 3 – Cross Check Program

GEL Laboratories Summary of Results

During 2025, forty-one (41) radioisotopes associated with six (6) matrix types were analyzed under GEL's Performance Evaluation program in participation with ERA, MAPEP, and Eckert & Ziegler Analytics. Matrix types were representative of client analyses performed during 2025. Of the three hundred sixty-nine (369) total results, 97% (358 out of 369) were found to be acceptable within the PT providers three sigma or other statistical criteria. The list below contains the type of matrix evaluated by GEL.

- Air Filter
- Cartridge
- Water
- Milk
- Soil
- Vegetation

Graphs are provided in Figures 1-9 of this report to allow for the evaluation of trends or biases. These graphs include radioisotopes Cobalt-60, Cesium-137, Tritium, Strontium-90, Gross Alpha, Gross Beta, Iodine-131, Americium-241, and Plutonium-238.

Summary of Participation in the Eckert & Ziegler Analytics Environmental Cross-Check Program

Eckert & Ziegler Analytics provided samples for forty-six (46) individual environmental analyses. The accuracy of each result reported to Eckert & Ziegler Analytics, Inc. is measured by the ratio of GEL's result to the known value. Of the 46 analyses reported, 95.7% (44 out of 46) fell within the acceptance criteria.

Summary of Participation in the MAPEP Monitoring Program

MAPEP Series 52 and Series 53 were analyzed by the laboratory. Of the one hundred thirty-nine (139) analyses reported, 97.1% (135 out of 139) fell within the PT provider's acceptance criteria.

Summary of Participation in the ERA MRAD PT Program

The ERA MRAD program provided samples (MRAD-42 and MRAD-43) for one hundred forty-eight (148) individual environmental analyses reported. Of the 148 analyses reported, 98.6% (146 of the 148) fell within the PT provider's acceptance criteria.

Summary of Participation in the ERA PT Program

The ERA program provided samples (RAD-140, RAD-142, and RAD-143) for thirty-six (36) individual environmental analyses. Of the 36 analyses reported, 91.7% (33 of 36) fell within the PT provider's acceptance criteria.

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Corrective Action Request and Report (CARR)

There are two categories of corrective action at GEL. One is corrective action implemented at the analytical and data review level in accordance with the analytical SOP. The other is formal corrective action documented by the Quality Systems Team in accordance with GL- QS-E-002. A formal corrective action is initiated when a nonconformance reoccurs or is so significant that permanent elimination or prevention of the problem is required. Formal corrective action investigations include root cause analysis.

GEL includes quality requirements in most analytical standard operating procedures to ensure that data are reported only if the quality control criteria are met or the quality control measures that did not meet the acceptance criteria are documented. A formal corrective action is implemented according to GL-QS-E-002 for Conducting Corrective/Preventive Action and Identifying Opportunities for Improvement. Recording and documentation is performed following guidelines stated in GL-QS-E-012 for Client NCR Database Operation.

Any employee at GEL can identify and report a nonconformance and request that corrective action be taken. Any GEL employee can participate on a corrective action team as requested by the QS team or Group Leaders. The steps for conducting corrective action are detailed in GL-QS-E-002. In the event that correctness or validity of the laboratory's test results in doubt, the laboratory will take corrective action. If investigations show that the results have been impacted, affected clients will be informed of the issue in writing within five (5) calendar days of the discovery.

Additional details can be found in the GEL Laboratories, 2025 Annual Quality Assurance Report [13].

Attachment 3 – Cross Check Program

Summary of Results: Split Sample Comparison Program

To meet the requirement of ODCM 3/4.12.3, INTERLABORATORY COMPARISON PROGRAM, several duplicate environmental samples each year are sent to a second independent laboratory to compare results. The laboratory chosen for these Quality Control Analyses is General Engineering Laboratories (GEL).

Duplicate samples were obtained for some samples of weekly air iodine and particulates, quarterly air particulate, sediment, broad leaf vegetation, milk, and surface water. These samples were analyzed by GEL as comparison and quality assurance of TBE results. The GEL duplicate analysis results are shown in Figure 8 below.

Agreement between TBE and GEL is based on criteria for accepting measurements in NRC Inspection Procedure 84525.

Air Iodine

I-131 was not detected (less than MDC) by both TBE and GEL for all 52 air samples.

Air Particulates

Gross beta was detected by GEL and TBE in 52 of the duplicate weekly APT samples. GEL detects significantly higher gross beta results. The variance between the lab results is due to different calibration energy sources used by each lab.

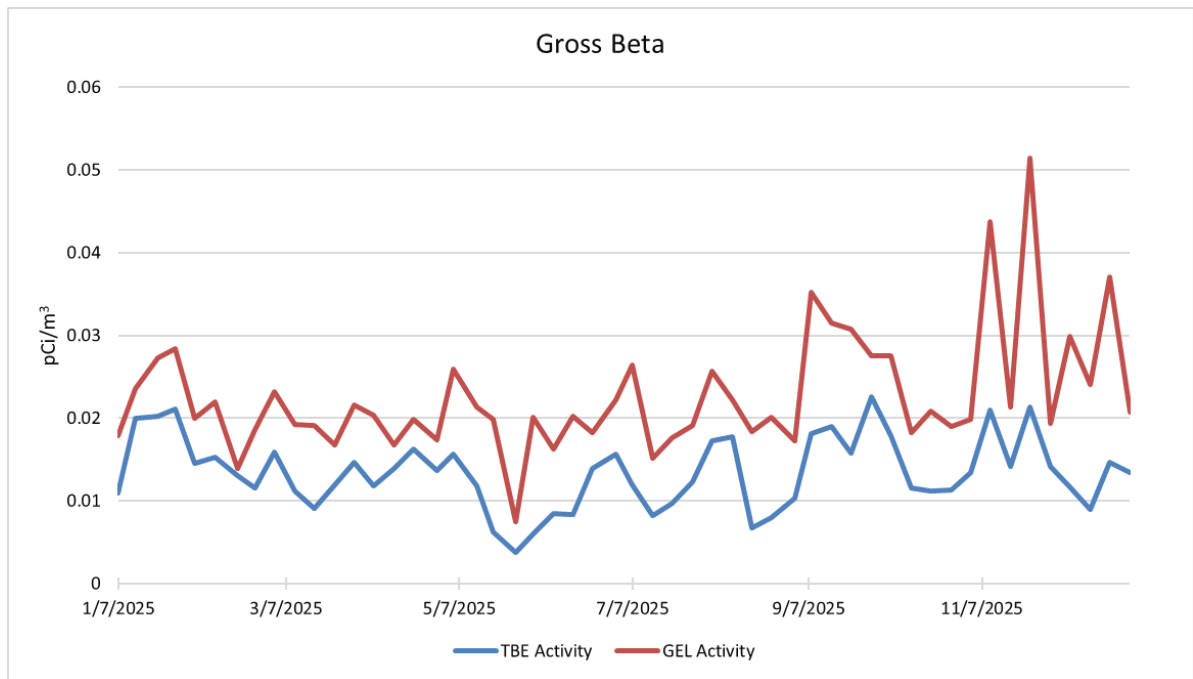


Figure 8, TBE vs GEL Gross Beta

Attachment 3 – Cross Check Program

All duplicate quarterly composite samples analyzed had positive results for Be-7.

AIR PARTICULATE COMPOSITES												
TBE						GEL			TBE / GEL Comparison			
CRS #	Collection Date	Nuclide	Decay Corrected Activity	1 Sigma Error	Resolution	CRS #	Nuclide	Decay Corrected Activity	Ratio	Acceptance Criteria		Agreement
L109763-1	3/31/2025	Be-7	4.71E-02	9.38E-03	5	722466	Be-7	5.13E-02	1.09	0.50	2.00	YES
L110606-1	7/1/2025	Be-7	4.10E-02	5.30E-03	8	736785	Be-7	5.08E-02	1.24	0.50	2.00	YES
L111761-1	9/29/2025	Be-7	4.30E-02	9.50E-03	5	750726	Be-7	5.90E-02	1.37	0.50	2.00	YES
L112673-1	12/29/2025	Be-7	2.97E-02	6.30E-03	5	760609	Be-7	3.50E-02	1.18	0.50	2.00	YES

Surface Water

Naturally occurring K-40 was detected in 3 of the 4 TBE samples. K-40 was detected in all the GEL samples.

SURFACE WATER												
TBE						GEL			TBE / GEL Comparison			
CRS #	Collection Date	Nuclide	Decay Corrected Activity	1 Sigma Error	Resolution	CRS #	Nuclide	Decay Corrected Activity	Ratio	Acceptance Criteria		Agreement
L109310-2	3/19/25	K-40	1.12E+02	2.33E+01	5	716062	K-40	1.07E+02	1.05	0.50	2.00	YES
L110384-2	6/17/25	K-40	<9.16E+01	N/A	N/A	730457	K-40	4.33E+01	No comparison result <MDL			
L111509-2	9/15/25	K-40	1.4E+02	1.86E+01	7	744474	K-40	1.28E+02	1.08	0.50	2.00	YES
L112642-2	12/16/25	K-40	1.04E+02	2.29E+01	5	757780	K-40	1.69E+02	0.61	0.50	2.00	YES

Milk

Naturally occurring K-40 was detected in all duplicate samples. Two of the duplicate samples were not in agreement. The deviation in agreement was investigated (80138167/0340). The non-agreement was attributable to increased analytical variability in the QA laboratory measurements of naturally occurring K-40 in milk. The Primary Laboratory results remain consistent with historical trends and expected environmental concentrations. No adverse impact to REMP data integrity or program compliance was identified.

MILK												
TBE						GEL			TBE / GEL Comparison			
CRS #	Collection Date	Nuclide	Decay Corrected Activity	1 Sigma Error	Resolution	CRS #	Nuclide	Decay Corrected Activity	Ratio	Acceptance Criteria		Agreement
L108521-3	1/7/2025	K-40	1.32E+03	7.98E+01	17	703660	K-40	1.04E+03	1.27	0.75	1.33	YES
L108816-3	2/3/2025	K-40	1.51E+03	8.72E+01	17	707695	K-40	1.16E+03	1.30	0.75	1.33	YES
L109086-3	3/2/2025	K-40	1.34E+03	8.32E+01	16	712482	K-40	1.16E+03	1.15	0.75	1.33	YES
L109479-3	4/7/2025	K-40	1.28E+03	9.18E+01	14	718534	K-40	1.70E+03	0.75	0.60	1.66	YES
L109835-3	5/5/2025	K-40	1.23E+03	9.45E+01	13	723347	K-40	1.09E+03	1.13	0.60	1.66	YES
L110148-3	6/2/2025	K-40	1.21E+03	8.10E+01	15	727494	K-40	1.35E+03	0.90	0.60	1.66	YES
L110582-3	7/7/2025	K-40	1.25E+03	1.04E+02	12	732398	K-40	1.11E+03	1.12	0.60	1.66	YES
L110956-3	8/4/2025	K-40	1.45E+03	6.93E+01	21	737275	K-40	1.10E+03	1.32	0.75	1.33	YES
L111352-3	9/7/2025	K-40	1.05E+03	9.35E+01	11	742831	K-40	6.45E+02	1.63	0.60	1.66	YES
L111748-3	10/7/2025	K-40	1.41E+03	2.89E+01	49	746971	K-40	1.45E+03	0.97	0.75	1.33	YES
L112207-3	11/10/2025	K-40	1.14E+03	6.41E+01	18	752402	K-40	7.93E+02	1.44	0.75	1.33	NO
L112501-3	12/8/2025	K-40	1.39E+03	6.23E+01	22	756432	K-40	1.92E+03	0.72	0.75	1.33	NO

Attachment 3 – Cross Check Program

Broad Leaf Vegetation

Naturally occurring K-40 was detected by GEL and TBE in all duplicate samples analyzed. All duplicate samples were in agreement.

VEGETATION												
TBE						GEL			TBE / GEL Comparison			
CRS #	Collection Date	Nuclide	Decay Corrected Activity	1 Sigma Error	Resolution	CRS #	Nuclide	Decay Corrected Activity	Ratio	Acceptance Criteria		Agreement
L110026-1	5/22/25	K-40	3.78E+03	2.04E+02	1.85E+01	725868	K-40	4.10E+03	0.92	0.75	1.33	YES
L110784-2	7/23/25	K-40	1.20E+03	2.06E+02	5.83E+00	735251	K-40	1.44E+03	0.83	0.50	2.00	YES
L110784-1	7/23/25	K-40	2.25E+03	1.73E+02	1.30E+01	735251	K-40	2.04E+03	1.10	0.60	1.66	YES
L110784-5	7/23/25	K-40	2.53E+03	2.95E+02	8.57E+00	735251	K-40	2.28E+03	1.11	0.60	1.66	YES
L110870-4	7/29/25	K-40	2.39E+03	2.06E+02	1.16E+01	736042	K-40	2.57E+03	0.93	0.60	1.66	YES
L110870-2	7/29/25	K-40	2.07E+03	1.63E+02	1.27E+01	736042	K-40	1.69E+03	1.23	0.60	1.66	YES
L110870-4	7/29/25	K-40	1.66E+03	1.68E+02	9.88E+00	736042	K-40	1.77E+03	0.94	0.60	1.66	YES

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Attachment 3 – Cross Check Program

TLD Annual QA Status Report

EXECUTIVE SUMMARY

Routine quality control (QC) testing was performed for dosimeters issued by the Environmental Dosimetry Company (EDC).

During this annual period 100% (72/72) of the individual dosimeters, evaluated against the EDC internal performance acceptance criteria (high-energy photons only), met the criterion for accuracy and 100% (72/72) met the criterion for precision. In addition, 100% (12/12) of the dosimeter sets evaluated against the internal tolerance limits met EDC acceptance criteria and 100% of independent testing passed the performance criteria.

One internal assessment was performed in 2025. There were no findings. Additional detail can be found in the Environmental Dosimetry Company, 2025 Annual Quality Assurance Status Report. [14]