



September 18, 2023

L-2023-127
10 CFR 50.36a

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

Re: St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
Correction to the 2022 Annual Radioactive Effluent Release Report

Reference: FPL letter L-2023-032 dated February 28, 2023: 2022 Annual Radioactive Effluent Release Report

By letter dated February 28, 2023 (Reference), Florida Power & Light submitted the 2022 Annual Radioactive Effluent Release Report (ARERR) for St. Lucie Units 1 and 2 pursuant to 10 CFR 50.36a(a)(2) and Technical Specification (TS) 6.9.1.7. The 2022 report provided information for the 12-month period beginning January 1, 2022 and ending December 31, 2022.

Dose calculation errors were found in the land use exposure pathways. Also, three effluent radiation monitors that had been out of service for greater than 30 days should have been reported in Section 2.5. These items have been corrected and are provided in this submittal. This corrected report replaces the St. Lucie 2022 ARERR report in its entirety.

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

Sincerely,

A handwritten signature in black ink, appearing to read "D. Strand for", is written over a light blue horizontal line.

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

Enclosure: Combined Annual Radioactive Effluent Release Report (2021)

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

ENCLOSURE

COMBINED ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

ST. LUCIE UNITS 1 AND 2

(59 pages follow)

**FLORIDA POWER & LIGHT COMPANY
ST. LUCIE UNITS 1 AND 2
ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT
JANUARY 1, 2022 THROUGH DECEMBER 31, 2022**

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1.0 PROGRAM DESCRIPTION

Regulatory Limits

The Offsite Dose Calculation Manual (ODCM) Radiological Effluent Control limits applicable to the release of radioactive material in liquid and gaseous effluents are described in the following sections.

Fission and Activation Gases (Noble Gases)

The dose rate due to radioactive materials released in gaseous effluents, from the Site to areas at and beyond the Site boundary, shall be limited to less than or equal to 500 mrem/yr to the whole body and less than or equal to 3000 mrem/yr to the skin.

The air dose due to noble gases released in gaseous effluents from each Unit, to areas at and beyond the Site boundary, shall be limited to:

- a. During any calendar quarter: Less than or equal to 5 mrad for gamma radiation and less than or equal to 10 mrad for beta radiation, and
- b. During any calendar year: Less than or equal to 10 mrad for gamma radiation and less than or equal to 20 mrad for beta radiation.

Iodine-131, Iodine-133, Tritium, Carbon-14, and Radioactive Material in Particulate Form

The dose rate due to Iodine-131 (I-131), Iodine-133 (I-133), Tritium, and all radionuclides in particulate form with half-lives greater than 8 days, released in gaseous effluents from the Site to areas at and beyond the Site boundary, shall be limited to less than or equal to 1500 mrem/yr to any organ.

The dose to a MEMBER OF THE PUBLIC from I-131, I-133, Tritium, Carbon-14 (C-14), and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from each Unit, to areas at and beyond the Site boundary, shall be limited to:

- a. During any calendar quarter: Less than or equal to 7.5 mrem to any organ, and
- b. During any calendar year: Less than or equal to 15 mrem to any organ.

Liquid Effluents

The concentration of radioactive material released in liquid effluents to unrestricted areas shall be limited to 10 times the concentrations specified in 10 CFR Part 20, 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 $2.0E-4$ $\mu\text{Ci/ml}$ total activity. The dose or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released from each Unit, to unrestricted areas, shall be limited to:

- a. During any calendar quarter: Less than or equal to 1.5 mrem to the whole body and less than or equal to 5 mrem to any organ, and
- b. During any calendar year: Less than or equal to 3 mRem to the whole body and less than or equal to 10 mrem to any organ.

Total Dose

The annual (calendar year) dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources shall be limited to less than or equal to 25 mrem to the whole body or any organ, except the thyroid which shall be limited to less than or equal to 75 mrem.

Effluent Concentration Limits

Gaseous Effluents

For gaseous effluents, effluent concentration limits (ECL) values are not directly used in release rate calculations since the applicable limits are expressed in terms of dose rate at the Site boundary.

Liquid Effluents

The values specified in 10 CFR Part 20, Appendix B, Table 2, Column 2 are used as the ECL for liquid radioactive effluents released to unrestricted areas. A value of 2.0E-04 $\mu\text{Ci/ml}$ is used as the ECL for dissolved and entrained noble gases in liquid effluents.

Measurements and Approximations of Total Radioactivity

Measurements of total radioactivity in liquid and gaseous radioactive effluents were accomplished in accordance with the sampling and analysis requirements of Tables 4.11-1 and 4.11-2, respectively, of the St. Lucie ODCM. Estimates of errors are in accordance with Methodology Section 4.0.4 of the ODCM.

The estimate of errors associated with values reported are below:

| <u>Error Topic</u> | <u>LIQUID</u> | | <u>GASEOUS</u> | |
|----------------------|---------------|--------------|----------------|--------------|
| | <u>Avg %</u> | <u>Max %</u> | <u>Avg %</u> | <u>Max %</u> |
| Release Point Mixing | 2 | 5 | NA | NA |
| Sampling | 1 | 5 | 2 | 5 |
| Sample Preparation | 1 | 5 | 1 | 5 |
| Sample Analysis | 3 | 10 | 3 | 10 |
| Release Volume | 2 | 5 | 4 | 15 |
| Total % | 9 | 30 | 10 | 35 |

(above values are examples only)

The predictability of error for radioactive releases can only be applied to nuclides that are predominant in sample spectrums. Nuclides that are near background relative to the predominant nuclides in a given sample could easily have errors greater than the maximums listed above.

Liquid Radioactive Effluents

Each batch release was sampled and analyzed for gamma emitting radionuclides using gamma spectroscopy prior to release. Composite samples were analyzed monthly for tritium and gross alpha radioactivity in the onsite laboratory using liquid scintillation and air ion chamber counting techniques, respectively. Composite samples were analyzed quarterly for Strontium-89 (Sr-89), Strontium-90 (Sr-90), Iron-55 (Fe-55), Nickel-63 (Ni-63), and C-14 by a contract laboratory. The results of the composite analyses from the previous month or quarter were used to estimate the quantities of these radionuclides in liquid effluents during the current month or quarter. The total radioactivity in liquid effluent releases was determined from the measured and estimated concentrations of each radionuclide present and the total volume of the effluent released during periods of discharge.

Gaseous Radioactive Effluents

Each gaseous batch was sampled and analyzed for radioactivity prior to release. For releases from gas decay tanks, noble gas grab samples were analyzed for gamma emitting radionuclides using gamma spectroscopy. For releases from the reactor containment buildings, samples were taken of noble gas and tritium grab samples and analyzed for gamma emitting radionuclides prior to each release. The results of the analyses and the total volume of effluent released were used to determine the total amount of radioactivity released in the batch mode.

For continuous effluent release pathways, noble gas and tritium grab samples were collected and analyzed weekly for gamma emitting radionuclides by gamma spectroscopy and liquid scintillation counting techniques, respectively. Continuous release pathways were continuously sampled using radioiodine absorbers and particulate filters. The radioiodine absorbers and particulate filters were analyzed weekly for gamma emitting radionuclides using gamma spectroscopy. Results of the noble gas and tritium grab samples, radioiodine absorber, and particulate filter analyses from the current week along with the average effluent flow rate for the previous week were used to determine the total amount of radioactivity released in the continuous mode. The particulate filters were analyzed weekly for gross alpha activity in the onsite laboratory using the air ion chamber counting technique. Quarterly composites of particulate filters were analyzed for Sr-89 and Sr-90 by a contract laboratory.

Meteorological Monitoring Program

In accordance with ODCM Administrative Control 3.11.2.6.b., a summary of hourly meteorological data collected during 2022 is retained onsite. This data is available for review by the NRC upon request. During 2022, the goal of 90% joint data recovery was met. Actual meteorological data

collected during the year was used for the offsite dose calculations in this report.

Carbon-14 Dose Estimation

The estimate of C-14 released from the St. Lucie Nuclear Plant was derived from the EPRI document, "Estimation of Carbon-14 in Nuclear Power Plant Gaseous Effluents", Report 1021106, issued December 2010.

The Site-specific source term values used in the St. Lucie calculations were taken from the PWR Section, Page 4-28 of the report, and employed the proxy generation rate values for a Combustion Engineering reactor. The actual 2022 operating data for the units was employed for the calculations to derive the total curies released for each unit.

The total amount of C-14 released in 2022 from Unit 1 was 10.39 Ci, and the total amount of C-14 released in 2022 from Unit 2 was 11.07 Ci.

Per Regulatory Guide 1.21, Rev 2, Section 5.7, "Real exposure pathways are identified for routine discharges and direct radiation based on the results of the Land Use Census. Dose calculations should typically be performed based on real exposure pathways". Because the 2022 Land Use Census did not identify any land within 5 miles of Site that met the criteria of a garden per Technical Specification 3.12.2 listed in the ODCM, the highest dose exposure pathway from C-14 was calculated from the collection of citrus fruit at a grove 5 miles distant in the West sector. A "Child" consuming citrus produced at the grove located 5 miles in the West direction from Site would have received a total combined "Bone Dose" of 4.44E-02 mrem attributed to C-14.

Assessment of radiation dose from radioactive effluents to a MEMBER OF THE PUBLIC due to activities inside the Site boundary assumes the visitor to be a Lifeguard at Walton Rocks Beach Recreation Area, located 1 mile southeast of the site. Dose to the visitor on Site for calendar year 2022 was calculated to be 1.91E-08 mrem Total Body dose. See Section 3.4, Dose Assessments, for more detail.

Radiation dose from radioactive effluents to a MEMBER OF THE PUBLIC due to activities inside the Site boundary is a fraction of the 1 mrem annual whole-body dose received by the average US citizen from natural occurring C-14, primarily generated through cosmogenesis in the terrestrial biosphere (Reference: National Council of Radiation Protection Report 45, Natural Background Radiation in the United States).

All C-14 dose calculations are based on Regulatory Guide 1.109 values.

2.0 SUPPLEMENTAL INFORMATION

2.1 Abnormal Releases or Abnormal Discharges

There was one abnormal (unplanned) release or discharge from the site during the report period.

- One abnormal (unplanned) gas decay tank discharge from the site occurred on December 24, 2022. Operations entered 1-AOP-06.04, Uncontrolled Release of Radioactive Gas, due to loss of 21 psig in a 12 hour period from the 1C Gas Decay Tank (GDT). As per the ODCM, if a Gas Decay Tank loses greater than 18 psig in 72 hours, AND the losses were determined to be to the Reactor Auxiliary Building Atmosphere, then declare the losses as an UNPLANNED RELEASE.

The 1C GDT Unplanned Release was accounted for using a separate Abnormal Gas Decay Release Permit, G-22-472B. AR #2444602 was generated to document the unplanned GDT release to the auxiliary building which was monitored by an operable plant vent radiation monitor on the plant vent stack. No additional leaks have been identified since its return to service.

Release Estimates Are As Follows:

| Nuclide | uCi/cc concentration | uCi released |
|---------|----------------------|--------------|
| Kr-85m | 6.79E-07 | 6.72E+00 |
| Xe-133m | 2.12E-05 | 2.10E+02 |
| Xe-135 | 9.18E-05 | 9.09E+02 |
| Xe-133m | 8.55E-04 | 8.47E+03 |

Maximum Infant Dose for NW Site Boundary:

| Total Body (mRem) | Skin (mRem) | Gamma Air (mRad) | Beta Air (mRad) |
|-------------------|-------------|------------------|-----------------|
| 2.128E-07 | 4.968E-07 | 2.441E-07 | 5.809E-07 |

2.2 Non-Routine Planned Discharges

No non-routine planned discharges occurred during the report period.

2.3 Radioactive Waste Treatment System Changes

No changes were made to the Radioactive Waste Treatment System during the report period.

2.4 Annual Land Use Census Changes

During 2022, no garden greater than 500 ft² was located within 5 miles of Site. Per Technical Specification 3.12.2 listed in the ODCM, C-200, Page 64, broad leaf vegetation (Brazilian Pepper) sampling was performed at the Site Boundary in the 2 sectors (WNW and NW) with the highest predicted D/Qs in lieu of the garden census. Controls for broad leaf vegetation sampling per ODCM Table 3.12-1, Part 4.b, including collection and analysis of control samples, were followed.

2.5 Effluent Monitoring System Inoperability

Three effluent radiation monitors were out of service for greater than 30 days during the report period:

- 1) Unit 2 RM-26-90, Plant Vent Wide Range Gas Monitor (PV WRGM) was declared OOS on February 19, 2022, due to Loss of Communication and No Readings. ODCM change Revision 54 was completed on March 2, 2022, to allow substitution of the Plant Vent (Particulate, Iodine, Gas) PIG rad monitors for the Low Range Plant Vent WRGM (2-AOP-26.01). Sampling is only required if the 2A or 2B Plant Vent PIG monitors are in Alert. The PV WRGM is Currently Out of Service and Work Order 40817300 is tracking repairs.
- 2) RM-45-1, Steam Generator Blowdown Treatment Facility (SGBTF) Vent Rad Monitor was non-functional and declared out of service on 8/23/2021 due to particulate filter high pressure. As per the Offsite Dose Calculation Manual (ODCM), Table 3.3-13, no actions are required if SGBTF ventilation is secured. In the event SGBTF ventilation were to be placed in service, ODCM, Table 3.3-13 provides actions required to be performed. SGBTF ventilation fans are currently off. The SGBTF Rad Monitor is currently not in service.
- 3) Unit 1 Steam Jet Air Ejector (SJAE) Rad Monitor (RE-26-35) was declared out of service on June 9, 2022. The SJAE rad monitor pump was not running due to a broken wire. Work Order 40831683 was generated to track repairs. The SJAE Rad Monitor was returned to service on July 11, 2022.

2.6 Offsite Dose Calculation Manual Changes

Incorporated PCR 2362195 to include additional Effluent Radiation Monitors into Table 4.3-9, Radioactive Gaseous Effluent Monitoring Instrumentation, revised ACTION 51 to the action statement as written previously in the Technical Specifications, Table 3.3-6 of Unit 1 Technical Specifications, Amendment 206, and revised ACTION 55 in Table 3.3-13 due to addition of the 3.b) Noble Gas Activity Monitor High Range for Unit 2 in C-200 Revision 50.

2.7 Process Control Program Changes

No changes were made to the Process Control Program during the report period.

2.8 Corrections to Previous Reports

No corrections to previous reports were made during this report period.

2.9 Other

AR 02419243 RIM-26-90 WRGM Indication has turned Magenta

Unit: 02

RIM-26-90 WRGM Indication has turned magenta and has no readings per Table 3.3-13 and Action 47. Established DS-30 for Chemistry to obtain grab samples every 8 hours and isotopic analysis within 24 hours.

South Pond Settling Basin Release Summary

Fourteen batch releases from the South Settling Basin to the Intake Canal to lower the water level due to periods of higher than normal rainfall occurred during the report period. All releases were analyzed according to the ODCM and Site procedural requirements and were found to have no detectable gamma, tritium, alpha, or hard-to-detect isotopes. The releases are summarized below.

| 2022 South Pond Releases | | | | |
|---------------------------------|-------------|------------|------------------|---------|
| # | Sample Date | | Volume (Gallons) | Quarter |
| 1 | 1/20/22 | L-22-011-B | 2,998,910 | Q1 |
| 2 | 3/11/22 | L-22-014-B | 4,268,084 | |
| 3 | 4/29/22 | L-22-017-B | 3,793,081 | Q2 |
| 4 | 6/2/22 | L-22-021-B | 10,765,826 | |
| 5 | 6/10/22 | L-22-031-B | 1,838,911 | |
| 6 | 7/19/22 | L-22-032-B | 6,885,706 | Q3 |
| 7 | 8/9/22 | L-22-045-B | 1,930,812 | |
| 8 | 9/10/22 | L-22-055-B | 3,547,049 | |
| 9 | 9/19/22 | L-22-069-B | 4,976,574 | |
| 10 | 9/26/22 | L-22-070-B | 5,408,411 | |
| 11 | 10/19/22 | L-22-072-B | 6,328,081 | Q4 |
| 12 | 11/1/22 | L-22-076-B | 2,152,476 | |
| 13 | 11/8/22 | L-22-077-B | 2,439,148 | |
| 14 | 11/28/22 | L-22-079-B | 3,402,585 | |

2.10 Groundwater Protection Program

No limits were exceeded for the St. Lucie Nuclear Site Groundwater Protection Program during the report period. The tritium results for the report period are contained in the table below.

| Well ID | Jan | Feb | March | April | May | June | July | Aug | Sept | Oct | Nov | Dec |
|----------|------|------|-------|-------|------|------|------|------|------|------|------|------|
| 1MW001 | | | <262 | | | | | | | | | |
| 1MW002 | | | <244 | | | | | | | | | |
| 1MW003 | | | <239 | | | | | | | | | |
| 1MW004 | | | <182 | | | | | | | | | |
| 1MW005 | | | 350 | | 1880 | | | | | | | <232 |
| 2MW001 | | 199 | | | <211 | | | | | | | <233 |
| 2MW002 | | 244 | | | 1260 | | | | | | | <229 |
| 2MW003 | | 272 | | | 355 | | | | | | | 401 |
| 2MW004 | | <183 | | | <204 | | | | | | | <231 |
| MW-15 | | | 352 | | 382 | | | | | | | 234 |
| MW-16 | | <241 | | | <219 | | | | | | | 337 |
| MW-17 | 2630 | 2590 | 2370 | | 4150 | | | | | 2040 | 4350 | 4360 |
| MW-18d | 3120 | 2720 | 2440 | | 2230 | | | | | 2130 | 1560 | 1500 |
| MW-19 | | | <179 | | <218 | | | | | | | <236 |
| MW-22d | | <248 | | | <216 | | | | | | | <235 |
| MW-26 | | <244 | | | <211 | | | | | | | <226 |
| MW-3 | | | 513 | | 262 | | | | | | | 359 |
| MW-30 | | <181 | | | <211 | | | | | | | <229 |
| MW-31 | | | 324 | | 233 | | | | | | | <237 |
| MW-32 | | | 279 | | <197 | | | | | | | 252 |
| MW-33 | | 499 | | | 501 | | | | | | | 617 |
| MW-4 | | | <182 | | <227 | | | | | | | <234 |
| MW-5 | | <245 | | | <216 | | | | | | | <238 |
| MW-6 | 7300 | 2670 | 2990 | | 4820 | 7520 | 1470 | 5320 | 7870 | 245 | 1300 | 3600 |
| MW-7 | | <263 | | | <213 | | | | | | | <224 |
| NB-MW-1 | | <261 | | | | | | | | | | |
| NB-MW-2 | | | <261 | | | | | | | | | |
| PSLED-2 | | <258 | | | | | | | | | | |
| RW-2 | | | 196 | | 225 | | | | | | | <231 |
| RW-4 | | <242 | | | <213 | | | | | | | <236 |
| RW-5 | | <248 | | | <208 | | | | | | | <226 |
| S-MW-1 | | | <249 | | | | | | | | | |
| S-MW-11 | | | <259 | | | | | | | | | |
| S-MW-15D | | | <245 | | | | | | | | | |
| S-MW-16 | | | <262 | | | | | | | | | |
| S-MW-16i | | | <255 | | | | | | | | | |
| S-MW-17 | | | 308 | | | | | | | | | |
| S-MW-18 | | | <259 | | | | | | | | | |
| S-MW-19 | | | <246 | | | | | | | | | |
| S-MW-4 | | | <249 | | | | | | | | | |
| S-MW-6 | | | <260 | | | | | | | | | |
| S-MW-7A | | | <261 | | | | | | | | | |

3.0 TABLES

Monday, February 27, 2023 2:30:33PM

3.1 Gaseous Effluents and Liquid Effluents

Florida Power & Light

St. Lucie Power Plant



Reg. Guide 1.21, Table 5A and 5B - Liquid and Gas Batch Release Summary

Unit: Site

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| A. Liquid Batch Release Totals | Units | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | Year Totals |
|---------------------------------------|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 1. Number of Batch Releases | | 14 | 9 | 37 | 17 | 77 |
| 2. Total duration of batch releases | min | 2.42E+04 | 3.03E+04 | 5.89E+04 | 4.02E+04 | 1.54E+05 |
| 3. Maximum batch release duration | min | 8.67E+03 | 1.01E+04 | 7.77E+03 | 1.00E+04 | 1.01E+04 |
| 4. Average batch release duration | min | 1.73E+03 | 3.37E+03 | 1.59E+03 | 2.36E+03 | 2.00E+03 |
| 5. Minimum batch release duration | min | 5.52E+02 | 6.07E+02 | 4.18E+02 | 6.25E+02 | 4.18E+02 |
| B. Gas Batch Release Totals | Units | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | Year Totals |
| 1. Number of Batch Releases | | 64 | 59 | 63 | 48 | 234 |
| 2. Total duration of batch releases | min | 2.73E+04 | 1.85E+04 | 4.74E+04 | 1.51E+04 | 1.08E+05 |
| 3. Maximum batch release duration | min | 3.86E+03 | 6.00E+02 | 9.86E+03 | 1.83E+03 | 9.86E+03 |
| 4. Average batch release duration | min | 4.26E+02 | 3.13E+02 | 7.53E+02 | 3.15E+02 | 4.63E+02 |
| 5. Minimum batch release duration | min | 1.80E+01 | 3.00E+01 | 1.90E+01 | 2.60E+01 | 1.80E+01 |

Reg. Guide 1.21, Table 6A and 6B - Liquid and Gas Abnormal Release Summary

Unit: Site

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| A. Liquid Abnormal Release Totals | Units | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | Year Totals |
|--|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 1. Number of Abnormal Releases | | 0 | 0 | 0 | 0 | 0 |
| 2. Total Activity of abnormal releases | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| B. Gas Abnormal Release Totals | Units | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | Year Totals |
| 1. Number of Abnormal Releases | | 0 | 0 | 0 | 1 | 1 |
| 2. Total Activity of abnormal releases | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.59E-03 | 9.59E-03 |

Reg. Guide 1.21, Table 1A, Gaseous Effluents - Summation of All Releases

Unit: Site

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| <u>Total Release</u> | <u>Units</u> | <u>1ST Quarter</u> | <u>2ND Quarter</u> | <u>3RD Quarter</u> | <u>4TH Quarter</u> | <u>Annual</u> | <u>Uncertainty</u> |
|--|--------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|
| A. Fission and Activation Gases | | | | | | | |
| 1. Total Release | Ci | 2.22E+01 | 7.45E+01 | 7.13E+00 | 7.39E-01 | 1.05E+02 | |
| 2. Average Release Rate for Period | uCi/s | 2.85E+00 | 9.48E+00 | 8.98E-01 | 9.29E-02 | 3.32E+00 | |
| 3. Percent of Limit | % | | | | | | |
| B. Iodines and Halogens | | | | | | | |
| 1. Total Release | Ci | 2.16E-06 | 0.00E+00 | 2.42E-05 | 2.05E-07 | 2.66E-05 | |
| 2. Average Release Rate for Period | uCi/s | 2.78E-07 | 0.00E+00 | 3.05E-06 | 2.57E-08 | 8.43E-07 | |
| 3. Percent of Limit | % | | | | | | |
| C. Particulates | | | | | | | |
| 1. Total Release | Ci | 0.00E+00 | 3.13E-07 | 4.10E-07 | 2.59E-06 | 3.32E-06 | |
| 2. Average Release Rate for Period | uCi/s | 0.00E+00 | 3.98E-08 | 5.15E-08 | 3.26E-07 | 1.05E-07 | |
| 3. Percent of Limit | % | | | | | | |
| D. Tritium | | | | | | | |
| 1. Total Release | Ci | 6.32E+00 | 9.17E-01 | 3.86E+00 | 4.11E-01 | 1.15E+01 | |
| 2. Average Release Rate for Period | uCi/s | 8.12E-01 | 1.17E-01 | 4.86E-01 | 5.17E-02 | 3.65E-01 | |
| 3. Percent of Limit | % | | | | | | |
| E. Gross Alpha | | | | | | | |
| 1. Total Release | Ci | 2.78E-08 | 0.00E+00 | 1.50E-09 | 1.97E-08 | 4.90E-08 | |
| F. Carbon-14 | | | | | | | |
| 1. Total Release | Ci | 4.98E+00 | 5.48E+00 | 4.67E+00 | 5.40E+00 | 2.05E+01 | |
| 2. Average Release Rate for Period | uCi/s | 6.41E-01 | 6.97E-01 | 5.87E-01 | 6.80E-01 | 6.51E-01 | |
| 3. Percent of Limit | % | | | | | | |

Reg. Guide 1.21, Table 1A, Gaseous Effluents - Summation of All Releases

Unit: PSL1

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Total Release | Units | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual | Uncertainty |
|--|--------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|
| A. Fission and Activation Gases | | | | | | | |
| 1. Total Release | Ci | 2.05E+01 | 3.10E-01 | 4.17E+00 | 2.30E-01 | 2.52E+01 | |
| 2. Average Release Rate for Period | uCi/s | 2.64E+00 | 3.95E-02 | 5.24E-01 | 2.89E-02 | 7.99E-01 | |
| 3. Percent of Limit | % | | | | | | |
| B. Iodines and Halogens | | | | | | | |
| 1. Total Release | Ci | 1.21E-06 | 0.00E+00 | 2.42E-05 | 2.05E-07 | 2.56E-05 | |
| 2. Average Release Rate for Period | uCi/s | 1.56E-07 | 0.00E+00 | 3.05E-06 | 2.57E-08 | 8.13E-07 | |
| 3. Percent of Limit | % | | | | | | |
| C. Particulates | | | | | | | |
| 1. Total Release | Ci | 0.00E+00 | 3.13E-07 | 4.10E-07 | 0.00E+00 | 7.23E-07 | |
| 2. Average Release Rate for Period | uCi/s | 0.00E+00 | 3.98E-08 | 5.15E-08 | 0.00E+00 | 2.29E-08 | |
| 3. Percent of Limit | % | | | | | | |
| D. Tritium | | | | | | | |
| 1. Total Release | Ci | 2.92E+00 | 6.65E-01 | 3.55E+00 | 1.29E-01 | 7.26E+00 | |
| 2. Average Release Rate for Period | uCi/s | 3.75E-01 | 8.46E-02 | 4.47E-01 | 1.62E-02 | 2.30E-01 | |
| 3. Percent of Limit | % | | | | | | |
| E. Gross Alpha | | | | | | | |
| 1. Total Release | Ci | 2.21E-08 | 0.00E+00 | 1.50E-09 | 1.66E-08 | 4.03E-08 | |
| F. Carbon-14 | | | | | | | |
| 1. Total Release | Ci | 2.76E+00 | 2.80E+00 | 1.96E+00 | 2.69E+00 | 1.02E+01 | |
| 2. Average Release Rate for Period | uCi/s | 3.55E-01 | 3.57E-01 | 2.46E-01 | 3.39E-01 | 3.24E-01 | |
| 3. Percent of Limit | % | | | | | | |

Reg. Guide 1.21, Table 1A, Gaseous Effluents - Summation of All Releases

Unit: PSL2

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Total Release | Units | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual | Uncertainty |
|--|--------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|
| A. Fission and Activation Gases | | | | | | | |
| 1. Total Release | Ci | 1.67E+00 | 7.42E+01 | 2.97E+00 | 5.09E-01 | 7.94E+01 | |
| 2. Average Release Rate for Period | uCi/s | 2.15E-01 | 9.44E+00 | 3.73E-01 | 6.40E-02 | 2.52E+00 | |
| 3. Percent of Limit | % | | | | | | |
| B. Iodines and Halogens | | | | | | | |
| 1. Total Release | Ci | 9.52E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.52E-07 | |
| 2. Average Release Rate for Period | uCi/s | 1.22E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.02E-08 | |
| 3. Percent of Limit | % | | | | | | |
| C. Particulates | | | | | | | |
| 1. Total Release | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.59E-06 | 2.59E-06 | |
| 2. Average Release Rate for Period | uCi/s | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.26E-07 | 8.22E-08 | |
| 3. Percent of Limit | % | | | | | | |
| D. Tritium | | | | | | | |
| 1. Total Release | Ci | 3.40E+00 | 2.52E-01 | 3.13E-01 | 2.82E-01 | 4.24E+00 | |
| 2. Average Release Rate for Period | uCi/s | 4.37E-01 | 3.20E-02 | 3.94E-02 | 3.54E-02 | 1.35E-01 | |
| 3. Percent of Limit | % | | | | | | |
| E. Gross Alpha | | | | | | | |
| 1. Total Release | Ci | 5.66E-09 | 0.00E+00 | 0.00E+00 | 3.13E-09 | 8.79E-09 | |
| F. Carbon-14 | | | | | | | |
| 1. Total Release | Ci | 2.23E+00 | 2.67E+00 | 2.71E+00 | 2.71E+00 | 1.03E+01 | |
| 2. Average Release Rate for Period | uCi/s | 2.86E-01 | 3.40E-01 | 3.41E-01 | 3.41E-01 | 3.27E-01 | |
| 3. Percent of Limit | % | | | | | | |

Reg. Guide 1.21, Table 1B, Gaseous Effluents - Ground Level Release - Continuous Mode

Unit: Site

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Continuous Mode | | | | |
|--|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| A. Fission and Activation Gases | | | | | | |
| Kr-85m | Ci | 1.76E-01 | 0.00E+00 | 0.00E+00 | 1.94E-01 | 3.70E-01 |
| Xe-127 | Ci | 0.00E+00 | 0.00E+00 | 2.10E-01 | 0.00E+00 | 2.10E-01 |
| Xe-131m | Ci | 0.00E+00 | 0.00E+00 | 1.08E+00 | 0.00E+00 | 1.08E+00 |
| Xe-135 | Ci | 0.00E+00 | 0.00E+00 | 2.11E+00 | 0.00E+00 | 2.11E+00 |
| Xe-133m | Ci | 0.00E+00 | 1.28E+00 | 0.00E+00 | 0.00E+00 | 1.28E+00 |
| Xe-133 | Ci | 1.76E+00 | 0.00E+00 | 2.87E+00 | 0.00E+00 | 4.63E+00 |
| Xe-137 | Ci | 1.64E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.64E+01 |
| Xe-138 | Ci | 2.94E+00 | 7.27E+01 | 0.00E+00 | 0.00E+00 | 7.56E+01 |
| Total For Period | Ci | 2.12E+01 | 7.40E+01 | 6.27E+00 | 1.94E-01 | 1.02E+02 |
| B. Iodines and Halogens | | | | | | |
| I-131 | Ci | 2.16E-06 | 0.00E+00 | 3.52E-06 | 2.05E-07 | 5.88E-06 |
| I-133 | Ci | 0.00E+00 | 0.00E+00 | 2.06E-05 | 0.00E+00 | 2.06E-05 |
| Total For Period | Ci | 2.16E-06 | 0.00E+00 | 2.41E-05 | 2.05E-07 | 2.65E-05 |
| C. Particulates | | | | | | |
| Co-57 | Ci | 0.00E+00 | 3.13E-07 | 0.00E+00 | 0.00E+00 | 3.13E-07 |
| Co-58 | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.76E-06 | 1.76E-06 |
| Nb-95 | Ci | 0.00E+00 | 0.00E+00 | 2.76E-07 | 0.00E+00 | 2.76E-07 |
| Ru-103 | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.28E-07 | 8.28E-07 |
| Ce-144 | Ci | 0.00E+00 | 0.00E+00 | 4.39E-08 | 0.00E+00 | 4.39E-08 |
| Total For Period | Ci | 0.00E+00 | 3.13E-07 | 3.20E-07 | 2.59E-06 | 3.23E-06 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 1B, Gaseous Effluents - Ground Level Release - Continuous Mode

Unit: Site

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Continuous Mode | | | | |
|--------------------------|--------------|------------------------|--------------------|--------------------|--------------------|---------------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| D. Tritium | | | | | | |
| H-3 | Ci | 2.58E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.58E+00 |
| E. Gross Alpha | | | | | | |
| G-Alpha | Ci | 2.64E-08 | 0.00E+00 | 0.00E+00 | 1.97E-08 | 4.62E-08 |
| F. Carbon-14 | | | | | | |
| C-14 | Ci | 4.98E+00 | 5.48E+00 | 4.67E+00 | 5.40E+00 | 2.05E+01 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 1B, Gaseous Effluents - Ground Level Release - Batch Mode

Unit: Site

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Batch Mode | | | | |
|--|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| A. Fission and Activation Gases | | | | | | |
| Ar-41 | Ci | 5.29E-01 | 5.05E-01 | 4.93E-01 | 4.07E-01 | 1.93E+00 |
| Kr-85m | Ci | 4.64E-05 | 3.18E-05 | 1.86E-04 | 6.72E-06 | 2.71E-04 |
| Kr-87 | Ci | 1.68E-04 | 0.00E+00 | 1.46E-04 | 0.00E+00 | 3.14E-04 |
| Kr-88 | Ci | 8.69E-05 | 0.00E+00 | 1.79E-04 | 1.85E-04 | 4.51E-04 |
| Kr-89 | Ci | 0.00E+00 | 0.00E+00 | 1.10E-02 | 0.00E+00 | 1.10E-02 |
| Xe-131m | Ci | 0.00E+00 | 0.00E+00 | 2.44E-04 | 0.00E+00 | 2.44E-04 |
| Xe-135 | Ci | 2.08E-03 | 2.52E-03 | 6.69E-03 | 4.71E-03 | 1.60E-02 |
| Xe-133m | Ci | 7.75E-04 | 0.00E+00 | 6.92E-04 | 4.98E-04 | 1.97E-03 |
| Xe-133 | Ci | 4.01E-01 | 6.34E-02 | 3.51E-01 | 1.32E-01 | 9.48E-01 |
| Xe-135m | Ci | 0.00E+00 | 0.00E+00 | 2.79E-04 | 3.76E-04 | 6.55E-04 |
| Xe-138 | Ci | 3.19E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.19E-04 |
| Total For Period | Ci | 9.34E-01 | 5.70E-01 | 8.63E-01 | 5.45E-01 | 2.91E+00 |
| B. Iodines and Halogens | | | | | | |
| I-131 | Ci | 0.00E+00 | 0.00E+00 | 7.96E-08 | 0.00E+00 | 7.96E-08 |
| C. Particulates | | | | | | |
| Co-60 | Ci | 0.00E+00 | 0.00E+00 | 8.94E-08 | 0.00E+00 | 8.94E-08 |
| D. Tritium | | | | | | |
| H-3 | Ci | 3.74E+00 | 9.17E-01 | 3.86E+00 | 4.11E-01 | 8.93E+00 |
| E. Gross Alpha | | | | | | |
| G-Alpha | Ci | 1.36E-09 | 0.00E+00 | 1.50E-09 | 0.00E+00 | 2.87E-09 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 1B, Gaseous Effluents - Ground Level Release - Batch Mode

Unit: Site

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Batch Mode | | | | |
|--------------------------|--------------|--------------------|--------------------|--------------------|--------------------|---------------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| F. Carbon-14 | | | | | | |
| No Nuclides Found | CI | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 1B, Gaseous Effluents - Ground Level Release - Continuous Mode

Unit: PSL1

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Continuous Mode | | | | |
|--|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| A. Fission and Activation Gases | | | | | | |
| Xe-131m | Ci | 0.00E+00 | 0.00E+00 | 1.08E+00 | 0.00E+00 | 1.08E+00 |
| Xe-135 | Ci | 0.00E+00 | 0.00E+00 | 1.04E+00 | 0.00E+00 | 1.04E+00 |
| Xe-137 | Ci | 1.64E+01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.64E+01 |
| Xe-133 | Ci | 8.84E-01 | 0.00E+00 | 1.48E+00 | 0.00E+00 | 2.36E+00 |
| Xe-138 | Ci | 2.94E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.94E+00 |
| Total For Period | Ci | 2.02E+01 | 0.00E+00 | 3.59E+00 | 0.00E+00 | 2.38E+01 |
| B. Iodines and Halogens | | | | | | |
| I-131 | Ci | 1.21E-06 | 0.00E+00 | 3.52E-06 | 2.05E-07 | 4.93E-06 |
| I-133 | Ci | 0.00E+00 | 0.00E+00 | 2.06E-05 | 0.00E+00 | 2.06E-05 |
| Total For Period | Ci | 1.21E-06 | 0.00E+00 | 2.41E-05 | 2.05E-07 | 2.56E-05 |
| C. Particulates | | | | | | |
| Co-57 | Ci | 0.00E+00 | 3.13E-07 | 0.00E+00 | 0.00E+00 | 3.13E-07 |
| Nb-95 | Ci | 0.00E+00 | 0.00E+00 | 2.76E-07 | 0.00E+00 | 2.76E-07 |
| Ce-144 | Ci | 0.00E+00 | 0.00E+00 | 4.39E-08 | 0.00E+00 | 4.39E-08 |
| Total For Period | Ci | 0.00E+00 | 3.13E-07 | 3.20E-07 | 0.00E+00 | 6.33E-07 |
| D. Tritium | | | | | | |
| H-3 | Ci | 2.58E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.58E+00 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 1B, Gaseous Effluents - Ground Level Release - Continuous Mode

Unit: PSL1

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Continuous Mode | | | | |
|--------------------------|--------------|------------------------|--------------------|--------------------|--------------------|---------------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| E. Gross Alpha | | | | | | |
| G-Alpha | Ci | 2.21E-08 | 0.00E+00 | 0.00E+00 | 1.66E-08 | 3.88E-08 |
| F. Carbon-14 | | | | | | |
| C-14 | Ci | 2.76E+00 | 2.80E+00 | 1.96E+00 | 2.69E+00 | 1.02E+01 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 1B, Gaseous Effluents - Ground Level Release - Batch Mode

Unit: PSL1

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Batch Mode | | | | |
|--|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| A. Fission and Activation Gases | | | | | | |
| Ar-41 | Ci | 2.96E-01 | 2.90E-01 | 2.67E-01 | 1.79E-01 | 1.03E+00 |
| Kr-85m | Ci | 0.00E+00 | 0.00E+00 | 1.86E-04 | 6.72E-06 | 1.92E-04 |
| Kr-87 | Ci | 0.00E+00 | 0.00E+00 | 1.46E-04 | 0.00E+00 | 1.46E-04 |
| Kr-88 | Ci | 8.69E-05 | 0.00E+00 | 1.79E-04 | 0.00E+00 | 2.66E-04 |
| Xe-131m | Ci | 0.00E+00 | 0.00E+00 | 2.44E-04 | 0.00E+00 | 2.44E-04 |
| Xe-135 | Ci | 1.74E-04 | 1.18E-04 | 5.22E-03 | 1.33E-03 | 6.85E-03 |
| Xe-133m | Ci | 5.28E-04 | 0.00E+00 | 6.92E-04 | 4.98E-04 | 1.72E-03 |
| Xe-133 | Ci | 1.99E-02 | 2.02E-02 | 3.02E-01 | 4.90E-02 | 3.91E-01 |
| Xe-135m | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.76E-04 | 3.76E-04 |
| Total For Period | Ci | 3.16E-01 | 3.10E-01 | 5.75E-01 | 2.30E-01 | 1.43E+00 |
| B. Iodines and Halogens | | | | | | |
| I-131 | Ci | 0.00E+00 | 0.00E+00 | 7.96E-08 | 0.00E+00 | 7.96E-08 |
| C. Particulates | | | | | | |
| Co-60 | Ci | 0.00E+00 | 0.00E+00 | 8.94E-08 | 0.00E+00 | 8.94E-08 |
| D. Tritium | | | | | | |
| H-3 | Ci | 3.42E-01 | 6.65E-01 | 3.55E+00 | 1.29E-01 | 4.69E+00 |
| E. Gross Alpha | | | | | | |
| G-Alpha | Ci | 0.00E+00 | 0.00E+00 | 1.50E-09 | 0.00E+00 | 1.50E-09 |
| F. Carbon-14 | | | | | | |
| No Nuclides Found | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 1B, Gaseous Effluents - Ground Level Release - Continuous Mode

Unit: PSL2

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Continuous Mode | | | | |
|--|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| A. Fission and Activation Gases | | | | | | |
| Kr-85m | Ci | 1.76E-01 | 0.00E+00 | 0.00E+00 | 1.94E-01 | 3.70E-01 |
| Xe-127 | Ci | 0.00E+00 | 0.00E+00 | 2.10E-01 | 0.00E+00 | 2.10E-01 |
| Xe-135 | Ci | 0.00E+00 | 0.00E+00 | 1.08E+00 | 0.00E+00 | 1.08E+00 |
| Xe-133m | Ci | 0.00E+00 | 1.28E+00 | 0.00E+00 | 0.00E+00 | 1.28E+00 |
| Xe-133 | Ci | 8.77E-01 | 0.00E+00 | 1.39E+00 | 0.00E+00 | 2.27E+00 |
| Xe-138 | Ci | 0.00E+00 | 7.27E+01 | 0.00E+00 | 0.00E+00 | 7.27E+01 |
| Total For Period | Ci | 1.05E+00 | 7.40E+01 | 2.68E+00 | 1.94E-01 | 7.79E+01 |
| B. Iodines and Halogens | | | | | | |
| I-131 | Ci | 9.52E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.52E-07 |
| C. Particulates | | | | | | |
| Co-58 | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.76E-06 | 1.76E-06 |
| Ru-103 | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.28E-07 | 8.28E-07 |
| Total For Period | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.59E-06 | 2.59E-06 |
| D. Tritium | | | | | | |
| No Nuclides Found | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| E. Gross Alpha | | | | | | |
| G-Alpha | Ci | 4.29E-09 | 0.00E+00 | 0.00E+00 | 3.13E-09 | 7.42E-09 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 1B, Gaseous Effluents - Ground Level Release - Continuous Mode

Unit: PSL2

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Continuous Mode | | | | |
|--------------------------|--------------|------------------------|--------------------|--------------------|--------------------|---------------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| F. Carbon-14 | | | | | | |
| C-14 | ci | 2.23E+00 | 2.67E+00 | 2.71E+00 | 2.71E+00 | 1.03E+01 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 1B, Gaseous Effluents - Ground Level Release - Batch Mode

Unit: PSL2

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Batch Mode | | | | Annual |
|--|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | |
| A. Fission and Activation Gases | | | | | | |
| Ar-41 | Ci | 2.34E-01 | 2.15E-01 | 2.26E-01 | 2.28E-01 | 9.02E-01 |
| Kr-85m | Ci | 4.64E-05 | 3.18E-05 | 0.00E+00 | 0.00E+00 | 7.82E-05 |
| Kr-87 | Ci | 1.68E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.68E-04 |
| Kr-88 | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.85E-04 | 1.85E-04 |
| Kr-89 | Ci | 0.00E+00 | 0.00E+00 | 1.10E-02 | 0.00E+00 | 1.10E-02 |
| Xe-135 | Ci | 1.91E-03 | 2.40E-03 | 1.47E-03 | 3.37E-03 | 9.14E-03 |
| Xe-133m | Ci | 2.47E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.47E-04 |
| Xe-133 | Ci | 3.81E-01 | 4.32E-02 | 4.92E-02 | 8.34E-02 | 5.57E-01 |
| Xe-135m | Ci | 0.00E+00 | 0.00E+00 | 2.79E-04 | 0.00E+00 | 2.79E-04 |
| Xe-138 | Ci | 3.19E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.19E-04 |
| Total For Period | Ci | 6.18E-01 | 2.60E-01 | 2.88E-01 | 3.15E-01 | 1.48E+00 |
| B. Iodines and Halogens | | | | | | |
| No Nuclides Found | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| C. Particulates | | | | | | |
| No Nuclides Found | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| D. Tritium | | | | | | |
| H-3 | Ci | 3.40E+00 | 2.52E-01 | 3.13E-01 | 2.82E-01 | 4.24E+00 |
| E. Gross Alpha | | | | | | |
| G-Alpha | Ci | 1.36E-09 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.36E-09 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 1B, Gaseous Effluents - Ground Level Release - Batch Mode

Unit: PSL2

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Batch Mode | | | | |
|--------------------------|--------------|--------------------|--------------------|--------------------|--------------------|---------------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| F. Carbon-14 | | | | | | |
| No Nuclides Found | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 2A, Liquid Effluents - Summation of All Releases

Unit: Site

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Total Release | Units | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual | Uncertainty |
|---|--------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|
| A. Fission and Activation Products | | | | | | | |
| 1. Total Release | Ci | 1.12E-02 | 5.18E-03 | 2.04E-02 | 1.02E-02 | 4.70E-02 | |
| 2. Average Concentration | uCi/mL | 1.57E-10 | 4.52E-11 | 1.16E-10 | 6.65E-11 | 9.12E-11 | |
| 3. Percent of Limit | % | | | | | | |
| B. Tritium | | | | | | | |
| 1. Total Release | Ci | 2.49E+02 | 1.61E+02 | 2.88E+02 | 5.71E+01 | 7.55E+02 | |
| 2. Average Concentration | uCi/mL | 3.51E-06 | 1.40E-06 | 1.64E-06 | 3.71E-07 | 1.47E-06 | |
| 3. Percent of Limit | % | | | | | | |
| C. Dissolved and Entrained Gases | | | | | | | |
| 1. Total Release | Ci | 7.18E-04 | 3.11E-04 | 1.14E-02 | 1.36E-03 | 1.38E-02 | |
| 2. Average Concentration | uCi/mL | 1.01E-11 | 2.72E-12 | 6.52E-11 | 8.85E-12 | 2.69E-11 | |
| 3. Percent of Limit | % | | | | | | |
| D. Gross Alpha Activity | | | | | | | |
| 1. Total Release | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | |
| 2. Average Concentration | uCi/mL | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | |
| E. Primary Liquid Release Volume | | | | | | | |
| 1. Total Release | Liters | 2.87E+07 | 8.18E+07 | 7.03E+07 | 5.56E+07 | 2.36E+08 | |
| F. Dilution Volume | | | | | | | |
| 1. Total Release | Liters | 7.09E+10 | 1.15E+11 | 1.75E+11 | 1.54E+11 | 5.15E+11 | |

Reg. Guide 1.21, Table 2A, Liquid Effluents - Summation of All Releases

Unit: PSL1

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Total Release | Units | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual | Uncertainty |
|---|--------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|
| A. Fission and Activation Products | | | | | | | |
| 1. Total Release | Ci | 5.58E-03 | 2.59E-03 | 1.02E-02 | 5.12E-03 | 2.35E-02 | |
| 2. Average Concentration | uCi/mL | 1.57E-10 | 4.52E-11 | 1.16E-10 | 6.65E-11 | 9.12E-11 | |
| 3. Percent of Limit | % | | | | | | |
| B. Tritium | | | | | | | |
| 1. Total Release | Ci | 1.24E+02 | 8.05E+01 | 1.44E+02 | 2.86E+01 | 3.77E+02 | |
| 2. Average Concentration | uCi/mL | 3.51E-06 | 1.40E-06 | 1.64E-06 | 3.71E-07 | 1.47E-06 | |
| 3. Percent of Limit | % | | | | | | |
| C. Dissolved and Entrained Gases | | | | | | | |
| 1. Total Release | Ci | 3.59E-04 | 1.56E-04 | 5.72E-03 | 6.82E-04 | 6.92E-03 | |
| 2. Average Concentration | uCi/mL | 1.01E-11 | 2.72E-12 | 6.52E-11 | 8.85E-12 | 2.69E-11 | |
| 3. Percent of Limit | % | | | | | | |
| D. Gross Alpha Activity | | | | | | | |
| 1. Total Release | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | |
| 2. Average Concentration | uCi/mL | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | |
| E. Primary Liquid Release Volume | | | | | | | |
| 1. Total Release | Liters | 1.44E+07 | 4.09E+07 | 3.52E+07 | 2.78E+07 | 1.18E+08 | |
| F. Dilution Volume | | | | | | | |
| 1. Total Release | Liters | 3.55E+10 | 5.73E+10 | 8.77E+10 | 7.71E+10 | 2.58E+11 | |

Reg. Guide 1.21, Table 2A, Liquid Effluents - Summation of All Releases

Unit: PSL2

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Total Release | Units | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual | Uncertainty |
|---|--------------|--------------------|--------------------|--------------------|--------------------|---------------|--------------------|
| A. Fission and Activation Products | | | | | | | |
| 1. Total Release | Ci | 5.58E-03 | 2.59E-03 | 1.02E-02 | 5.12E-03 | 2.35E-02 | |
| 2. Average Concentration | uCi/mL | 1.57E-10 | 4.52E-11 | 1.16E-10 | 6.65E-11 | 9.12E-11 | |
| 3. Percent of Limit | % | | | | | | |
| B. Tritium | | | | | | | |
| 1. Total Release | Ci | 1.24E+02 | 8.05E+01 | 1.44E+02 | 2.86E+01 | 3.77E+02 | |
| 2. Average Concentration | uCi/mL | 3.51E-06 | 1.40E-06 | 1.64E-06 | 3.71E-07 | 1.47E-06 | |
| 3. Percent of Limit | % | | | | | | |
| C. Dissolved and Entrained Gases | | | | | | | |
| 1. Total Release | Ci | 3.59E-04 | 1.56E-04 | 5.72E-03 | 6.82E-04 | 6.92E-03 | |
| 2. Average Concentration | uCi/mL | 1.01E-11 | 2.72E-12 | 6.52E-11 | 8.85E-12 | 2.69E-11 | |
| 3. Percent of Limit | % | | | | | | |
| D. Gross Alpha Activity | | | | | | | |
| 1. Total Release | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | |
| 2. Average Concentration | uCi/mL | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | |
| E. Primary Liquid Release Volume | | | | | | | |
| 1. Total Release | Liters | 1.44E+07 | 4.09E+07 | 3.52E+07 | 2.78E+07 | 1.18E+08 | |
| F. Dilution Volume | | | | | | | |
| 1. Total Release | Liters | 3.55E+10 | 5.73E+10 | 8.77E+10 | 7.71E+10 | 2.58E+11 | |

Reg. Guide 1.21, Table 2B, Liquid Effluents - Continuous Mode

Unit: Site

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Continuous Mode | | | | |
|---|-------|-----------------|-------------|-------------|-------------|----------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| A. Fission and Activation Products | | | | | | |
| No Nuclides Found | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| B. Tritium | | | | | | |
| No Nuclides Found | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| C. Dissolved and Entrained Gases | | | | | | |
| No Nuclides Found | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| D. Gross Alpha Activity | | | | | | |
| No Nuclides Found | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 2B, Liquid Effluents - Batch Mode

Unit: Site

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Batch Mode | | | | |
|---|-------|-------------|-------------|-------------|-------------|----------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| A. Fission and Activation Products | | | | | | |
| C-14 | Ci | 2.54E-03 | 2.50E-03 | 4.69E-03 | 7.41E-03 | 1.71E-02 |
| Na-24 | Ci | 0.00E+00 | 0.00E+00 | 7.35E-06 | 0.00E+00 | 7.35E-06 |
| Be-7 | Ci | 4.29E-05 | 4.44E-05 | 0.00E+00 | 0.00E+00 | 8.73E-05 |
| Cr-51 | Ci | 5.82E-04 | 0.00E+00 | 1.75E-03 | 2.06E-05 | 2.35E-03 |
| Mn-54 | Ci | 7.66E-05 | 0.00E+00 | 9.37E-05 | 7.06E-05 | 2.41E-04 |
| Fe-59 | Ci | 1.64E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.64E-05 |
| Co-57 | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.79E-06 | 1.79E-06 |
| Co-58 | Ci | 2.54E-03 | 6.93E-04 | 2.43E-03 | 5.06E-04 | 6.17E-03 |
| Co-60 | Ci | 3.30E-03 | 8.99E-04 | 4.41E-03 | 1.32E-03 | 9.92E-03 |
| Ni-63 | Ci | 6.27E-04 | 2.42E-04 | 0.00E+00 | 0.00E+00 | 8.69E-04 |
| Zn-65 | Ci | 2.63E-05 | 1.89E-05 | 1.36E-05 | 0.00E+00 | 5.88E-05 |
| Zr-95 | Ci | 1.99E-04 | 1.02E-05 | 2.88E-04 | 2.84E-05 | 5.26E-04 |
| Nb-95 | Ci | 3.33E-04 | 2.80E-05 | 4.91E-04 | 1.05E-04 | 9.57E-04 |
| Nb-97 | Ci | 4.43E-04 | 1.17E-04 | 1.02E-03 | 2.55E-04 | 1.84E-03 |
| Ag-110m | Ci | 4.07E-04 | 5.75E-05 | 8.27E-04 | 2.15E-04 | 1.51E-03 |
| Sn-113 | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.08E-06 | 3.08E-06 |
| Sb-124 | Ci | 0.00E+00 | 1.51E-04 | 1.22E-03 | 3.58E-05 | 1.41E-03 |
| Sb-125 | Ci | 0.00E+00 | 4.04E-04 | 3.03E-03 | 7.17E-05 | 3.51E-03 |
| Te-129m | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.19E-05 | 8.19E-05 |
| Te-129 | Ci | 0.00E+00 | 0.00E+00 | 2.98E-05 | 0.00E+00 | 2.98E-05 |
| I-133 | Ci | 0.00E+00 | 0.00E+00 | 3.44E-06 | 0.00E+00 | 3.44E-06 |
| I-135 | Ci | 9.05E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 9.05E-06 |
| Cs-136 | Ci | 0.00E+00 | 0.00E+00 | 8.46E-06 | 0.00E+00 | 8.46E-06 |
| Cs-137 | Ci | 0.00E+00 | 0.00E+00 | 3.94E-05 | 1.17E-04 | 1.56E-04 |
| La-140 | Ci | 7.72E-06 | 0.00E+00 | 7.28E-06 | 0.00E+00 | 1.50E-05 |
| W-187 | Ci | 2.01E-05 | 1.74E-05 | 0.00E+00 | 5.71E-06 | 4.32E-05 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 2B, Liquid Effluents - Batch Mode

Unit: Site

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Batch Mode | | | | |
|---|--------------|--------------------|--------------------|--------------------|--------------------|-----------------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| Total For Period | Ci | 1.12E-02 | 5.18E-03 | 2.04E-02 | 1.02E-02 | 4.70E-02 |
| B. Tritium | | | | | | |
| H-3 | Ci | 2.49E+02 | 1.61E+02 | 2.88E+02 | 5.71E+01 | 7.55E+02 |
| C. Dissolved and Entrained Gases | | | | | | |
| Ar-41 | Ci | 3.12E-06 | 0.00E+00 | 1.19E-05 | 0.00E+00 | 1.50E-05 |
| Xe-133m | Ci | 0.00E+00 | 0.00E+00 | 8.53E-05 | 0.00E+00 | 8.53E-05 |
| Xe-135 | Ci | 0.00E+00 | 0.00E+00 | 4.94E-05 | 0.00E+00 | 4.94E-05 |
| Xe-133 | Ci | 7.15E-04 | 3.11E-04 | 1.13E-02 | 1.36E-03 | 1.37E-02 |
| Total For Period | Ci | 7.18E-04 | 3.11E-04 | 1.14E-02 | 1.36E-03 | 1.38E-02 |
| D. Gross Alpha Activity | | | | | | |
| No Nuclides Found | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 2B, Liquid Effluents - Batch Mode

Unit: PSL1

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Batch Mode | | | | |
|---|-------|-------------|-------------|-------------|-------------|----------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| A. Fission and Activation Products | | | | | | |
| C-14 | Ci | 1.27E-03 | 1.25E-03 | 2.35E-03 | 3.70E-03 | 8.57E-03 |
| Na-24 | Ci | 0.00E+00 | 0.00E+00 | 3.68E-06 | 0.00E+00 | 3.68E-06 |
| Be-7 | Ci | 2.14E-05 | 2.22E-05 | 0.00E+00 | 0.00E+00 | 4.36E-05 |
| Cr-51 | Ci | 2.91E-04 | 0.00E+00 | 8.74E-04 | 1.03E-05 | 1.18E-03 |
| Mn-54 | Ci | 3.83E-05 | 0.00E+00 | 4.68E-05 | 3.53E-05 | 1.20E-04 |
| Fe-59 | Ci | 8.19E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.19E-06 |
| Co-57 | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.93E-07 | 8.93E-07 |
| Co-58 | Ci | 1.27E-03 | 3.46E-04 | 1.21E-03 | 2.53E-04 | 3.08E-03 |
| Co-60 | Ci | 1.65E-03 | 4.49E-04 | 2.20E-03 | 6.58E-04 | 4.96E-03 |
| Ni-63 | Ci | 3.14E-04 | 1.21E-04 | 0.00E+00 | 0.00E+00 | 4.35E-04 |
| Zn-65 | Ci | 1.32E-05 | 9.43E-06 | 6.81E-06 | 0.00E+00 | 2.94E-05 |
| Zr-95 | Ci | 9.97E-05 | 5.09E-06 | 1.44E-04 | 1.42E-05 | 2.63E-04 |
| Nb-95 | Ci | 1.66E-04 | 1.40E-05 | 2.45E-04 | 5.25E-05 | 4.78E-04 |
| Nb-97 | Ci | 2.21E-04 | 5.86E-05 | 5.11E-04 | 1.27E-04 | 9.18E-04 |
| Ag-110m | Ci | 2.03E-04 | 2.87E-05 | 4.13E-04 | 1.08E-04 | 7.53E-04 |
| Sn-113 | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.54E-06 | 1.54E-06 |
| Sb-124 | Ci | 0.00E+00 | 7.53E-05 | 6.12E-04 | 1.79E-05 | 7.05E-04 |
| Sb-125 | Ci | 0.00E+00 | 2.02E-04 | 1.52E-03 | 3.59E-05 | 1.75E-03 |
| Te-129m | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.10E-05 | 4.10E-05 |
| Te-129 | Ci | 0.00E+00 | 0.00E+00 | 1.49E-05 | 0.00E+00 | 1.49E-05 |
| I-133 | Ci | 0.00E+00 | 0.00E+00 | 1.72E-06 | 0.00E+00 | 1.72E-06 |
| I-135 | Ci | 4.53E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.53E-06 |
| Cs-136 | Ci | 0.00E+00 | 0.00E+00 | 4.23E-06 | 0.00E+00 | 4.23E-06 |
| Cs-137 | Ci | 0.00E+00 | 0.00E+00 | 1.97E-05 | 5.85E-05 | 7.81E-05 |
| La-140 | Ci | 3.86E-06 | 0.00E+00 | 3.64E-06 | 0.00E+00 | 7.50E-06 |
| W-187 | Ci | 1.00E-05 | 8.69E-06 | 0.00E+00 | 2.86E-06 | 2.16E-05 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 2B, Liquid Effluents - Batch Mode

Unit: PSL1

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Batch Mode | | | | |
|---|--------------|--------------------|--------------------|--------------------|--------------------|-----------------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| Total For Period | Ci | 5.58E-03 | 2.59E-03 | 1.02E-02 | 5.12E-03 | 2.35E-02 |
| B. Tritium | | | | | | |
| H-3 | Ci | 1.24E+02 | 8.05E+01 | 1.44E+02 | 2.86E+01 | 3.77E+02 |
| C. Dissolved and Entrained Gases | | | | | | |
| Ar-41 | Ci | 1.56E-06 | 0.00E+00 | 5.93E-06 | 0.00E+00 | 7.49E-06 |
| Xe-135 | Ci | 0.00E+00 | 0.00E+00 | 2.47E-05 | 0.00E+00 | 2.47E-05 |
| Xe-133m | Ci | 0.00E+00 | 0.00E+00 | 4.26E-05 | 0.00E+00 | 4.26E-05 |
| Xe-133 | Ci | 3.58E-04 | 1.56E-04 | 5.65E-03 | 6.82E-04 | 6.84E-03 |
| Total For Period | Ci | 3.59E-04 | 1.56E-04 | 5.72E-03 | 6.82E-04 | 6.92E-03 |
| D. Gross Alpha Activity | | | | | | |
| No Nuclides Found | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 2B, Liquid Effluents - Batch Mode

Unit: PSL2

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Batch Mode | | | | |
|---|-------|-------------|-------------|-------------|-------------|----------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| A. Fission and Activation Products | | | | | | |
| C-14 | Ci | 1.27E-03 | 1.25E-03 | 2.35E-03 | 3.70E-03 | 8.57E-03 |
| Na-24 | Ci | 0.00E+00 | 0.00E+00 | 3.68E-06 | 0.00E+00 | 3.68E-06 |
| Be-7 | Ci | 2.14E-05 | 2.22E-05 | 0.00E+00 | 0.00E+00 | 4.36E-05 |
| Cr-51 | Ci | 2.91E-04 | 0.00E+00 | 8.74E-04 | 1.03E-05 | 1.18E-03 |
| Mn-54 | Ci | 3.83E-05 | 0.00E+00 | 4.68E-05 | 3.53E-05 | 1.20E-04 |
| Fe-59 | Ci | 8.19E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.19E-06 |
| Co-57 | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.93E-07 | 8.93E-07 |
| Co-58 | Ci | 1.27E-03 | 3.46E-04 | 1.21E-03 | 2.53E-04 | 3.08E-03 |
| Co-60 | Ci | 1.65E-03 | 4.49E-04 | 2.20E-03 | 6.58E-04 | 4.96E-03 |
| Ni-63 | Ci | 3.14E-04 | 1.21E-04 | 0.00E+00 | 0.00E+00 | 4.35E-04 |
| Zn-65 | Ci | 1.32E-05 | 9.43E-06 | 6.81E-06 | 0.00E+00 | 2.94E-05 |
| Zr-95 | Ci | 9.97E-05 | 5.09E-06 | 1.44E-04 | 1.42E-05 | 2.63E-04 |
| Nb-95 | Ci | 1.66E-04 | 1.40E-05 | 2.45E-04 | 5.25E-05 | 4.78E-04 |
| Nb-97 | Ci | 2.21E-04 | 5.86E-05 | 5.11E-04 | 1.27E-04 | 9.18E-04 |
| Ag-110m | Ci | 2.03E-04 | 2.87E-05 | 4.13E-04 | 1.08E-04 | 7.53E-04 |
| Sn-113 | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.54E-06 | 1.54E-06 |
| Sb-124 | Ci | 0.00E+00 | 7.53E-05 | 6.12E-04 | 1.79E-05 | 7.05E-04 |
| Sb-125 | Ci | 0.00E+00 | 2.02E-04 | 1.52E-03 | 3.59E-05 | 1.75E-03 |
| Te-129m | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.10E-05 | 4.10E-05 |
| Te-129 | Ci | 0.00E+00 | 0.00E+00 | 1.49E-05 | 0.00E+00 | 1.49E-05 |
| I-133 | Ci | 0.00E+00 | 0.00E+00 | 1.72E-06 | 0.00E+00 | 1.72E-06 |
| I-135 | Ci | 4.53E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.53E-06 |
| Cs-136 | Ci | 0.00E+00 | 0.00E+00 | 4.23E-06 | 0.00E+00 | 4.23E-06 |
| Cs-137 | Ci | 0.00E+00 | 0.00E+00 | 1.97E-05 | 5.85E-05 | 7.81E-05 |
| La-140 | Ci | 3.86E-06 | 0.00E+00 | 3.64E-06 | 0.00E+00 | 7.50E-06 |
| W-187 | Ci | 1.00E-05 | 8.69E-06 | 0.00E+00 | 2.86E-06 | 2.16E-05 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

Reg. Guide 1.21, Table 2B, Liquid Effluents - Batch Mode

Unit: PSL2

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Nuclides Released | Units | Batch Mode | | | | |
|---|--------------|--------------------|--------------------|--------------------|--------------------|-----------------|
| | | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
| Total For Period | Ci | 5.58E-03 | 2.59E-03 | 1.02E-02 | 5.12E-03 | 2.35E-02 |
| B. Tritium | | | | | | |
| H-3 | Ci | 1.24E+02 | 8.05E+01 | 1.44E+02 | 2.86E+01 | 3.77E+02 |
| C. Dissolved and Entrained Gases | | | | | | |
| Ar-41 | Ci | 1.56E-06 | 0.00E+00 | 5.93E-06 | 0.00E+00 | 7.49E-06 |
| Xe-133m | Ci | 0.00E+00 | 0.00E+00 | 4.26E-05 | 0.00E+00 | 4.26E-05 |
| Xe-135 | Ci | 0.00E+00 | 0.00E+00 | 2.47E-05 | 0.00E+00 | 2.47E-05 |
| Xe-133 | Ci | 3.58E-04 | 1.56E-04 | 5.65E-03 | 6.82E-04 | 6.84E-03 |
| Total For Period | Ci | 3.59E-04 | 1.56E-04 | 5.72E-03 | 6.82E-04 | 6.92E-03 |
| D. Gross Alpha Activity | | | | | | |
| No Nuclides Found | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

If Not Detected, Nuclide is Not Reported. Zeroes in this table indicates that no radioactivity was present at detectable levels.

3.2 Solid Waste Storage and Shipments

WMG Suite 9.5.2
 Reg Guide Report
 Report Date: 02/16/2023



NRC Regulatory Guide 1.21 Report

Solid Waste Shipped Offsite for Disposal and Estimates of Major Nuclides by Waste Class and Stream
 During Period From: 01/01/2022 to 12/31/2022

| Other Waste | | | |
|--------------|-----------------|----------------|----------------|
| Waste Class | Volume | | Curies Shipped |
| | ft ³ | m ³ | |
| A | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| B | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| C | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Unclassified | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| All | 0.00E+00 | 0.00E+00 | 0.00E+00 |

Major Nuclides for the Above Table:

| Sum Of All Low-Level Waste Shipped From Site | | | |
|--|-----------------|----------------|----------------|
| Waste Class | Volume | | Curies Shipped |
| | ft ³ | m ³ | |
| A | 2.83E+04 | 8.01E+02 | 2.25E+01 |
| B | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| C | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Unclassified | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| All | 2.83E+04 | 8.01E+02 | 2.25E+01 |

Major Nuclides for the Above Table:
 H-3, C-14, Cr-51, Fe-55, Co-58, Co-60, Ni-59, Ni-63, Sr-90, Zr-95, Nb-95, Tc-99, I-129, Cs-137, Ce-144, Pu-238, Am-241, Cm-242, Cm-243



NRC Regulatory Guide 1.21 Activity Report

Solid Waste Shipped Offsite for Disposal and Estimates of Major Nuclides by Shipment, Package, and Category
 During Period From: 01/01/2022 to 12/31/2022 Percent Cutoff: 1.0%

| Dry Active Waste | | | |
|------------------|-----------|---------------|--|
| Waste Class A | | | |
| Nuclide Name | Abundance | Activity (Ci) | |
| H-3 | 98.15% | 2.21E+01 | |
| Fe-55 | 1.08% | 2.43E-01 | |
| Total Combined | | | |
| Nuclide Name | Abundance | Activity (Ci) | |
| H-3 | 98.15% | 2.21E+01 | |
| Fe-55 | 1.08% | 2.43E-01 | |

| Sum of All 4 Categories | | | |
|-------------------------|-----------|---------------|--|
| Waste Class A | | | |
| Nuclide Name | Abundance | Activity (Ci) | |
| H-3 | 98.15% | 2.21E+01 | |
| Fe-55 | 1.08% | 2.43E-01 | |
| Total Combined | | | |
| Nuclide Name | Abundance | Activity (Ci) | |
| H-3 | 98.15% | 2.21E+01 | |
| Fe-55 | 1.08% | 2.43E-01 | |

WMG Suite 9.5.2

Reg Guide Report

Report Date: 02/16/2023

During Period From: 01/01/2022 to 12/31/2022



Total Shipments by Carrier

Number of Shipments per each carrier

| Number of Shipments | Mode of Transportation | Destination |
|---------------------|------------------------|--|
| 1 | Hittman Transport (TN) | Energy Solutions, (DTK) Gallaher Road 628 Gallaher Road |
| 5 | Hittman Transport (TN) | Energy Solutions, (DTK) Gallaher Road 628 Gallaher Road |
| 10 | Hittman Transport (TN) | EnergySolutions Bear Creek 1560 Bear Creek Road |



Solid Waste Shipped Offsite for Disposal

During Period from: 1/1/2022 to 12/31/2022

| Shipment Date | Manifest ID | Destination | Package Name | Category Name | NRC Class | Reg. Type |
|---------------|----------------|---------------------------------------|--------------|------------------|-----------|-----------------|
| 1/12/2022 | FPL/PSL 22-001 | Energy Solutions Bear Creek | RCB#3 | Dry Active Waste | A | A LSA-II |
| | | | RCB#6 | Dry Active Waste | A | A LSA-II |
| 4/11/2022 | FPL/PSL 22-016 | Energy Solutions Bear Creek | 123 | Dry Active Waste | A | Exempt Quantity |
| | | | 118 | Dry Active Waste | A | Exempt Quantity |
| 5/13/2022 | FPL/PSL 22-024 | Energy Solutions Bear Creek | ESUU200359 | Dry Active Waste | A | A LSA-I |
| | | | ESUU200866 | Dry Active Waste | A | Exempt Quantity |
| 6/13/2022 | FPL/PSL 22-034 | Energy Solutions Bear Creek | 110 | Dry Active Waste | A | Exempt Quantity |
| 8/10/2022 | FPL/PSL 22-051 | Energy Solutions, (DTK) Gallaher Road | ESUU300005 | Dry Active Waste | A | Exempt Quantity |
| | | | ESUU200825 | Dry Active Waste | A | Exempt Quantity |
| 8/11/2022 | FPL/PSL 22-050 | Energy Solutions Bear Creek | ESUU200459 | Dry Active Waste | A | A LSA-I |
| | | | ESUU200620 | Dry Active Waste | A | A LSA-I |
| 9/19/2022 | FPL/PSL 22-062 | Energy Solutions, (DTK) Gallaher Road | ESUU200379 | Dry Active Waste | A | Exempt Quantity |
| | | | ESUU300362 | Dry Active Waste | A | Exempt Quantity |
| 9/19/2022 | FPL/PSL 22-063 | Energy Solutions, (DTK) Gallaher Road | ESUU300332 | Dry Active Waste | A | Exempt Quantity |
| | | | ESUU200718 | Dry Active Waste | A | Exempt Quantity |
| 9/26/2022 | FPL/PSL 22-066 | Energy Solutions, (DTK) Gallaher Road | ESUU300577 | Dry Active Waste | A | Exempt Quantity |
| 9/26/2022 | FPL/PSL 22-065 | Energy Solutions, (DTK) Gallaher Road | ESUU300688 | Dry Active Waste | A | Exempt Quantity |



Solid Waste Shipped Offsite for Disposal

During Period from: 1/1/2022 to 12/31/2022

| | | | | | | |
|------------|----------------|--------------------------------------|------------|------------------|---|------------------|
| 10/12/2022 | FPL/PSL 22-075 | Energy Solutions Bear Creek | ESUU200612 | Dry Active Waste | A | A LSA-II |
| | | | ESUU200701 | Dry Active Waste | A | A LSA-II |
| 10/12/2022 | FPL/PSL 22-074 | Energy Solutions Bear Creek | ESUU200730 | Dry Active Waste | A | A LSA-II |
| | | | ESUU200806 | Dry Active Waste | A | A LSA-II |
| 10/17/2022 | FPL/PSL 22-076 | Energy Solutions Bear Creek | ESUU800254 | Dry Active Waste | A | A LSA-II |
| 12/12/2022 | FPL/PSL 22-086 | Energy Solutions Bear Creek | ESUU200448 | Dry Active Waste | A | A LSA-II |
| | | | ESUU202048 | Dry Active Waste | A | A LSA-II |
| 12/12/2022 | FPL/PSL 22-085 | Energy Solutions (DTK) Gallaher Road | ESUU200327 | Dry Active Waste | A | Exempt Quantity |
| | | | ESUU200337 | Dry Active Waste | A | Exempt Quantity |
| 12/28/2022 | FPL/PSL 22-095 | Energy Solutions Bear Creek | 22-095 | Dry Active Waste | A | Limited Quantity |

3.3 Dose Assessments



Reg. Guide 1.21, App B, Sec Doses due to Radioiodines, Tritium, and Particulates in Gaseous Releases

Unit: Site

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Organ Dose | Units | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
|-------------------|--------------|--------------------|--------------------|--------------------|--------------------|---------------|
| Bone | mRem | 1.28E-03 | 1.40E-03 | 1.20E-03 | 1.38E-03 | 5.26E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Liver | mRem | 1.21E-03 | 1.21E-03 | 1.10E-03 | 1.18E-03 | 4.71E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Total Body | mRem | 1.21E-03 | 1.21E-03 | 1.10E-03 | 1.18E-03 | 4.71E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Thyroid | mRem | 1.21E-03 | 1.21E-03 | 1.11E-03 | 1.18E-03 | 4.72E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Kidney | mRem | 2.08E-04 | 1.75E-04 | 1.79E-04 | 1.68E-04 | 7.30E-04 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Lung | mRem | 1.21E-03 | 1.21E-03 | 1.10E-03 | 1.18E-03 | 4.71E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| GI-Li | mRem | 1.21E-03 | 1.21E-03 | 1.10E-03 | 1.18E-03 | 4.71E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |

Reg. Guide 1.21, App B, Sec Doses due to Radioiodines, Tritium, and Particulates in Gaseous Releases

Unit: PSL1

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Organ Dose | Units | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
|-------------------|--------------|--------------------|--------------------|--------------------|--------------------|---------------|
| Bone | mRem | 7.06E-04 | 7.18E-04 | 5.01E-04 | 6.89E-04 | 2.62E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Liver | mRem | 6.63E-04 | 6.24E-04 | 5.03E-04 | 5.88E-04 | 2.38E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Total Body | mRem | 6.63E-04 | 6.24E-04 | 5.03E-04 | 5.88E-04 | 2.38E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Thyroid | mRem | 6.64E-04 | 6.24E-04 | 5.09E-04 | 5.88E-04 | 2.39E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Kidney | mRem | 1.12E-04 | 9.16E-05 | 9.34E-05 | 8.30E-05 | 3.80E-04 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Lung | mRem | 6.63E-04 | 6.24E-04 | 5.03E-04 | 5.88E-04 | 2.38E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| GI-Li | mRem | 6.63E-04 | 6.24E-04 | 5.03E-04 | 5.88E-04 | 2.38E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |

Reg. Guide 1.21, App B, Sec Doses due to Radioiodines, Tritium, and Particulates in Gaseous Releases

Unit: PSL2

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Organ Dose | Units | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
|-------------------|--------------|--------------------|--------------------|--------------------|--------------------|---------------|
| Bone | mRem | 5.70E-04 | 6.85E-04 | 6.94E-04 | 6.94E-04 | 2.64E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Liver | mRem | 5.50E-04 | 5.87E-04 | 5.96E-04 | 5.96E-04 | 2.33E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Total Body | mRem | 5.50E-04 | 5.87E-04 | 5.96E-04 | 5.96E-04 | 2.33E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Thyroid | mRem | 5.50E-04 | 5.87E-04 | 5.96E-04 | 5.96E-04 | 2.33E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Kidney | mRem | 9.62E-05 | 8.36E-05 | 8.54E-05 | 8.52E-05 | 3.50E-04 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Lung | mRem | 5.50E-04 | 5.87E-04 | 5.96E-04 | 5.96E-04 | 2.33E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| GI-Li | mRem | 5.50E-04 | 5.87E-04 | 5.96E-04 | 5.96E-04 | 2.33E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |

Reg. Guide 1.21, App B, Sec Air Doses Due To Gaseous Releases

Unit: Site

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| NG Dose | Units | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
|------------------|--------------|--------------------|--------------------|--------------------|--------------------|---------------|
| Gamma Air | mRad | 2.93E-03 | 3.42E-02 | 5.15E-04 | 2.07E-04 | 3.79E-02 |
| Limit | mRad | | | | | |
| Percent of Limit | % | | | | | |
| Beta Air | mRad | 1.15E-02 | 1.77E-02 | 5.85E-04 | 9.48E-05 | 2.99E-02 |
| Limit | mRad | | | | | |
| Percent of Limit | % | | | | | |
| NG Total Body | mRem | 2.78E-03 | 3.28E-02 | 4.78E-04 | 1.97E-04 | 3.63E-02 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| NG Skin | mRem | 1.41E-02 | 5.30E-02 | 9.15E-04 | 3.00E-04 | 6.83E-02 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |

Reg. Guide 1.21, App B, Sec Air Doses Due To Gaseous Releases

Unit: PSL1

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| NG Dose | Units | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
|------------------|--------------|--------------------|--------------------|--------------------|--------------------|---------------|
| Gamma Air | mRad | 2.78E-03 | 1.37E-04 | 2.68E-04 | 8.54E-05 | 3.27E-03 |
| Limit | mRad | | | | | |
| Percent of Limit | % | | | | | |
| Beta Air | mRad | 1.14E-02 | 4.93E-05 | 3.30E-04 | 3.26E-05 | 1.18E-02 |
| Limit | mRad | | | | | |
| Percent of Limit | % | | | | | |
| NG Total Body | mRem | 2.64E-03 | 1.30E-04 | 2.47E-04 | 8.10E-05 | 3.10E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| NG Skin | mRem | 1.39E-02 | 1.91E-04 | 4.83E-04 | 1.19E-04 | 1.47E-02 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |

Reg. Guide 1.21, App B, Sec Air Doses Due To Gaseous Releases

Unit: PSL2

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| NG Dose | Units | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
|------------------|--------------|--------------------|--------------------|--------------------|--------------------|---------------|
| Gamma Air | mRad | 1.44E-04 | 3.41E-02 | 2.47E-04 | 1.22E-04 | 3.46E-02 |
| Limit | mRad | | | | | |
| Percent of Limit | % | | | | | |
| Beta Air | mRad | 1.24E-04 | 1.76E-02 | 2.55E-04 | 6.22E-05 | 1.81E-02 |
| Limit | mRad | | | | | |
| Percent of Limit | % | | | | | |
| NG Total Body | mRem | 1.34E-04 | 3.27E-02 | 2.31E-04 | 1.15E-04 | 3.32E-02 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| NG Skin | mRem | 2.23E-04 | 5.28E-02 | 4.32E-04 | 1.81E-04 | 5.36E-02 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |

Reg. Guide 1.21, App B, Sec Doses to a member of the public due to Liquid Releases

Unit: Site

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Organ Dose | Units | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
|-------------------|--------------|--------------------|--------------------|--------------------|--------------------|---------------|
| Bone | mRem | 7.60E-04 | 5.24E-04 | 5.81E-04 | 6.52E-04 | 2.30E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Liver | mRem | 1.78E-03 | 1.50E-03 | 2.58E-03 | 9.05E-04 | 6.68E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Total Body | mRem | 1.81E-03 | 1.46E-03 | 2.82E-03 | 9.66E-04 | 6.95E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Thyroid | mRem | 1.30E-03 | 1.27E-03 | 2.14E-03 | 8.30E-04 | 5.44E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Kidney | mRem | 1.73E-03 | 1.60E-03 | 2.65E-03 | 7.01E-04 | 6.68E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Lung | mRem | 1.32E-03 | 1.46E-03 | 3.95E-03 | 8.43E-04 | 7.48E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| GI-LI | mRem | 1.55E-02 | 3.78E-03 | 3.10E-02 | 5.52E-03 | 5.58E-02 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |

Reg. Guide 1.21, App B, Sec Doses to a member of the public due to Liquid Releases

Unit: PSL1

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Organ Dose | Units | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
|-------------------|--------------|--------------------|--------------------|--------------------|--------------------|---------------|
| Bone | mRem | 3.80E-04 | 2.62E-04 | 2.91E-04 | 3.26E-04 | 1.15E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Liver | mRem | 8.89E-04 | 7.48E-04 | 1.29E-03 | 4.52E-04 | 3.34E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Total Body | mRem | 9.03E-04 | 7.32E-04 | 1.41E-03 | 4.83E-04 | 3.48E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Thyroid | mRem | 6.52E-04 | 6.34E-04 | 1.07E-03 | 4.15E-04 | 2.72E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Kidney | mRem | 8.66E-04 | 8.02E-04 | 1.32E-03 | 3.50E-04 | 3.34E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Lung | mRem | 6.58E-04 | 7.30E-04 | 1.98E-03 | 4.21E-04 | 3.74E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| GI-Lli | mRem | 7.73E-03 | 1.89E-03 | 1.55E-02 | 2.76E-03 | 2.79E-02 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |

Reg. Guide 1.21, App B, Sec Doses to a member of the public due to Liquid Releases

Unit: PSL2

Starting: 1-Jan-2022 Ending: 31-Dec-2022

| Organ Dose | Units | 1ST Quarter | 2ND Quarter | 3RD Quarter | 4TH Quarter | Annual |
|-------------------|--------------|--------------------|--------------------|--------------------|--------------------|---------------|
| Bone | mRem | 3.80E-04 | 2.62E-04 | 2.91E-04 | 3.26E-04 | 1.15E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Liver | mRem | 8.89E-04 | 7.48E-04 | 1.29E-03 | 4.52E-04 | 3.34E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Total Body | mRem | 9.03E-04 | 7.32E-04 | 1.41E-03 | 4.83E-04 | 3.48E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Thyroid | mRem | 6.52E-04 | 6.34E-04 | 1.07E-03 | 4.15E-04 | 2.72E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Kidney | mRem | 8.66E-04 | 8.02E-04 | 1.32E-03 | 3.50E-04 | 3.34E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| Lung | mRem | 6.58E-04 | 7.30E-04 | 1.98E-03 | 4.21E-04 | 3.74E-03 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |
| GI-Li | mRem | 7.73E-03 | 1.89E-03 | 1.55E-02 | 2.76E-03 | 2.79E-02 |
| Limit | mRem | | | | | |
| Percent of Limit | % | | | | | |

Period: Ann, 2022

Site/Unit/Discharge Point: Site

Liquid Dose Summary - Note: All Doses in mRem

| Receptor | Agegroup | Bone | Liver | Total Body | Thyroid | Kidney | Lung | GI-Lli | Skin |
|---------------------------------|-----------------|-------------|--------------|-------------------|----------------|---------------|-------------|---------------|-------------|
| Liquid Receptor - Teenager | Teenager | 2.303E-03 | 6.679E-03 | 6.953E-03 | 5.441E-03 | 6.685E-03 | 7.483E-03 | 5.577E-02 | 0.000E+00 |
| Liquid Receptor - Child | Child | 2.116E-03 | 5.888E-03 | 6.557E-03 | 5.118E-03 | 2.905E-03 | 6.001E-03 | 2.459E-02 | 0.000E+00 |
| Maximum Dose by Organ: | | 2.303E-03 | 6.679E-03 | 6.953E-03 | 5.441E-03 | 6.685E-03 | 7.483E-03 | 5.577E-02 | 0.000E+00 |
| Maximum Organ Dose (mRem): | | 5.577E-02 | | | | | | | |
| Maximum Total Body Dose (mRem): | | 6.953E-03 | | | | | | | |

Period: Ann, 2022

Site/Unit/Discharge Point: PSL1

Liquid Dose Summary - Note: All Doses in mRem

| Receptor | Agegroup | Bone | Liver | Total Body | Thyroid | Kidney | Lung | GI-Li | Skin |
|---------------------------------|-----------------|-------------|--------------|-------------------|----------------|---------------|-------------|--------------|-------------|
| Liquid Receptor - Teenager | Teenager | 1.151E-03 | 3.340E-03 | 3.477E-03 | 2.720E-03 | 3.342E-03 | 3.741E-03 | 2.788E-02 | 0.000E+00 |
| Liquid Receptor - Child | Child | 1.058E-03 | 2.944E-03 | 3.278E-03 | 2.559E-03 | 1.453E-03 | 3.001E-03 | 1.229E-02 | 0.000E+00 |
| Maximum Dose by Organ: | | 1.151E-03 | 3.340E-03 | 3.477E-03 | 2.720E-03 | 3.342E-03 | 3.741E-03 | 2.788E-02 | 0.000E+00 |
| Maximum Organ Dose (mRem): | | 2.788E-02 | | | | | | | |
| Maximum Total Body Dose (mRem): | | 3.477E-03 | | | | | | | |

Period: Ann, 2022

Site/Unit/Discharge Point: PSL2

Liquid Dose Summary - Note: All Doses in mRem

| Receptor | Agegroup | Bone | Liver | Total Body | Thyroid | Kidney | Lung | GI-Li | Skin |
|---------------------------------|-----------------|-------------|--------------|-------------------|----------------|---------------|-------------|--------------|-------------|
| Liquid Receptor - Teenager | Teenager | 1.151E-03 | 3.340E-03 | 3.477E-03 | 2.720E-03 | 3.342E-03 | 3.741E-03 | 2.788E-02 | 0.000E+00 |
| Liquid Receptor - Child | Child | 1.058E-03 | 2.944E-03 | 3.278E-03 | 2.559E-03 | 1.453E-03 | 3.001E-03 | 1.229E-02 | 0.000E+00 |
| Maximum Dose by Organ: | | 1.151E-03 | 3.340E-03 | 3.477E-03 | 2.720E-03 | 3.342E-03 | 3.741E-03 | 2.788E-02 | 0.000E+00 |
| Maximum Organ Dose (mRem): | | 2.788E-02 | | | | | | | |
| Maximum Total Body Dose (mRem): | | 3.477E-03 | | | | | | | |

Period: Ann, 2022

Site/Unit/Discharge Point: Site

Site Boundary NNG Doserate Summary - Note: All Doses in mRem/yr

| Receptor | Agegroup | Bone | Liver | Total Body | Thyroid | Kidney | Lung | GI-Li | Skin |
|----------------------------|----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|
| NW Site Boundary - In | Infant | 5.259E-03 | 4.708E-03 | 4.708E-03 | 4.715E-03 | 7.302E-04 | 4.708E-03 | 4.708E-03 | 0.000E+00 |
| WNW Site Boundary - I | Infant | 3.562E-07 | 3.562E-07 | 3.562E-07 | 3.562E-07 | 3.562E-07 | 3.562E-07 | 3.562E-07 | 0.000E+00 |
| Maximum Doserate by Organ: | | 5.259E-03 | 4.708E-03 | 4.708E-03 | 4.715E-03 | 7.302E-04 | 4.708E-03 | 4.708E-03 | 0.000E+00 |

Maximum Organ Doserate (mRem/yr): 5.259E-03

Maximum Total Body Doserate (mRem/yr): 4.708E-03

Site Boundary NG Doserate Summary

| Gas Receptor Location | Gamma (mRad/yr) | Beta (mRad/yr) | Total Body (mRem/yr) | Skin (mRem/yr) |
|-----------------------|-----------------|----------------|----------------------|----------------|
| NW Site Boundary | 3.787E-02 | 2.985E-02 | 3.625E-02 | 6.830E-02 |
| WNW Site Boundary | 3.262E-02 | 2.572E-02 | 3.123E-02 | 5.884E-02 |
| Maximum NG Dose Rate: | 3.787E-02 | 2.985E-02 | 3.625E-02 | 6.830E-02 |

Period: Ann, 2022

Site/Unit/Discharge Point: Site

Maximum Individual NNG Dose Summary - Note: All Doses in mRem

| Receptor | Agegroup | Bone | Liver | Total Body | Thyroid | Kidney | Lung | GI-Lli | Skin |
|-------------------------------|----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|
| NW - Near Milk - Adult | Adult | 4.123E-08 | 5.340E-08 | 3.622E-08 | 1.208E-05 | 8.062E-08 | 2.521E-08 | 3.193E-08 | 0.000E+00 |
| NW Near Milk - Child | Child | 1.221E-07 | 1.265E-07 | 9.655E-08 | 3.539E-05 | 8.253E-08 | 2.708E-08 | 3.039E-08 | 0.000E+00 |
| NW Near Milk - Infant | Infant | 2.355E-07 | 2.822E-07 | 1.675E-07 | 8.420E-05 | 7.743E-08 | 2.459E-08 | 3.032E-08 | 0.000E+00 |
| NW Near Milk - Teenager | Teenager | 6.003E-08 | 7.983E-08 | 5.230E-08 | 1.809E-05 | 9.856E-08 | 2.984E-08 | 3.530E-08 | 0.000E+00 |
| SE Nearest Res - Adult | Adult | 9.337E-08 | 9.687E-08 | 9.131E-08 | 2.429E-06 | 1.038E-07 | 1.309E-07 | 9.736E-08 | 0.000E+00 |
| SE Nearest Res - Child | Child | 9.851E-08 | 1.000E-07 | 9.404E-08 | 3.599E-06 | 9.496E-08 | 1.389E-07 | 9.191E-08 | 0.000E+00 |
| SE Nearest Res - Infant | Infant | 9.625E-08 | 9.919E-08 | 9.219E-08 | 3.323E-06 | 9.024E-08 | 1.283E-07 | 8.911E-08 | 0.000E+00 |
| SE Nearest Res - Teenager | Teenager | 9.556E-08 | 1.002E-07 | 9.270E-08 | 2.981E-06 | 1.038E-07 | 1.506E-07 | 9.714E-08 | 0.000E+00 |
| SE Visitor - Lifeguard 1.0 mi | Adult | 4.319E-08 | 4.472E-08 | 4.229E-08 | 1.063E-06 | 4.775E-08 | 5.960E-08 | 4.494E-08 | 0.000E+00 |
| W Near Garden - Adult | Adult | 4.345E-08 | 4.490E-08 | 4.260E-08 | 1.008E-06 | 4.776E-08 | 5.897E-08 | 4.510E-08 | 0.000E+00 |
| W Near Garden - Child | Child | 4.558E-08 | 4.620E-08 | 4.373E-08 | 1.491E-06 | 4.411E-08 | 6.224E-08 | 4.285E-08 | 0.000E+00 |
| W Near Garden - Teenager | Teenager | 4.436E-08 | 4.626E-08 | 4.318E-08 | 1.236E-06 | 4.776E-08 | 6.707E-08 | 4.501E-08 | 0.000E+00 |
| Maximum Dose by Organ: | | 2.355E-07 | 2.822E-07 | 1.675E-07 | 8.420E-05 | 1.038E-07 | 1.506E-07 | 9.736E-08 | 0.000E+00 |

Maximum Organ Dose (mRem): 8.420E-05
 Maximum Total Body Dose (mRem): 1.675E-07

Maximum Individual NG Dose Summary

| Gas Receptor Location | Gamma (mRad) | Beta (mRad) | Total Body (mRem) | Skin (mRem) |
|--------------------------------|--------------|-------------|-------------------|-------------|
| NW Near Milk 4.25 mi | 3.313E-03 | 2.612E-03 | 3.172E-03 | 5.977E-03 |
| SE Nearest Res 1.52 mi 142 deg | 1.685E-02 | 1.329E-02 | 1.614E-02 | 3.040E-02 |
| SE Visitor @ 1 mi | 7.298E-03 | 5.753E-03 | 6.986E-03 | 1.316E-02 |
| W Near Gard 2.0 miles | 5.798E-03 | 4.571E-03 | 5.551E-03 | 1.046E-02 |
| Maximum NG Dose: | 1.685E-02 | 1.329E-02 | 1.614E-02 | 3.040E-02 |

Period: Ann, 2022

Site/Unit/Discharge Point: PSL1

Site Boundary NNG Doserate Summary - Note: All Doses in mRem/yr

| Receptor | Agegroup | Bone | Liver | Total Body | Thyroid | Kidney | Lung | GI-LIi | Skin |
|----------------------------|----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|
| NW Site Boundary - In | Infant | 2.615E-03 | 2.379E-03 | 2.379E-03 | 2.386E-03 | 3.797E-04 | 2.379E-03 | 2.379E-03 | 0.000E+00 |
| WNW Site Boundary - I | Infant | 7.455E-08 | 7.455E-08 | 7.455E-08 | 7.455E-08 | 7.455E-08 | 7.455E-08 | 7.455E-08 | 0.000E+00 |
| Maximum Doserate by Organ: | | 2.615E-03 | 2.379E-03 | 2.379E-03 | 2.386E-03 | 3.797E-04 | 2.379E-03 | 2.379E-03 | 0.000E+00 |

Maximum Organ Doserate (mRem/yr): 2.615E-03

Maximum Total Body Doserate (mRem/yr): 2.379E-03

Site Boundary NG Doserate Summary

| Gas Receptor Location | Gamma (mRad/yr) | Beta (mRad/yr) | Total Body (mRem/yr) | Skin (mRem/yr) |
|-----------------------|-----------------|----------------|----------------------|----------------|
| NW Site Boundary | 3.272E-03 | 1.176E-02 | 3.099E-03 | 1.465E-02 |
| WNW Site Boundary | 2.819E-03 | 1.013E-02 | 2.670E-03 | 1.262E-02 |
| Maximum NG Dose Rate: | 3.272E-03 | 1.176E-02 | 3.099E-03 | 1.465E-02 |

Period: Ann, 2022

Site/Unit/Discharge Point: PSL1

Maximum Individual NNG Dose Summary - Note: All Doses in mRem

| Receptor | Agegroup | Bone | Liver | Total Body | Thyroid | Kidney | Lung | GI-LIi | Skin |
|-------------------------------|----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|
| NW - Near Milk - Adult | Adult | 2.532E-08 | 3.548E-08 | 2.079E-08 | 1.005E-05 | 5.843E-08 | 4.471E-09 | 1.496E-08 | 0.000E+00 |
| NW Near Milk - Child | Child | 9.273E-08 | 9.636E-08 | 7.025E-08 | 2.947E-05 | 5.983E-08 | 4.291E-09 | 1.485E-08 | 0.000E+00 |
| NW Near Milk - Infant | Infant | 1.870E-07 | 2.259E-07 | 1.284E-07 | 7.003E-05 | 5.551E-08 | 4.010E-09 | 1.518E-08 | 0.000E+00 |
| NW Near Milk - Teenager | Teenager | 4.103E-08 | 5.755E-08 | 3.399E-08 | 1.506E-05 | 7.337E-08 | 4.730E-09 | 1.775E-08 | 0.000E+00 |
| SE Nearest Res - Adult | Adult | 2.504E-08 | 2.833E-08 | 2.301E-08 | 2.147E-06 | 3.476E-08 | 2.433E-08 | 2.415E-08 | 0.000E+00 |
| SE Nearest Res - Child | Child | 2.983E-08 | 3.134E-08 | 2.555E-08 | 3.254E-06 | 2.656E-08 | 2.357E-08 | 2.215E-08 | 0.000E+00 |
| SE Nearest Res - Infant | Infant | 2.775E-08 | 3.057E-08 | 2.388E-08 | 3.003E-06 | 2.218E-08 | 2.238E-08 | 2.058E-08 | 0.000E+00 |
| SE Nearest Res - Teenager | Teenager | 2.710E-08 | 3.145E-08 | 2.433E-08 | 2.663E-06 | 3.476E-08 | 2.543E-08 | 2.454E-08 | 0.000E+00 |
| SE Visitor - Lifeguard 1.0 mi | Adult | 1.147E-08 | 1.291E-08 | 1.059E-08 | 9.380E-07 | 1.572E-08 | 1.116E-08 | 1.109E-08 | 0.000E+00 |
| W Near Garden - Adult | Adult | 1.143E-08 | 1.279E-08 | 1.059E-08 | 8.877E-07 | 1.545E-08 | 1.114E-08 | 1.107E-08 | 0.000E+00 |
| W Near Garden - Child | Child | 1.341E-08 | 1.403E-08 | 1.164E-08 | 1.345E-06 | 1.206E-08 | 1.083E-08 | 1.024E-08 | 0.000E+00 |
| W Near Garden - Teenager | Teenager | 1.229E-08 | 1.408E-08 | 1.114E-08 | 1.101E-06 | 1.545E-08 | 1.159E-08 | 1.123E-08 | 0.000E+00 |
| Maximum Dose by Organ: | | 1.870E-07 | 2.259E-07 | 1.284E-07 | 7.003E-05 | 7.337E-08 | 2.543E-08 | 2.454E-08 | 0.000E+00 |

Maximum Organ Dose (mRem): 7.003E-05

Maximum Total Body Dose (mRem): 1.284E-07

Maximum Individual NG Dose Summary

| Gas Receptor Location | Gamma (mRad) | Beta (mRad) | Total Body (mRem) | Skin (mRem) |
|--------------------------------|--------------|-------------|-------------------|-------------|
| NW Near Milk 4.25 mi | 2.863E-04 | 1.029E-03 | 2.712E-04 | 1.282E-03 |
| SE Nearest Res 1.52 mi 142 deg | 1.456E-03 | 5.236E-03 | 1.379E-03 | 6.522E-03 |
| SE Visitor @ 1 mi | 6.306E-04 | 2.267E-03 | 5.973E-04 | 2.824E-03 |
| W Near Gard 2.0 miles | 5.011E-04 | 1.801E-03 | 4.746E-04 | 2.244E-03 |
| Maximum NG Dose: | 1.456E-03 | 5.236E-03 | 1.379E-03 | 6.522E-03 |

Period: Ann, 2022

Site/Unit/Discharge Point: PSL2

Site Boundary NNG Doserate Summary - Note: All Doses in mRem/yr

| Receptor | Agegroup | Bone | Liver | Total Body | Thyroid | Kidney | Lung | GI-Lli | Skin |
|----------------------------|----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|
| NW Site Boundary - In | Infant | 2.644E-03 | 2.329E-03 | 2.329E-03 | 2.329E-03 | 3.505E-04 | 2.329E-03 | 2.329E-03 | 0.000E+00 |
| WNW Site Boundary - I | Infant | 2.817E-07 | 2.817E-07 | 2.817E-07 | 2.817E-07 | 2.817E-07 | 2.817E-07 | 2.817E-07 | 0.000E+00 |
| Maximum Doserate by Organ: | | 2.644E-03 | 2.329E-03 | 2.329E-03 | 2.329E-03 | 3.505E-04 | 2.329E-03 | 2.329E-03 | 0.000E+00 |

Maximum Organ Doserate (mRem/yr): 2.644E-03

Maximum Total Body Doserate (mRem/yr): 2.329E-03

Site Boundary NG Doserate Summary

| Gas Receptor Location | Gamma (mRad/yr) | Beta (mRad/yr) | Total Body (mRem/yr) | Skin (mRem/yr) |
|-----------------------|-----------------|----------------|----------------------|----------------|
| NW Site Boundary | 3.460E-02 | 1.809E-02 | 3.315E-02 | 5.365E-02 |
| WNW Site Boundary | 2.980E-02 | 1.558E-02 | 2.856E-02 | 4.622E-02 |
| Maximum NG Dose Rate: | 3.460E-02 | 1.809E-02 | 3.315E-02 | 5.365E-02 |

Period: Ann, 2022

Site/Unit/Discharge Point: PSL2

Maximum Individual NNG Dose Summary - Note: All Doses in mRem

| Receptor | Agegroup | Bone | Liver | Total Body | Thyroid | Kidney | Lung | GI-Li | Skin |
|-------------------------------|----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|
| NW - Near Milk - Adult | Adult | 1.591E-08 | 1.791E-08 | 1.543E-08 | 2.034E-06 | 2.219E-08 | 2.074E-08 | 1.696E-08 | 0.000E+00 |
| NW Near Milk - Child | Child | 2.938E-08 | 3.014E-08 | 2.630E-08 | 5.922E-06 | 2.271E-08 | 2.279E-08 | 1.554E-08 | 0.000E+00 |
| NW Near Milk - Infant | Infant | 4.850E-08 | 5.629E-08 | 3.902E-08 | 1.417E-05 | 2.192E-08 | 2.057E-08 | 1.514E-08 | 0.000E+00 |
| NW Near Milk - Teenager | Teenager | 1.900E-08 | 2.228E-08 | 1.832E-08 | 3.036E-06 | 2.518E-08 | 2.511E-08 | 1.755E-08 | 0.000E+00 |
| SE Nearest Res - Adult | Adult | 6.833E-08 | 6.855E-08 | 6.830E-08 | 2.813E-07 | 6.905E-08 | 1.066E-07 | 7.321E-08 | 0.000E+00 |
| SE Nearest Res - Child | Child | 6.867E-08 | 6.869E-08 | 6.849E-08 | 3.441E-07 | 6.841E-08 | 1.153E-07 | 6.976E-08 | 0.000E+00 |
| SE Nearest Res - Infant | Infant | 6.851E-08 | 6.862E-08 | 6.831E-08 | 3.208E-07 | 6.806E-08 | 1.059E-07 | 6.852E-08 | 0.000E+00 |
| SE Nearest Res - Teenager | Teenager | 6.846E-08 | 6.871E-08 | 6.837E-08 | 3.172E-07 | 6.905E-08 | 1.251E-07 | 7.260E-08 | 0.000E+00 |
| SE Visitor - Lifeguard 1.0 mi | Adult | 3.172E-08 | 3.181E-08 | 3.171E-08 | 1.247E-07 | 3.203E-08 | 4.843E-08 | 3.385E-08 | 0.000E+00 |
| W Near Garden - Adult | Adult | 3.202E-08 | 3.211E-08 | 3.201E-08 | 1.200E-07 | 3.232E-08 | 4.783E-08 | 3.403E-08 | 0.000E+00 |
| W Near Garden - Child | Child | 3.216E-08 | 3.217E-08 | 3.209E-08 | 1.459E-07 | 3.205E-08 | 5.142E-08 | 3.261E-08 | 0.000E+00 |
| W Near Garden - Teenager | Teenager | 3.207E-08 | 3.218E-08 | 3.204E-08 | 1.348E-07 | 3.232E-08 | 5.547E-08 | 3.378E-08 | 0.000E+00 |
| Maximum Dose by Organ: | | 6.867E-08 | 6.871E-08 | 6.849E-08 | 1.417E-05 | 6.905E-08 | 1.251E-07 | 7.321E-08 | 0.000E+00 |

Maximum Organ Dose (mRem): 1.417E-05

Maximum Total Body Dose (mRem): 6.849E-08

Maximum Individual NG Dose Summary

| Gas Receptor Location | Gamma (mRad) | Beta (mRad) | Total Body (mRem) | Skin (mRem) |
|--------------------------------|--------------|-------------|-------------------|-------------|
| NW Near Milk 4.25 mi | 3.027E-03 | 1.583E-03 | 2.901E-03 | 4.694E-03 |
| SE Nearest Res 1.52 mi 142 deg | 1.540E-02 | 8.051E-03 | 1.476E-02 | 2.388E-02 |
| SE Visitor @ 1 mi | 6.667E-03 | 3.486E-03 | 6.389E-03 | 1.034E-02 |
| W Near Gard 2.0 miles | 5.297E-03 | 2.770E-03 | 5.076E-03 | 8.215E-03 |
| Maximum NG Dose: | 1.540E-02 | 8.051E-03 | 1.476E-02 | 2.388E-02 |

3.4 Visitor Dose

Dose to a Member of the Public from Activities Inside the Site Boundary

Assessment of radiation dose from radioactive effluents to MEMBERS OF THE PUBLIC due to their activities inside the SITE BOUNDARY assumes the VISITOR to be a Lifeguard at the Walton Rocks Beach recreation area. The visitor is assumed to be onsite for 6 hours per day for 312 days per year at a distance of 1 mile in the Southeast sector. The VISITOR received exposure from each of the two reactors on Site. Actual Met Data was used to calculate Visitor Dose for Calendar Year 2022, and the results are below.

| Noble Gas Dose | mrads |
|-----------------------|--------------|
| Gamma Air Dose | 1.59E-02 |
| Beta Air Dose | 1.25E-02 |

| Gas, Particulate, Iodine, Carbon Dose | mrem |
|--|-------------|
| Bone | 1.95E-08 |
| Liver | 2.02E-08 |
| Thyroid | 4.79E-07 |
| Kidney | 2.15E-08 |
| Lung | 2.69E-08 |
| GI-LLI | 2.03E-08 |
| Total Body | 1.91E-08 |