

**VIRGINIA ELECTRIC AND POWER COMPANY**  
**RICHMOND, VIRGINIA 23261**

April 29, 2025

United States Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555-0001

Serial No. 25-129  
SPS/MMT R0  
Docket Nos. 50-280  
50-281  
License Nos. DPR-32  
DPR-37

**VIRGINIA ELECTRIC AND POWER COMPANY**  
**SURRY POWER STATION UNITS 1 AND 2**  
**2024 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**

Enclosed is the Surry Power Station Annual Radioactive Effluent Release Report for January 1, 2024, through December 31, 2024. The report submitted pursuant to Surry Power Station Technical Specification 6.6.B.3, includes a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released during the 2024 calendar year, as outlined in Regulatory Guide 1.21, Revision 1, June 1974.

If you have any further questions, please contact Selma Spratley at 757-365-2551.

Sincerely,



William Terry (Acting)  
Director Nuclear Safety & Licensing  
Surry Power Station

Attachment

Commitments made in this letter: None

cc: U. S. Nuclear Regulatory Commission  
Region II  
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NRC Senior Resident Inspector  
Surry Power Station

**ATTACHMENT**

**2024 Annual Radioactive Effluent Release Report**  
**Surry Power Station**

**SURRY POWER STATION UNITS 1 AND 2  
VIRGINIA ELECTRIC AND POWER COMPANY**



# 2024 Annual Radioactive Effluent Release Report

Surry Power Station

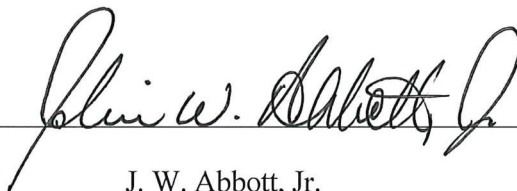


# ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

## SURRY POWER STATION

January 1, 2024 through December 31, 2024

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Selma Spratley  
Manager Radiological Protection and Chemistry

**ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**  
**FOR**  
**SURRY POWER STATION**

**January 1, 2024 through December 31, 2024**

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## **FORWARD**

This report is submitted as required by Appendix A to Operating License Nos. DPR-32 and DPR-37, Technical Specifications for Surry Power Station, Units 1 and 2, Virginia Electric and Power Company, Docket Nos. 50-280, 50-281, Section 6.6.B.3.

**EXECUTIVE SUMMARY**  
**ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**

The Annual Radioactive Effluent Release Report describes the radiological effluent control program conducted at Surry Power Station during the 2024 calendar year. This document summarizes the quantities of radioactive liquid and gaseous effluents and solid waste released from Surry Power Station in accordance with Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants", Revision 1, June 1974. The report also includes an assessment of radiation doses to the maximum exposed member of the public due to the radioactive liquid and gaseous effluents.

During this reporting period, there were no unplanned liquid effluent releases and no unplanned gaseous effluent releases as classified according to the criteria in the Offsite Dose Calculation Manual.

Based on the 2024 effluent release data, 10CFR50 Appendix I dose calculations were performed in accordance with the Offsite Dose Calculation Manual. The dose calculations are as follows:

1. The total body dose due to liquid effluents was  $5.62\text{E-}04$  mrem, which is  $9.37\text{E-}03\%$  of the 6 mrem dose limit. The critical organ dose due to liquid effluents was  $5.99\text{E-}04$  mrem to the GI-LLI, which is  $3.00\text{E-}03\%$  of the 20 mrem dose limit.
2. The air dose due to noble gases in gaseous effluents was  $2.49\text{E-}04$  mrad gamma, which is  $1.25\text{E-}03\%$  of the 20 mrad gamma dose limit, and  $9.14\text{E-}05$  mrad beta, which is  $2.29\text{E-}04\%$  of the 40 mrad beta dose limit.
3. The critical organ dose from gaseous effluents due to I-131, I-133, H-3, and particulates with half-lives greater than 8 days is  $9.77\text{E-}02$  mrem to the bone, which is  $3.26\text{E-}01\%$  of the 30 mrem dose limit.

There were no major changes to the radioactive liquid, gaseous or solid waste treatment systems during this reporting period.

No changes were made the Offsite Dose Calculation Manual (ODCM), VPAP-2103S, during this reporting period.

In accordance with the Nuclear Energy Institute (NEI) Industry Ground Water Protection Initiative, analysis results of ground water monitoring locations not included in the Radiological Environmental Monitoring Program (REMP), will be included in this report. Ground water monitoring well sample results are provided in Attachment 8.

The operation of Surry Power Station in 2024 resulted in a negligible radiation dose consequence to the maximum exposed member of the public in unrestricted areas. This is based on measured radioactivity and dose calculations performed.

## **Purpose and Scope**

Attachment 1 includes a summary of the quantities of radioactive liquid and gaseous effluents and solid waste as outlined in Regulatory Guide 1.21, with data summarized on a quarterly or annual basis following the format of Tables 1, 2 and 3 of Appendix B, thereof. Attachment 2 of this report includes an assessment of radiation doses to the maximum exposed member of the public due to radioactive liquid and gaseous effluents released from the site during 2024.

As required by Technical Specification 6.8.B, changes to the Offsite Dose Calculation Manual (ODCM) for the time period covered by this report are included in Attachment 3. Major changes to the radioactive liquid, gaseous and solid waste treatment systems are reported in Attachment 4, as required by the ODCM, Section 6.7.2. If changes are made to these systems, the report shall include information to support the reason for the change and a summary of the 10CFR50.59 evaluation. In lieu of reporting major changes in this report, major changes to the radioactive waste treatment systems may be submitted as part of the annual FSAR update.

Attachment 5 identifies and explains why specific radioactive liquid and gaseous effluent monitoring instrumentation, as required by the ODCM in Attachments 1 and 5, was determined to be inoperable and not returned to operable status within 30 days.

Attachment 6 provides a list and description of unplanned releases from the site to unrestricted areas, during the reporting period, that meet the criteria listed in Step 6.7.3 of the ODCM.

Attachment 7 provides the typical lower limit of detection (LLD) capabilities of the radioactive effluent analysis instrumentation.

As required by the ODCM, Section 6.7.5, a summary is provided in Attachment 8 of on-site radioactive leaks or spills and ground water sample analyses that were communicated in accordance with the Industry Ground Water Protection Initiative reporting protocol. Sample analyses from ground water wells that are not part of the Radiological Environmental Monitoring Program are also provided in Attachment 8.

## **Discussion**

The basis for the gaseous critical organ percent technical specification calculation, as documented on Attachment 1, Table 1A, is the ODCM. The requirements of Section 6.3.1 of the ODCM, are site boundary critical organ dose rate for iodine-131, iodine-133, for tritium, and for all radionuclides in particulate form with half-lives greater than 8 days shall be less than or equal to 1500 mrem/yr. The maximum critical receptor was the child for the 1st and 2nd quarters and the teen for the 3rd and 4th quarters.

The basis for the calculation of the percent of technical specification for the total body and skin in Table 1A of Attachment 1 is the ODCM, Section 6.3.1, which requires that the dose rate for noble gases to areas at or beyond site boundary shall be less than or equal to 500 mrem/yr to the total body and less than or equal to 3000 mrem/yr to the skin.

The basis for the calculation of the percent of technical specification in Table 2A of Attachment 1 is the ODCM, Section 6.2.1, which states that the concentration of radioactive material released in liquid effluents to unrestricted areas shall not exceed ten times the concentrations specified in 10CFR20, Appendix B, Table 2, Column 2, for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2.00E-04 microcuries/mL.

Percent of technical specification calculations are based on the total gaseous or liquid effluents released for the respective quarter.

The annual and quarterly doses, as reported in Attachment 2, were calculated according to the methodology presented in the ODCM. The beta and gamma air doses due to noble gases released from the site were calculated at the site boundary. The maximum exposed member of the public from the release of airborne iodine-131, iodine-133, tritium and all radionuclides in particulate form with half-lives greater than 8 days, was modeled as a child at 2.01 miles with the critical organ being the bone via the ingestion pathway. The maximum exposed member of the public from radioactive materials in liquid effluents in unrestricted areas was modeled as an adult, exposed by either the invertebrate or fish pathway, with the critical organ typically being the gastrointestinal-lower large intestine. The total body dose was also determined for this individual.

No effluent radiation monitors were inoperable for greater than 30 days in 2024. This is reported in Attachment 5 as required by the ODCM, Section 6.2.2 and 6.3.2.

There were no unplanned liquid releases and no unplanned gaseous releases in 2024. This is reported in Attachment 6 as required by the ODCM, Section 6.7.2.

## **Discussion**

The typical lower limit of detection (LLD) capabilities of the radioactive effluent analysis instrumentation are presented in Attachment 7. These LLD values are based upon conservative conditions (i.e., minimum sample volumes and maximum delay time prior to analysis). Actual LLD values may be lower. If a radioisotope was not detected when effluent samples were analyzed, then the activity of the radioisotope was reported as Not Detected (N/D) on Attachment 1 of this report. When all isotopes listed on Attachment 1 for a particular quarter and release mode are less than the lower limit of detection, then the totals for this period will be designated as Not Applicable (N/A).

## **Supplemental Information**

Section 6.6.1 of the ODCM requires the identification of the cause(s) for the unavailability of milk, or if required, leafy vegetation samples, and the identification for obtaining replacement samples. Milk samples were available for collection during this reporting period. Therefore, leafy vegetation sampling was not required.

As required by the ODCM, Section 6.6.2, evaluation of the Land Use Census is made to determine if new sample location(s) must be added to the Radiological Environmental Monitoring Program. Evaluation of the Land Use Census conducted for this reporting period identified no change in sample locations for the Radiological Environmental Monitoring Program.

## **EFFLUENT RELEASE DATA**

**January 1, 2024 through December 31, 2024**

Attachment 1 provides a summary of the quantities of radioactive liquid and gaseous effluents and solid waste as outlined in Regulatory Guide 1.21, Appendix B.

**TABLE 1A**  
**EFFLUENT AND WASTE DISPOSAL ANNUAL**  
**REPORT PERIOD: 1/1/24 TO 12/31/24**  
**GASEOUS EFFLUENT-SUMMATION OF ALL RELEASES**

Attachment 1  
Page 1 of 12

SURRY POWER STATION UNITS 1&2	UNIT	FIRST QUARTER	SECOND QUARTER	% EST. ERROR
<b>A. FISSION &amp; ACTIVATION GASES</b>				
1. TOTAL RELEASE	Ci	4.39E-02	3.48E-01	1.80E+01
2. AVE RELEASE RATE FOR PERIOD	μCi/sec	5.58E-03	4.43E-02	
<b>B. IODINE</b>				
1. TOTAL I-131	Ci	N/D	N/D	2.80E+01
2. AVE RELEASE RATE FOR PERIOD	μCi/sec	N/A	N/A	
<b>C. PARTICULATE</b>				
1. HALF-LIFE >8 DAYS	Ci	N/D	6.07E-05	2.80E+01
2. AVE RELEASE RATE FOR PERIOD	μCi/sec	N/A	7.72E-06	
3. GROSS ALPHA RADIOACTIVITY	Ci	N/D	N/D	
<b>D. TRITIUM</b>				
1. TOTAL RELEASE	Ci	5.59E+00	8.45E+00	3.10E+01
2. AVE RELEASE RATE FOR PERIOD	μCi/sec	7.11E-01	1.08E+00	
<b>E. CARBON-14</b>				
1. TOTAL RELEASE	Ci	1.81E+00	1.44E+01	
2. AVE RELEASE RATE FOR PERIOD	μCi/sec	2.30E-01	1.83E+00	
<b>PERCENTAGE OF T.S. LIMITS</b>				
CRITICAL ORGAN DOSE RATE	%	9.5E-03	1.79E-03	
TOTAL BODY DOSE RATE	%	3.0E-06	4.62E-06	
SKIN DOSE RATE	%	6.6E-07	1.23E-06	

TABLE 1A

**EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT**  
**PERIOD: 1/1/24 TO 12/31/24**  
**GASEOUS EFFLUENT-SUMMATION OF ALL RELEASES**

SURRY POWER STATION UNITS 1&2	UNIT	THIRD QUARTER	FOURTH QUARTER	% EST. ERROR
A. FISSION & ACTIVATION GASES				
1. TOTAL RELEASE	Ci	1.09E-03	3.08E-02	1.80E+01
2. AVE RELEASE RATE FOR PERIOD	μCi/sec	1.37E-04	3.88E-03	
B. IODINE				
1. TOTAL I-131	Ci	N/D	N/D	2.80E+01
2. AVE RELEASE RATE FOR PERIOD	μCi/sec	N/A	N/A	
C. PARTICULATE				
1. HALF-LIFE >8 DAYS	Ci	9.06E-07	9.87E-06	2.80E+01
2. AVE RELEASE RATE FOR PERIOD	μCi/sec	1.14E-07	1.24E-06	
3. GROSS ALPHA RADIOACTIVITY	Ci	N/D	N/D	
D. TRITIUM				
1. TOTAL RELEASE	Ci	1.79E+00	1.42E+01	3.10E+01
2. AVE RELEASE RATE FOR PERIOD	μCi/sec	2.26E-01	1.79E+00	
E. CARBON-14				
1. TOTAL RELEASE	Ci	4.48E-02	1.27E+00	
2. AVE RELEASE RATE FOR PERIOD	μCi/sec	5.64E-03	1.60E-01	
PERCENTAGE OF T.S. LIMITS				
CRITICAL ORGAN DOSE RATE	%	3.77E-04	2.81E-03	
TOTAL BODY DOSE RATE	%	4.36E-06	3.28E-06	
SKIN DOSE RATE	%	1.06E-06	8.41E-07	

TABLE 1B

**EFFLUENT AND WASTE DISPOSAL ANNUAL  
REPORT PERIOD: 1/1/24 TO 12/31/24  
GASEOUS EFFLUENTS-MIXED MODE RELEASES**

SURREY POWER STATION UNITS 1&2	UNIT	CONTINUOUS MODE		BATCH MODE	
		FIRST QUARTER	SECOND QUARTER	FIRST QUARTER	SECOND QUARTER
1. FISSION & ACTIVATION GASES					
Kr-85	Ci	N/D	N/D	N/D	N/D
Kr-85m	Ci	N/D	N/D	N/D	N/D
Kr-87	Ci	N/D	N/D	N/D	N/D
Kr-88	Ci	N/D	N/D	N/D	N/D
Xe-133	Ci	N/D	N/D	N/A	3.38E-01
Xe-135	Ci	N/D	N/D	N/D	3.89E-03
Xe-135m	Ci	N/D	N/D	N/D	N/D
Xe-138	Ci	N/D	N/D	N/D	N/D
Xe-131m	Ci	N/D	N/D	N/D	N/D
Xe-133m	Ci	N/D	N/D	N/D	5.64E-03
Ar-41	Ci	N/D	N/D	N/D	N/D
TOTAL FOR PERIOD	Ci	N/A	N/A	N/A	3.47E-01
2. IODINES					
I-131	Ci	N/D	N/D	N/D	N/D
I-133	Ci	N/D	N/D	N/D	N/D
I-135	Ci	N/D	N/D	N/D	N/D
TOTAL FOR PERIOD	Ci	N/A	N/A	N/A	N/A
3. PARTICULATES					
Sr-89	Ci	N/D	N/D	N/D	N/D
Sr-90	Ci	N/D	N/D	N/D	N/D
Cs-134	Ci	N/D	N/D	N/D	N/D
Cs-137	Ci	N/D	3.69E-08	N/D	N/D
Ba-140	Ci	N/D	N/D	N/D	N/D
La-140	Ci	N/D	N/D	N/D	N/D
Co-58	Ci	N/D	7.38E-08	N/D	N/D
Co-60	Ci	N/D	N/D	N/D	N/D
Mn-54	Ci	N/D	N/D	N/D	N/D
Fe-59	Ci	N/D	N/D	N/D	N/D
Zn-65	Ci	N/D	N/D	N/D	N/D
Mo-99	Ci	N/D	N/D	N/D	N/D
Ce-141	Ci	N/D	N/D	N/D	N/D
Ce-144	Ci	N/D	N/D	N/D	N/D
C-14	Ci	N/D	N/D	N/D	1.43E+01
TOTAL FOR PERIOD	Ci	N/A	1.11E-07	N/A	1.43E+01

TABLE 1B

**EFFLUENT AND WASTE DISPOSAL ANNUAL  
REPORT PERIOD: 1/1/24 TO 12/31/24  
GASEOUS EFFLUENTS-MIXED MODE RELEASES**

SURREY POWER STATION UNITS 1&2	UNIT	CONTINUOUS MODE		BATCH MODE	
		THIRD QUARTER	FOURTH QUARTER	THIRD QUARTER	FOURTH QUARTER
1. FISSION & ACTIVATION GASES					
Kr-85	Ci	N/D	N/D	N/D	N/D
Kr-85m	Ci	N/D	N/D	N/D	N/D
Kr-87	Ci	N/D	N/D	N/D	N/D
Kr-88	Ci	N/D	N/D	N/D	N/D
Xe-133	Ci	N/D	N/D	N/D	2.82E-02
Xe-135	Ci	N/D	N/D	N/D	4.49E-04
Xe-135m	Ci	N/D	N/D	N/D	N/D
Xe-138	Ci	N/D	N/D	N/D	N/D
Xe-131m	Ci	N/D	N/D	N/D	N/D
Xe-133m	Ci	N/D	N/D	N/D	N/D
Ar-41	Ci	N/D	N/D	N/D	N/D
TOTAL FOR PERIOD	Ci	N/A	N/A	N/A	2.86E-02
2. IODINES					
I-131	Ci	N/D	N/D	N/D	N/D
I-133	Ci	N/D	N/D	N/D	N/D
I-135	Ci	N/D	N/D	N/D	N/D
TOTAL FOR PERIOD	Ci	N/A	N/A	N/A	N/A
3. PARTICULATES					
Sr-89	Ci	N/D	N/D	N/D	N/D
Sr-90	Ci	N/D	N/D	N/D	N/D
Cs-134	Ci	N/D	N/D	N/D	N/D
Cs-137	Ci	N/D	N/D	N/D	N/D
Ba-140	Ci	N/D	N/D	N/D	N/D
La-140	Ci	N/D	N/D	N/D	N/D
Co-58	Ci	4.08E-10	N/D	N/D	N/D
Co-60	Ci	N/D	N/D	N/D	N/D
Mn-54	Ci	N/D	N/D	N/D	N/D
Fe-59	Ci	N/D	N/D	N/D	N/D
Zn-65	Ci	N/D	N/D	N/D	N/D
Mo-99	Ci	N/D	N/D	N/D	N/D
Ce-141	Ci	N/D	N/D	N/D	N/D
Ce-144	Ci	N/D	N/D	N/D	N/D
C-14	Ci	N/D	N/D	N/D	1.18E+00
TOTAL FOR PERIOD	Ci	4.08E-10	N/A	N/A	1.18E+00

TABLE 1C

**EFFLUENT AND WASTE DISPOSAL ANNUAL  
REPORT PERIOD: 1/1/24 TO 12/31/24  
GASEOUS EFFLUENTS-GROUND LEVEL RELEASES**

SURREY POWER STATION UNITS 1&2	UNIT	CONTINUOUS MODE		BATCH MODE	
		FIRST QUARTER	SECOND QUARTER	FIRST QUARTER	SECOND QUARTER
1. FISSION & ACTIVATION GASES					
Kr-85	Ci	N/D	N/D	N/D	N/D
Kr-85m	Ci	N/D	N/D	N/D	N/D
Kr-87	Ci	N/D	N/D	N/D	N/D
Kr-88	Ci	N/D	N/D	N/D	N/D
Xe-133	Ci	N/D	N/D	N/D	N/D
Xe-135	Ci	N/D	N/D	N/D	N/D
Xe-135m	Ci	N/D	N/D	N/D	N/D
Xe-138	Ci	N/D	N/D	N/D	N/D
Xe-131m	Ci	N/D	N/D	N/D	N/D
Xe-133m	Ci	N/D	N/D	N/D	N/D
Ar-41	Ci	4.39E-02	9.75E-04	N/D	N/D
TOTAL FOR PERIOD	Ci	4.39E-02	9.75E-04	N/A	N/A
2. IODINES					
I-131	Ci	N/D	N/D	N/D	N/D
I-133	Ci	N/D	N/D	N/D	N/D
I-135	Ci	N/D	N/D	N/D	N/D
TOTAL FOR PERIOD	Ci	N/A	N/A	N/A	N/A
3. PARTICULATES					
Sr-89	Ci	N/D	N/D	N/D	N/D
Sr-90	Ci	N/D	N/D	N/D	N/D
Cs-134	Ci	N/D	N/D	N/D	N/D
Cs-137	Ci	N/D	1.64E-05	N/D	N/D
Ba-140	Ci	N/D	N/D	N/D	N/D
La-140	Ci	N/D	N/D	N/D	N/D
Co-58	Ci	N/D	4.42E-05	N/D	N/D
Co-60	Ci	N/D	N/D	N/D	N/D
Mn-54	Ci	N/D	N/D	N/D	N/D
Fe-59	Ci	N/D	N/D	N/D	N/D
Zn-65	Ci	N/D	N/D	N/D	N/D
Mo-99	Ci	N/D	N/D	N/D	N/D
Ce-141	Ci	N/D	N/D	N/D	N/D
Ce-144	Ci	N/D	N/D	N/D	N/D
Nb-95	Ci	N/D	N/D	N/D	N/D
Zr-95	Ci	N/D	N/D	N/D	N/D
C-14	Ci	1.81E+00	4.02E-02	N/D	N/D
TOTAL FOR PERIOD	Ci	1.81E+00	4.03E-02	N/A	N/A

TABLE 1C

**EFFLUENT AND WASTE DISPOSAL ANNUAL  
REPORT PERIOD: 1/1/24 TO 12/31/24  
GASEOUS EFFLUENTS-GROUND LEVEL RELEASES**

		CONTINUOUS MODE		BATCH MODE	
SURRY POWER STATION UNITS 1&2	UNIT	THIRD QUARTER	FOURTH QUARTER	THIRD QUARTER	FOURTH QUARTER
1. FISSION & ACTIVATION GASES					
Kr-85	Ci	N/D	N/D	N/D	N/D
Kr-85m	Ci	N/D	N/D	N/D	N/D
Kr-87	Ci	N/D	N/D	N/D	N/D
Kr-88	Ci	N/D	N/D	N/D	N/D
Xe-133	Ci	N/D	N/D	N/D	1.37E-03
Xe-135	Ci	N/D	N/D	N/D	7.01E-05
Xe-135m	Ci	N/D	N/D	N/D	N/D
Xe-138	Ci	N/D	N/D	N/D	N/D
Xe-131m	Ci	N/D	N/D	N/D	N/D
Xe-133m	Ci	N/D	N/D	N/D	N/D
Ar-41	Ci	1.09E-03	7.43E-04	N/D	N/D
TOTAL FOR PERIOD	Ci	1.09E-03	7.43E-04	N/A	1.44E-03
2. IODINES					
I-131	Ci	N/D	N/D	N/D	N/D
I-133	Ci	N/D	N/D	N/D	N/D
I-135	Ci	N/D	N/D	N/D	N/D
TOTAL FOR PERIOD	Ci	N/A	N/A	N/A	N/A
3. PARTICULATES					
Sr-89	Ci	N/D	N/D	N/D	N/D
Sr-90	Ci	N/D	N/D	N/D	N/D
Cs-134	Ci	N/D	N/D	N/D	N/D
Cs-137	Ci	N/D	N/D	N/D	N/D
Ba-140	Ci	N/D	N/D	N/D	N/D
La-140	Ci	N/D	N/D	N/D	N/D
Co-58	Ci	9.05E-07	9.87E-06	N/D	N/D
Co-60	Ci	N/D	N/D	N/D	N/D
Mn-54	Ci	N/D	N/D	N/D	N/D
Fe-59	Ci	N/D	N/D	N/D	N/D
Zn-65	Ci	N/D	N/D	N/D	N/D
Mo-99	Ci	N/D	N/D	N/D	N/D
Ce-141	Ci	N/D	N/D	N/D	N/D
Ce-144	Ci	N/D	N/D	N/D	N/D
C-14	Ci	4.48E-02	3.07E-02	N/D	5.95E-02
TOTAL FOR PERIOD	Ci	4.48E-02	3.07E-02	N/A	5.95E-02

TABLE 2A

**EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT**  
**PERIOD: 1/1/24 TO 12/31/24**  
**LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES**

SURRY POWER STATION UNITS 1&2	UNIT	FIRST QUARTER	SECOND QUARTER	% EST. ERROR
<b>A. FISSION AND ACTIVATION PRODUCTS</b>				
1. TOTAL RELEASE (NOT INCLUDING TRITIUM, GASES, ALPHA)	Ci	7.83E-04	2.51E-03	2.00E+01
2. AVE DIL. CONC. DURING PERIOD	μCi/mL	3.28E-13	1.40E-12	
3. PERCENT OF APPLICABLE LIMIT	%	8.87E-07	2.53E-06	
<b>B. TRITIUM</b>				
1. TOTAL RELEASE	Ci	3.75E+02	8.38E+02	2.00E+01
2. AVE DIL. CONC. DURING PERIOD	μCi/mL	1.57E-07	4.65E-07	
3. PERCENT OF APPLICABLE LIMIT	%	1.57E-03	4.65E-03	
<b>C. DISSOLVED AND ENTRAINED GASES</b>				
1. TOTAL RELEASE	Ci	N/D	2.38E-04	2.00E+01
2. AVE DIL. CONC. DURING PERIOD	μCi/mL	N/A	1.32E-13	
3. PERCENT OF APPLICABLE LIMIT	%	N/A	6.62E-08	
<b>D. GROSS ALPHA RADIOACTIVITY</b>				
1. TOTAL RELEASE	Ci	N/D	N/D	2.00E+01
<b>E. VOLUME OF WASTE RELEASED (PRIOR TO DILUTION)</b>				
	LITERS	5.32E+07	5.43E+07	3.00E+00
<b>F. VOLUME OF DILUTION WATER USED DURING PERIOD</b>				
	LITERS	2.39E+12	1.80E+12	3.00E+00

TABLE 2A

**EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT**  
**PERIOD: 1/1/24 TO 12/31/24**  
**LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES**

SURRY POWER STATION UNITS 1&2	UNIT	THIRD QUARTER	FOURTH QUARTER	% EST. ERROR
<b>A. FISSION AND ACTIVATION PRODUCTS</b>				
1. TOTAL RELEASE (NOT INCLUDING TRITIUM, GASES, ALPHA)	Ci	1.27E-03	1.44E-03	2.00E+01
2. AVE DIL. CONC. DURING PERIOD	μCi/mL	4.16E-13	6.41E-13	
3. PERCENT OF APPLICABLE LIMIT	%	1.04E-06	2.73E-06	
<b>B. TRITIUM</b>				
1. TOTAL RELEASE	Ci	5.68E+01	4.63E+02	2.00E+01
2. AVE DIL. CONC. DURING PERIOD	μCi/mL	1.86E-08	2.06E-07	
3. PERCENT OF APPLICABLE LIMIT	%	1.86E-04	2.06E-03	
<b>C. DISSOLVED AND ENTRAINED GASES</b>				
1. TOTAL RELEASE	Ci	N/D	3.84E-06	2.00E+01
2. AVE DIL. CONC. DURING PERIOD	μCi/mL	N/A	1.71E-15	
3. PERCENT OF APPLICABLE LIMIT	%	N/A	8.53E-10	
<b>D. GROSS ALPHA RADIOACTIVITY</b>				
1. TOTAL RELEASE	Ci	N/D	N/D	2.00E+01
<b>E. VOLUME OF WASTE RELEASED (PRIOR TO DILUTION)</b>				
	LITERS	5.38E+07	5.43E+07	3.00E+00
<b>F. VOLUME OF DILUTION WATER USED DURING PERIOD</b>				
	LITERS	3.06E+12	2.25E+12	3.00E+00

TABLE 2B

**EFFLUENT AND WASTE DISPOSAL ANNUAL  
REPORT PERIOD: 1/1/24 TO 12/31/24  
LIQUID EFFLUENTS**

SURREY POWER STATION UNITS 1&2	UNIT	CONTINUOUS MODE		BATCH MODE	
		FIRST QUARTER	SECOND QUARTER	FIRST QUARTER	SECOND QUARTER
Sr-89	Ci	N/D	N/D	N/D	N/D
Sr-90	Ci	N/D	N/D	N/D	N/D
Fe-55	Ci	N/D	N/D	N/D	N/D
Cs-134	Ci	N/D	N/D	N/D	N/D
Cs-137	Ci	1.17E-04	1.62E-04	3.88E-05	7.55E-05
I-131	Ci	N/D	N/D	N/D	N/D
Co-58	Ci	N/D	N/D	1.24E-04	7.59E-04
Co-60	Ci	N/D	N/D	1.10E-04	4.36E-04
Fe-59	Ci	N/D	N/D	N/D	N/D
Zn-65	Ci	N/D	N/D	N/D	N/D
Mn-54	Ci	N/D	N/D	N/D	N/D
Cr-51	Ci	N/D	N/D	N/D	N/D
Zr-95	Ci	N/D	N/D	N/D	N/D
Nb-95	Ci	N/D	N/D	N/D	N/D
Mo-99	Ci	N/D	N/D	N/D	N/D
Tc-99m	Ci	N/D	N/D	N/D	N/D
Ba-140	Ci	N/D	N/D	N/D	N/D
La-140	Ci	N/D	N/D	N/D	N/D
Ce-141	Ci	N/D	N/D	N/D	N/D
Ce-144	Ci	N/D	N/D	N/D	N/D
Sb-124	Ci	N/D	N/D	N/D	N/D
Sb-125	Ci	N/D	N/D	3.94E-04	1.08E-03
Nd-147	Ci	N/D	N/D	N/D	N/D
 TOTAL FOR PERIOD	Ci	 1.17E-04	 1.62E-04	 6.66E-04	 2.35E-03
 Xe-133	Ci	 N/D	 2.38E-04	 N/D	 N/D
Xe-135	Ci	N/D	N/D	N/D	N/D
 TOTAL FOR PERIOD	Ci	 N/A	 2.38E-04	 N/A	 N/A

**TABLE 2B**

**EFFLUENT AND WASTE DISPOSAL ANNUAL  
REPORT PERIOD: 1/1/24 TO 12/31/24  
LIQUID EFFLUENTS**

SURRY POWER STATION UNITS 1&2	UNIT	CONTINUOUS MODE		BATCH MODE	
		THIRD QUARTER	FOURTH QUARTER	THIRD QUARTER	FOURTH QUARTER
Sr-89	Ci	N/D	N/D	N/D	N/D
Sr-90	Ci	N/D	N/D	N/D	N/D
Fe-55	Ci	N/D	N/D	N/D	N/D
Cs-134	Ci	N/D	N/D	N/D	N/D
Cs-137	Ci	1.60E-04	1.65E-04	8.33E-05	1.91E-04
I-131	Ci	N/D	N/D	N/D	N/D
Co-58	Ci	N/D	N/D	2.30E-04	3.22E-04
Co-60	Ci	N/D	N/D	1.26E-04	1.01E-04
Fe-59	Ci	N/D	N/D	N/D	N/D
Zn-65	Ci	N/D	N/D	N/D	N/D
Mn-54	Ci	N/D	N/D	N/D	N/D
Cr-51	Ci	N/D	N/D	N/D	N/D
Zr-95	Ci	N/D	N/D	N/D	N/D
Nb-95	Ci	N/D	N/D	N/D	N/D
Mo-99	Ci	N/D	N/D	N/D	N/D
Tc-99m	Ci	N/D	N/D	N/D	N/D
Ba-140	Ci	N/D	N/D	N/D	N/D
La-140	Ci	N/D	N/D	N/D	N/D
Ce-141	Ci	N/D	N/D	N/D	N/D
Ce-144	Ci	N/D	N/D	N/D	N/D
Sb-124	Ci	N/D	N/D	N/D	N/D
Sb-125	Ci	N/D	N/D	6.75E-04	6.54E-04
Nd-147	Ci	N/D	9.36E-06	N/D	N/D
Co-57	Ci	N/D	N/D	7.32E-7	N/D
TOTAL FOR PERIOD	Ci	1.60E-04	1.74E-04	1.11E-03	1.27E-03
Xe-133	Ci	N/D	N/D	N/D	3.84E-06
Xe-135	Ci	N/D	N/D	N/D	N/D
TOTAL FOR PERIOD	Ci	N/A	N/A	N/A	3.84E-06

TABLE 3

**EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT=**

**SOLID WASTE AND IRRADIATED FUEL SHIPMENTS=**

**PERIOD: 1/1/24 - 12/31/24**

**SURRY POWER STATION****A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not irradiated fuel)**

1. Type of waste		12 month Period		Est. Total Error, %
a. Spent resins, filter sludges, evaporator bottoms, etc.	m <sup>3</sup> Ci	1.14E+01 2.232E+02	Note 1	1.00E+01 3.00E+01
b. Dry compressible waste, contaminated equip., etc.	m <sup>3</sup> Ci	4.90E+02 1.77E+00	Note 2	1.00E+01 3.00E+01
c. Irradiated components, control rods, etc.	m <sup>3</sup> Ci	0.00E+00 0.00E+00		1.00E+01 3.00E+01
d. Other	m <sup>3</sup> Ci	4.56E+00 1.28E-03	Note 3	1.00E+01 3.00E+01

**2. Estimate of major nuclide composition (by type of waste)**

a. Fe-55	%	1.16E+00
Co-58	%	3.46E+01
Co-60	%	1.36E+00
Ni-63	%	3.04E+01
Cs-137	%	1.67E+01
b. Cr-51	%	3.20E+00
Fe-55	%	1.08E+01
Fe-59	%	2.10E+00
Co-58	%	6.61E+00
Co-60	%	4.91E+01
Ni-63	%	3.67E+00
Zr-95	%	6.18E+00
Nb-95	%	1.49E+00
Sb-125	%	7.40E+00
Cs-137	%	3.93E+00
Pu-241	%	2.46E+00
c. N/A	%	N/A
d. H-3	%	9.96E+01

**TABLE 3**

**EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT=**

**SOLID WASTE AND IRRADIATED FUEL SHIPMENTS=**

**PERIOD: 1/1/24 - 12/31/24**

**SURRY POWER STATION**

**A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (Not irradiated fuel)**

**3. Solid Waste Disposition**

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
<b>16</b>	Truck	EnergySolutions at Oak Ridge, TN (Bear Creek Operations)
<b>1</b>	Truck	EnergySolutions at Memphis, TN (Memphis Facility)
<b>3</b>	Truck	Erwin ResinSolutions, LLC

**B. IRRADIATED FUEL SHIPMENT (Disposition)**

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
<b>0</b>		

NOTE 1: Some of this waste was shipped to licensed waste processors for processing and/or volume reduction. Therefore, this volume is not representative of the actual volume buried. The total volume buried for this reporting period is 1.10E+01 m<sup>3</sup>.

NOTE 2: Some DAW was shipped to licensed waste processors for processing and/or volume reduction. Therefore, this volume is not representative of the actual volume buried. The total volume buried for this reporting period is 1.40E+02 m<sup>3</sup>.

NOTE 3: This waste was shipped to a licensed waste processor for processing and/or volume reduction. Therefore, this volume is not representative of the actual volume buried. The total volume buried for this reporting period is 0.00E+00 m<sup>3</sup>.

### ANNUAL AND QUARTERLY DOSES

An assessment of radiation doses to the maximum exposed member of the public due to radioactive liquid and gaseous effluents released from the site for each calendar quarter for the calendar year of this report, along with an annual total of each effluent pathway is made pursuant to the ODCM, Section 6.7.2, requirement.

2024	LIQUID		
	Maximum Receptor - Adult		
	Total Body (mrem)	GI-LLI (mrem)	Liver (mrem)
1st Quarter	9.21E-05	9.57E-05	9.24E-05
2nd Quarter	3.01E-04	3.26E-04	3.01E-04
3rd Quarter	1.28E-05	1.64E-05	1.31E-05
4th Quarter	1.55E-04	1.61E-04	1.56E-04
Annual	5.62E-04	5.99E-04	5.63E-04

2024	GASEOUS - Air Dose	
	Gamma (mrad)	Beta (mrad)
1st Quarter	2.33E-04	8.22E-05
2nd Quarter	6.16E-06	4.66E-06
3rd Quarter	5.77E-06	2.04E-06
4th Quarter	4.38E-06	2.55E-06
Annual	2.49E-04	9.14E-05

2024	GASEOUS - Organ Dose		
	Annual Maximum	Maximum by Quarter	
	Child / Bone (mrem)	(mrem)	Receptor / Organ
1st Quarter	2.52E-02	3.71E-02	Child / Bone
2nd Quarter	6.53E-02	6.53E-02	Child / Bone
3rd Quarter	6.24E-04	1.42E-03	Teen / Lung
4th Quarter	6.59E-03	1.06E-02	Teen / Lung
Annual	9.77E-02		

### **REVISIONS TO OFFSITE DOSE CALCULATION MANUAL (ODCM)**

As required by Technical Specification 6.8.B, revisions to the ODCM, effective for the time period covered by this report, are included with this attachment. There were no revisions to the ODCM implemented during this reporting period.

**MAJOR CHANGES TO RADIOACTIVE LIQUID,  
GASEOUS AND SOLID WASTE TREATMENT SYSTEMS**

There were no major changes to the radioactive liquid, gaseous or solid waste treatment systems during the reporting period.

**INOPERABILITY OF RADIOACTIVE LIQUID AND GASEOUS**  
**EFFLUENT MONITORING INSTRUMENTATION**

The Annual Radioactive Effluent Release Report shall explain why monitoring instrumentation required by Attachments 1 and 5 of the ODCM were determined to be inoperable and were not returned to operable status within 30 days.

No radiation monitors referenced on Attachment 1 and Attachment 5 of the ODCM were inoperable greater than 30 days during the reporting period.

### **UNPLANNED RELEASES**

In accordance with the ODCM reporting requirements, no unplanned liquid releases or unplanned gaseous releases occurred during the reporting period.

**LOWER LIMIT OF DETECTION (LLD) FOR EFFLUENT SAMPLE ANALYSIS**

<u>GASEOUS:</u>	<u>Isotope</u>	<u>Required LLD</u>	<u>Typical LLD</u>
	Kr-87	1.00E-04	2.13E-06 - 1.95E-05
	Kr-88	1.00E-04	8.81E-07 - 1.88E-05
	Xe-133	1.00E-04	9.63E-07 - 4.06E-05
	Xe-133m	1.00E-04	3.81E-06 - 4.06E-05
	Xe-135	1.00E-04	4.51E-07 - 5.76E-06
	Xe-135m	1.00E-04	1.38E-05 - 9.41E-05
	Xe-138	1.00E-04	2.59E-05 - 9.90E-05
	I-131	1.00E-12	4.06E-13 - 4.06E-13
	I-133	1.00E-10	4.06E-11 - 4.06E-11
	Sr-89	1.00E-11	1.04E-14 - 1.81E-12
	Sr-90	1.00E-11	1.55E-15 - 4.71E-13
	Cs-134	1.00E-11	2.45E-14 - 7.83E-13
	Cs-137	1.00E-11	1.47E-13 - 8.48E-13
	Mn-54	1.00E-11	3.89E-14 - 8.21E-13
	Fe-59	1.00E-11	9.33E-14 - 2.01E-12
	Co-58	1.00E-11	1.97E-13 - 9.65E-13
	Co-60	1.00E-11	2.70E-13 - 1.16E-12
	Zn-65	1.00E-11	3.89E-13 - 2.14E-12
	Mo-99	1.00E-11	4.06E-12 - 4.06E-12
	Ce-141	1.00E-11	1.83E-13 - 6.87E-13
	Ce-144	1.00E-11	6.99E-13 - 3.06E-12
	Alpha	1.00E-11	1.67E-14 - 1.67E-14
	Tritium	1.00E-06	5.03E-08 - 5.77E-08
<u>LIQUID:</u>	Sr-89	5.00E-08	4.11E-08 - 4.12E-07
	Sr-90	5.00E-08	6.81E-09 - 2.62E-08
	Cs-134	5.00E-07	2.45E-14 - 3.46E-13
	Cs-137	5.00E-07	1.47E-13 - 5.77E-13
	I-131	1.00E-06	4.06E-11 - 4.06E-11
	Co-58	5.00E-07	1.97E-13 - 5.06E-13
	Co-60	5.00E-07	2.70E-13 - 7.54E-13
	Fe-59	5.00E-07	9.33E-14 - 7.82E-13
	Zn-65	5.00E-07	3.89E-13 - 1.18E-12
	Mn-54	5.00E-07	3.89E-14 - 4.27E-13
	Mo-99	5.00E-07	4.06E-12 - 4.06E-12
	Ce-141	5.00E-07	1.83E-13 - 4.91E-13
	Ce-144	5.00E-07	6.99E-13 - 1.88E-12
	Fe-55	1.00E-06	1.83E-07 - 8.43E-07
	Alpha	1.00E-07	2.43E-08 - 2.46E-08
	Tritium	1.00E-05	1.24E-06 - 1.43E-06
	Xe-133	1.00E-05	9.63E-07 - 1.48E-05
	Xe-135	1.00E-05	4.51E-07 - 6.93E-06
	Xe-133m	1.00E-05	3.81E-06 - 4.06E-05
	Xe-135m	1.00E-05	1.38E-05 - 9.41E-05
	Xe-138	1.00E-05	2.59E-05 - 9.90E-05
	Kr-87	1.00E-05	2.13E-06 - 1.95E-05
	Kr-88	1.00E-05	8.81E-07 - 2.05E-05

## INDUSTRY GROUND WATER PROTECTION INITIATIVE

The following is a summary of 2024 sample analyses of ground water monitoring wells that are not a part of the Radiological Environmental Monitoring Program (REMP).

Well Designation	Sample Date	Tritium pCi/Liter	Gamma pCi/Liter	Fe-55 pCi/Liter	Ni-63 pCi/Liter	Sr-90 pCi/Liter	TRU pCi/Liter
1-PL-Piez-47	1/4/24	11600	NA	NA	NA	NA	NA
1-PL-Piez-47	1/10/24	11600	NA	NA	NA	NA	NA
1-PL-Piez-49	1/10/24	1950	NA	NA	NA	NA	NA
1-PL-Piez-51	1/10/24	7180	NA	NA	NA	NA	NA
1-PL-Piez-44	1/11/24	2410	NA	NA	NA	NA	NA
1-PL-Piez-47	1/18/24	11100	NA	NA	NA	NA	NA
1-PL-Piez-05	1/24/24	2250	NA	NA	NA	NA	NA
1-PL-Piez-29	1/24/24	7450	NA	NA	NA	NA	NA
1-PL-Piez-44	1/24/24	780	NA	NA	NA	NA	NA
1-PL-Piez-47	1/24/24	10400	NA	NA	NA	NA	NA
1-PL-Piez-49	1/24/24	1020	NA	NA	NA	NA	NA
1-PL-Piez-51	1/24/24	6430	NA	NA	NA	NA	NA
1-PL-Piez-44	2/8/24	2220	NA	NA	NA	NA	NA
1-PL-Piez-47	2/8/24	10000	NA	NA	NA	NA	NA
1-PL-Piez-49	2/8/24	812	NA	NA	NA	NA	NA
1-PL-Piez-51	2/8/24	6810	NA	NA	NA	NA	NA
1-PL-Piez-47	2/22/24	10600	NA	NA	NA	NA	NA
1-PL-Piez-49	2/22/24	1340	NA	NA	NA	NA	NA
1-PL-Piez-51	2/22/24	6550	NA	NA	NA	NA	NA
1-PL-Piez-04	2/27/24	185	ND	NA	NA	NA	NA
1-PL-Piez-05	2/27/25	3190	ND	<38.03	<4.96	<.985	ND
1-PL-Piez-06	2/29/24	<1250	ND	<39.80	<4.43	<.924	ND
1-PL-Piez-43	2/29/24	<1240	ND	NA	NA	NA	NA
1-PL-Piez-50	2/29/24	<1250	ND	NA	NA	NA	NA
1-PL-Piez-25	2/29/24	<1240	NA	NA	NA	NA	NA
1-PL-Piez-07	3/4/24	<1240	ND	NA	NA	NA	NA
1-PL-Piez-27	3/4/24	<1250	NA	NA	NA	NA	NA
1-PL-Piez-45	3/4/24	<1240	ND	<51.20	<4.16	<.955	ND
1-PL-Piez-49	3/7/24	1760	NA	NA	NA	NA	NA
1-PL-Piez-51	3/7/24	6090	NA	NA	NA	NA	NA
1-PL-Piez-47	4/4/24	6080	ND	<10.30	<4.57	<.836	ND
1-PL-Piez-29	4/5/24	7560	ND	<71.20	<4.88	<.788	ND
1-PL-Piez-47	4/5/24	5500	NA	NA	NA	NA	NA

NA = analysis not required.

ND = No non-natural gamma emitting nuclides detected when analyzed to REMF LLDs.

TRU = Transuranics (Am-241, Cm-242, Cm-243/244, Pu-238, Pu-239/240 and Pu-241)

## INDUSTRY GROUND WATER PROTECTION INITIATIVE

Well Designation	Sample Date	Tritium pCi/Liter	Gamma pCi/Liter	Fe-55 pCi/Liter	Ni-63 pCi/Liter	Sr-90 pCi/Liter	TRU pCi/Liter
1-PL-Piez-44	4/10/24	1940	ND	<67.30	<4.30	<.884	ND
1-PL-Piez-49	4/10/24	1780	NA	NA	NA	NA	NA
1-PL-Piez-52	4/10/24	<1240	ND	NA	NA	NA	NA
1-PL-Piez-44	4/10/24	1940	NA	NA	NA	NA	NA
1-PL-Piez-49	4/10/24	2550	ND	<76.70	<4.82	<.829	ND
1-PL-Piez-46	4/11/24	<1240	ND	<64.80	<4.40	<.744	ND
1-PL-Piez-48	4/14/24	<1240	ND	NA	NA	NA	NA
1-PL-Piez-29	5/19/24	8720	NA	NA	NA	NA	NA
1-PL-Piez-47	5/19/24	5800	NA	NA	NA	NA	NA
1-PL-Piez-05	6/11/24	1860	ND	NA	NA	NA	NA
1-PL-Piez-06	6/11/24	0	ND	NA	NA	NA	NA
1-PL-Piez-43	6/11/24	344	ND	NA	NA	NA	NA
1-PL-Piez-44	6/11/24	1960	ND	NA	NA	NA	NA
1-PL-Piez-45	6/11/24	270	ND	NA	NA	NA	NA
1-PL-Piez-47	6/11/24	5720	ND	NA	NA	NA	NA
1-PL-Piez-50	6/11/24	81.7	ND	NA	NA	NA	NA
1-PL-Piez-33	6/13/24	0	NA	NA	NA	NA	NA
1-PL-Piez-41	6/13/24	0	NA	NA	NA	NA	NA
1-PL-Piez-42	6/13/24	0	NA	NA	NA	NA	NA
1-PL-Piez-29	6/14/24	4620	ND	NA	NA	NA	NA
1-PL-Piez-46	6/14/24	0	ND	NA	NA	NA	NA
1-PL-Piez-48	6/14/24	0	ND	NA	NA	NA	NA
1-PL-Piez-49	6/14/24	772	ND	NA	NA	NA	NA
1-PL-Piez-51	6/14/24	6000	ND	NA	NA	NA	NA
1-PL-Piez-52	6/14/24	1320	ND	NA	NA	NA	NA
1-PL-Piez-44	7/9/24	781	NA	NA	NA	NA	NA
1-PL-Piez-49	7/9/24	1070	NA	NA	NA	NA	NA
1-PL-Piez-51	7/9/24	5200	NA	NA	NA	NA	NA
1-PL-Piez-29	7/10/24	6330	NA	NA	NA	NA	NA
1-PL-Piez-44	7/25/24	1650	NA	NA	NA	NA	NA
1-PL-Piez-49	7/25/24	1530	NA	NA	NA	NA	NA
1-PL-Piez-51	7/25/24	4340	NA	NA	NA	NA	NA
1-PL-Piez-44	8/13/24	1490	NA	NA	NA	NA	NA

NA = analysis not required.

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TRU = Transuranics (Am-241, Cm-242, Cm-243/244, Pu-238, Pu-239/240 and Pu-241)

**INDUSTRY GROUND WATER PROTECTION INITIATIVE**

Well Designation	Sample Date	Tritium pCi/Liter	Gamma pCi/Liter	Fe-55 pCi/Liter	Ni-63 pCi/Liter	Sr-90 pCi/Liter	TRU pCi/Liter
1-PL-Piez-49	8/13/24	2090	NA	NA	NA	NA	NA
1-PL-Piez-51	8/13/24	4090	NA	NA	NA	NA	NA
1-PL-Piez-49	8/28/24	2760	NA	NA	NA	NA	NA
1-PL-Piez-51	8/28/24	4770	NA	NA	NA	NA	NA
1-PL-Piez-44	8/29/24	1160	NA	NA	NA	NA	NA
1-PL-Piez-44	9/11/24	1770	NA	NA	NA	NA	NA
1-PL-Piez-49	9/11/24	1430	NA	NA	NA	NA	NA
1-PL-Piez-51	9/11/24	4310	NA	NA	NA	NA	NA
1-PL-Piez-04	9/30/24	0	ND	NA	NA	NA	NA
1-PL-Piez-05	9/30/24	2380	ND	NA	NA	NA	NA
1-PL-Piez-06	9/30/24	374	ND	NA	NA	NA	NA
1-PL-Piez-07	9/30/24	398	ND	NA	NA	NA	NA
1-PL-Piez-43	9/30/24	337	ND	NA	NA	NA	NA
1-PL-Piez-45	9/30/24	856	ND	NA	NA	NA	NA
1-PL-Piez-44	10/1/24	1380	ND	NA	NA	NA	NA
1-PL-Piez-50	10/1/24	155	NA	NA	NA	NA	NA
1-PL-Piez-29	10/2/24	4330	ND	NA	NA	NA	NA
1-PL-Piez-46	10/2/24	1050	ND	NA	NA	NA	NA
1-PL-Piez-47	10/2/24	5940	ND	NA	NA	NA	NA
1-PL-Piez-48	10/2/24	159	ND	NA	NA	NA	NA
1-PL-Piez-49	10/2/24	6040	ND	NA	NA	NA	NA
1-PL-Piez-51	10/2/24	4580	ND	NA	NA	NA	NA
1-PL-Piez-52	10/2/24	406	ND	NA	NA	NA	NA
1-PL-Piez-25	10/3/24	0	NA	NA	NA	NA	NA
1-PL-Piez-34	10/3/24	0	NA	NA	NA	NA	NA
1-PL-Piez-36	10/3/24	565	NA	NA	NA	NA	NA
1-PL-Piez-37	10/3/24	476	NA	NA	NA	NA	NA
1-PL-Piez-39	10/3/24	0	NA	NA	NA	NA	NA
1-PL-Piez-38	10/8/24	0	NA	NA	NA	NA	NA
1-PL-Piez-53	10/8/24	0	NA	NA	NA	NA	NA
1-PL-Piez-49	10/15/24	1660	NA	NA	NA	NA	NA
1-PL-Piez-51	10/15/24	3030	NA	NA	NA	NA	NA
G-08	11/12/24	8980	NA	NA	NA	NA	NA
1-PL-Piez-44	11/12/24	1630	NA	NA	NA	NA	NA
1-PL-Piez-51	11/12/24	4130	NA	NA	NA	NA	NA
G-08	11/26/24	9480	NA	NA	NA	NA	NA
1-PL-Piez-44	11/26/24	2120	NA	NA	NA	NA	NA
1-PL-Piez-49	11/26/24	1800	NA	NA	NA	NA	NA
1-PL-Piez-51	11/26/24	2890	NA	NA	NA	NA	NA

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**INDUSTRY GROUND WATER PROTECTION INITIATIVE**

Well Designation	Sample Date	Tritium pCi/Liter	Gamma pCi/Liter	Fe-55 pCi/Liter	Ni-63 pCi/Liter	Sr-90 pCi/Liter	TRU pCi/Liter
1-PL-Piez-33	12/10/24	0	NA	NA	NA	NA	NA
1-PL-Piez-40	12/10/24	0	NA	NA	NA	NA	NA
1-PL-Piez-41	12/10/24	0	NA	NA	NA	NA	NA
1-PL-Piez-42	12/10/24	0	NA	NA	NA	NA	NA
1-PL-Piez-05	12/12/24	2730	ND	NA	NA	NA	NA
1-PL-Piez-06	12/12/24	340	ND	NA	NA	NA	NA
1-PL-Piez-43	12/12/24	57.9	ND	NA	NA	NA	NA
1-PL-Piez-45	12/12/24	539	ND	NA	NA	NA	NA
G-08	12/14/24	8330	NA	NA	NA	NA	NA
1-PL-Piez-44	12/17/24	1410	NA	NA	NA	NA	NA
1-PL-Piez-49	12/17/24	3120	NA	NA	NA	NA	NA
1-PL-Piez-51	12/17/24	3640	NA	NA	NA	NA	NA
1-PL-Piez-08	12/18/24	0	NA	NA	NA	NA	NA
1-PL-Piez-24	12/18/24	0	NA	NA	NA	NA	NA
1-PL-Piez-44	12/18/24	2580	ND	NA	NA	NA	NA
1-PL-Piez-47	12/18/24	489	ND	NA	NA	NA	NA
1-PL-Piez-50	12/18/24	3780	NA	NA	NA	NA	NA
1-PL-Piez-09	12/19/24	906	NA	NA	NA	NA	NA
1-PL-Piez-22	12/19/24	290	NA	NA	NA	NA	NA
1-PL-Piez-28	12/19/24	347	NA	NA	NA	NA	NA
1-PL-Piez-29	12/23/24	4060	ND	NA	NA	NA	NA
1-PL-Piez-46	12/23/24	805	ND	NA	NA	NA	NA
1-PL-Piez-48	12/23/24	1190	ND	NA	NA	NA	NA
1-PL-Piez-49	12/23/24	2810	ND	NA	NA	NA	NA
1-PL-Piez-51	12/23/24	4450	ND	NA	NA	NA	NA
1-PL-Piez-52	12/23/24	568	ND	NA	NA	NA	NA

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