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

Subject: Annual Radioactive Effluent Release Report (ARERR) 2025

Waterford Steam Electric Station, Unit 3
Docket No. 50-382
Renewed Facility Operating License No. NPF-38

Attached is the Annual Radioactive Effluent Release Report for the period of January 1 through December 31, 2025. This report is submitted pursuant to the requirements of Waterford 3 Technical Specification Sections 6.9.1.8 and 6.14.2.c.

There are no commitments contained in this submittal.

If you have any questions, please contact John Twarog, Manager, Regulatory and Emergency Preparedness, at 504-739-6747.

Respectfully,

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Enclosure: Annual Radioactive Effluent Release Report – 2025

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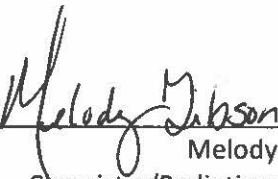
Annual Radioactive Effluent Release Report CY 2025

(55 pages follow)

**2025 Annual Radioactive Effluent Release Report
Waterford 3
Document Number: 50-382**

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Annual Radioactive Effluent Release Report

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Company: Entergy

Plant: Waterford 3

1.0 LIST OF ACRONYMS AND DEFINITIONS

1. Alpha Particle (α): A charged particle emitted from the nucleus of an atom having a mass and charge equal in magnitude of a helium nucleus.
2. BWR: Boiling Water Reactor
3. Composite Sample: A series of single collected portions (aliquots) analyzed as one sample. The aliquots making up the sample are collected at time intervals that are very short compared to the composite period.
4. Control: A sampling station in a location not likely to be affected by plant effluents due to its distance and/or direction from the Plant.
5. Counting Error: An estimate of the two-sigma uncertainty associated with the sample results based on total counts accumulated.
6. Curie (Ci): A measure of radioactivity; equal to 3.7×10^{10} disintegrations per second, or 2.22×10^{12} disintegrations per minute.
7. Direct Radiation Monitoring: The measurement of radiation dose at various distances from the plant is assessed using thermoluminescent dosimeters (TLDs), optically stimulated luminescent dosimeters (OSLDs), and/or pressurized ionization chambers.
8. Grab Sample: A single discrete sample drawn at one point in time.
9. Indicator: A sampling location that is potentially affected by plant effluents due to its proximity and/or direction from the plant.
10. Ingestion Pathway: The ingestion pathway includes milk, fish, drinking water and garden produce. Also sampled (under special circumstances) are other media such as vegetation or animal products when additional information about particular radionuclides is needed.
11. ISFSI: Independent Spent Fuel Storage Installation
12. LLD: Lower Limit of Detection. An *a priori* measure of the detection capability of a radiochemistry measurement based on instrument setup, calibration, background, decay time, and sample volume. An LLD is expressed as an activity concentration. The MDA is used for reporting results. LLD are specified by a regulator, such as the NRC and are typically listed in the ODCM.
13. MDA: Minimum Detectable Activity. For radiochemistry instruments, the MDA is the *a posteriori* minimum concentration that a counting system detects. The smallest concentration or activity of radioactive material in a sample that will yield a net count above instrument background and that is detected with 95% probability, with only 5% probability of falsely concluding that a blank observation represents a true signal.

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14. MDC: Minimum Detectable Concentration. Essentially synonymous with MDA for the purposes of radiological monitoring.
15. Mean: The sum of all of the values in a distribution divided by the number of values in the distribution, synonymous with average.
16. Microcurie (μCi): 3.7×10^4 disintegrations per second, or 2.22×10^6 disintegrations per minute.
17. millirem (mrem): 1/1000 rem; a unit of radiation dose equivalent in tissue.
18. Milliroentgen (mR): 1/1000 Roentgen; a unit of exposure to X- or gamma radiation.
19. N/A: Not Applicable
20. NEI: Nuclear Energy Institute
21. NRC: Nuclear Regulatory Commission
22. ODCM: Offsite Dose Calculation Manual
23. OSLD: Optically Stimulated Luminescence Dosimeter
24. Protected Area: A 10 CFR 73 security term is an area encompassed by physical barriers and to which access is controlled for security purposes. The fenced area immediately surrounding the plant and around ISFSI are commonly classified by the licensee as "Protected areas." Access to the protected area requires a security badge or escort.
25. PWR: Pressurized Water Reactor
26. REC: Radiological Effluent Control
27. REMP: Radiological Environmental Monitoring Program
28. Restricted Area: A 10 CFR 20 defined term where access to which is limited by the licensee for the purpose of protecting individuals against undue risks from exposure to radiation and radioactive materials.
29. TEDE: Total Effective Dose Equivalent (TEDE) means the sum of the effective dose equivalent (for external exposures) and the committed effective dose equivalent (for internal exposures).
30. TLD: Thermoluminescent Dosimeter
31. TRM: Technical Requirements Manual
32. TS: Technical Specification

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33. Unrestricted Area: An area, access to which is neither limited nor controlled by the licensee.

2.0 EXECUTIVE SUMMARY

Waterford 3 (WF3), license number 50-382, Radiological Effluent Control (REC) Program was established to limit the quantities of radioactive material that may be released based on calculated radiation doses or dose rates. Dose to Members of the Public due to radioactive materials released from the plant is limited by Technical Specifications, 10 CFR 20 (Standards for Protection Against Radiation), and by 40 CFR 190 (Environmental Radiation Protection standards for Nuclear Power Operations). Operational doses to the public during 2025 were calculated to be within the limits required by regulation and compared to other sources of radiation dose and pose no health hazard. These doses are summarized and compared to the regulatory limits in Section 2.1 Comparison to Regulatory Limits below.

The Annual Radioactive Effluent Release Report (ARERR) is published per REC requirements and provides data related to plant operation, including: quantities of radioactive materials released in liquid and gaseous effluents; radiation doses to members of the public; solid radioactive waste shipped offsite for processing or direct disposal; and other information as required by site licensing documents.

In 2025, the gaseous effluent dose assessments for locations from the Land Use Census showed that the critical receptor for Waterford 3 is child, due to vegetation, at PIT Receptor Location 1.45 km NW. The maximum Annual Organ Dose calculated for this receptor was 3.86E-02 mrem to the liver.

The maximum dose calculated to any organ due to radioactive liquid effluents was 8.05E-04 mrem, for adult Bone organ due to fish pathway.

Solid radioactive waste shipped offsite for processing or direct disposal included 58 Curies and 3.34E+02 m³, shipped in 12 shipments.

In addition to monitoring radioactive effluents, WF3 has a Radiological Environmental Monitoring Program (REMP) that monitors for levels of radiation and radioactive materials in the local environment. Data from the REMP is published in the Annual Radiological Environmental Operating Report (AREOR).

2.1 Comparison to Regulatory Limits

During 2025 all solid, liquid, and gaseous radioactive effluents from Waterford 3 were well below regulatory limits, as summarized in Table 1 and Table 2.

Table 1, Waterford 3 Dose Summary¹

		Quarter 1	Quarter 2	Quarter 3	Quarter 4	Annual
Liquid Effluent Dose Limit, Total Body	Limit	1.5 mrem	1.5 mrem	1.5 mrem	1.5 mrem	3 mrem
	Total Body Dose	3.72E-05	2.81E-04	6.89E-05	3.65E-05	4.24E-04
	% of Limit	2.48E-03	1.87E-02	4.59E-03	2.43E-03	1.41E-02
Liquid Effluent Dose Limit, Any Organ	Limit	5 mrem	5 mrem	5 mrem	5 mrem	10 mrem
	Max Organ Dose	6.31E-05	5.99E-04	1.41E-04	4.23E-05	8.05E-04
	% of Limit	1.26E-03	1.20E-02	2.82E-03	8.46E-04	8.05E-03
Gaseous Effluent Dose Limit, Gamma Air (Noble Gas)	Limit	5 mrad	5 mrad	5 mrad	5 mrad	10 mrad
	Gamma Air Dose	5.15E-04	1.82E-02	0.00E+00	0.00E+00	1.87E-02
	% of Limit	1.03E-02	3.64E-01	0.00E+00	0.00E+00	1.87E-01
Gaseous Effluent Dose Limit, Beta Air (Noble Gas)	Limit	10 mrad	10 mrad	10 mrad	10 mrad	20 mrad
	Beta Air Dose	1.86E-04	6.58E-03	0.00E+00	0.00E+00	6.76E-03
	% of Limit	1.86E-03	6.58E-02	0.00E+00	0.00E+00	3.38E-02
Gaseous Effluent Organ Dose Limit (Iodine, Tritium, Particulates with > 8-day half-life)	Limit	7.5 mrem	7.5 mrem	7.5 mrem	7.5 mrem	15 mrem
	Max Organ Dose	1.77E-02	1.43E-02	1.13E-02	8.28E-03	5.17E-02
	% of Limit	2.36E-01	1.91E-01	1.51E-01	1.10E-01	3.45E-01

¹ Table 1 demonstrates compliance with 10 CFR Part 50, App. I Limits.

Table 2, Total Annual Offsite-Dose Comparison to 40 CFR 190 Limits for WF3²

	Whole Body	Thyroid	Max Other Organ
Gaseous ³ (mrem)	1.78E-02	5.17E-02	5.17E-02
Carbon-14 (mrem)	6.22E-01	6.22E-01	3.12E+00
Liquid (mrem)	4.24E-04	2.53E-04	8.05E-04
Groundwater and Storm Drain Total (mrem)	0.00E+0	0.00E+0	0.00E+0
Direct Shine from areas such as dry cask storage, radwaste storage, Equipment Mausoleums (mrem)	3.88E-1	3.88E-1	3.88E-1
Total Site Dose (mrem)	1.03E+00	1.06E+00	3.56E+00
Total w/Other Nearby Facility⁴	0.00E+0	0.00E+0	0.00E+0
Limit	25 mrem	75 mrem	25 mrem
% of Limit	4.11E+00	1.42E+00	1.42E+01

² Table 2 is a summation of Units to show compliance with 40 CFR Part 190 Limits.

³ Gaseous dose values in Table 2 include organ dose from Noble Gas, Iodine, Tritium, and particulates.

⁴ Other fuel cycle sources within 5 miles of the site are considered in this analysis.

3.0 INTRODUCTION

3.1 About Nuclear Power

Commercial nuclear power plants are generally classified as either Boiling Water Reactors (BWRs) or Pressurized Water Reactors (PWRs), based on their design. A BWR includes a single coolant system where water used as reactor coolant boils as it passes through the core and the steam generated is used to turn the turbine generator for power production. A PWR, in contrast, includes two separate water systems: radioactive reactor coolant and a secondary system. Reactor coolant is maintained under high pressure, preventing boiling. The high-pressure coolant is passed through a heat exchanger called a steam generator where the secondary system water is boiled, and the steam is used to turn the turbine generator for power production.

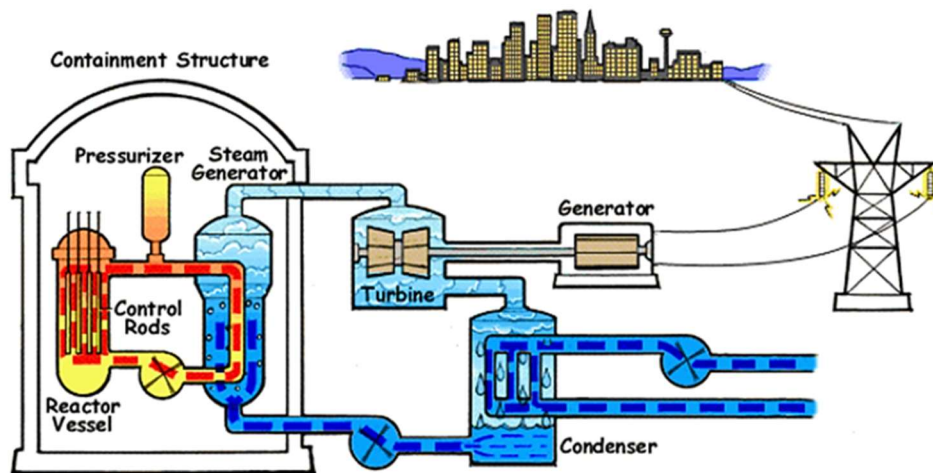


Figure 1, Pressurized Water Reactor (PWR) [1]

3.1 (Continued)

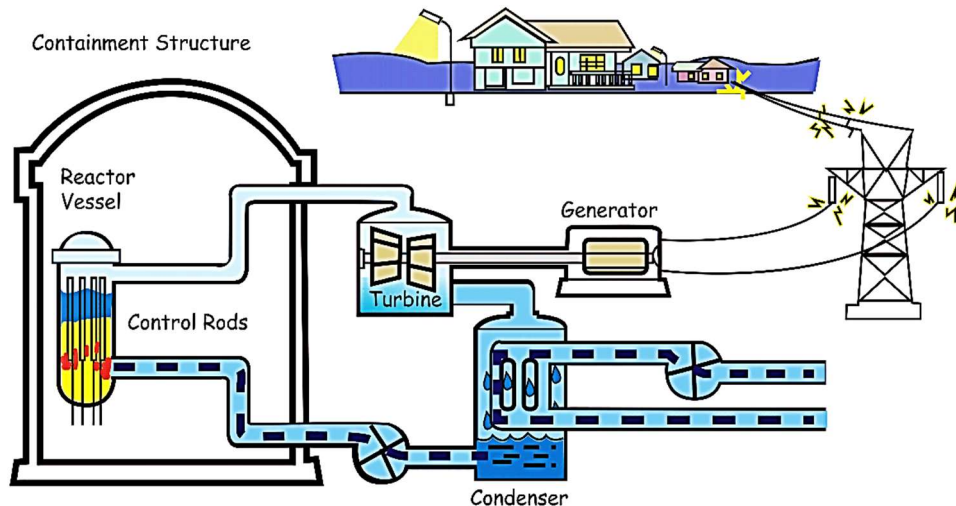


Figure 2, Boiling Water Reactor (BWR) [2]

Electricity is generated by a nuclear power plant similarly to the way that electricity is generated at other conventional types of power plants, such as those powered by coal or natural gas. Water is boiled to generate steam; the steam turns a turbine that is attached to a generator and the steam is condensed back into water to be returned to the boiler. What makes nuclear power different from these other types of power plants is that the heat is generated by fission and decay reactions occurring within and around the core containing fissionable uranium (U-235).

Nuclear fission occurs when certain nuclides (primarily U-233, U-235, or Pu-239) absorb a neutron and break into several smaller nuclides (called fission products) as well as producing some additional neutrons.

Fission results in production of radioactive materials including gases and solids that must be contained to prevent release or treated prior to release. These effluents are generally treated by filtration and/or hold-up prior to release. Releases are generally monitored by sampling and by continuously indicating radiation monitors. The effluent release data is used to calculate doses in order to ensure that dose to the public due to plant operation remains within required limits.

3.2 About Radiation Dose

Ionizing radiation, including alpha, beta, and gamma radiation from radioactive decay, has enough energy to break chemical bonds in tissues and result in damage to tissue or genetic material. The amount of ionization that will be generated by a given exposure to ionizing radiation is quantified as dose. Radiation dose is generally reported in units of millirem (mrem) in the US.

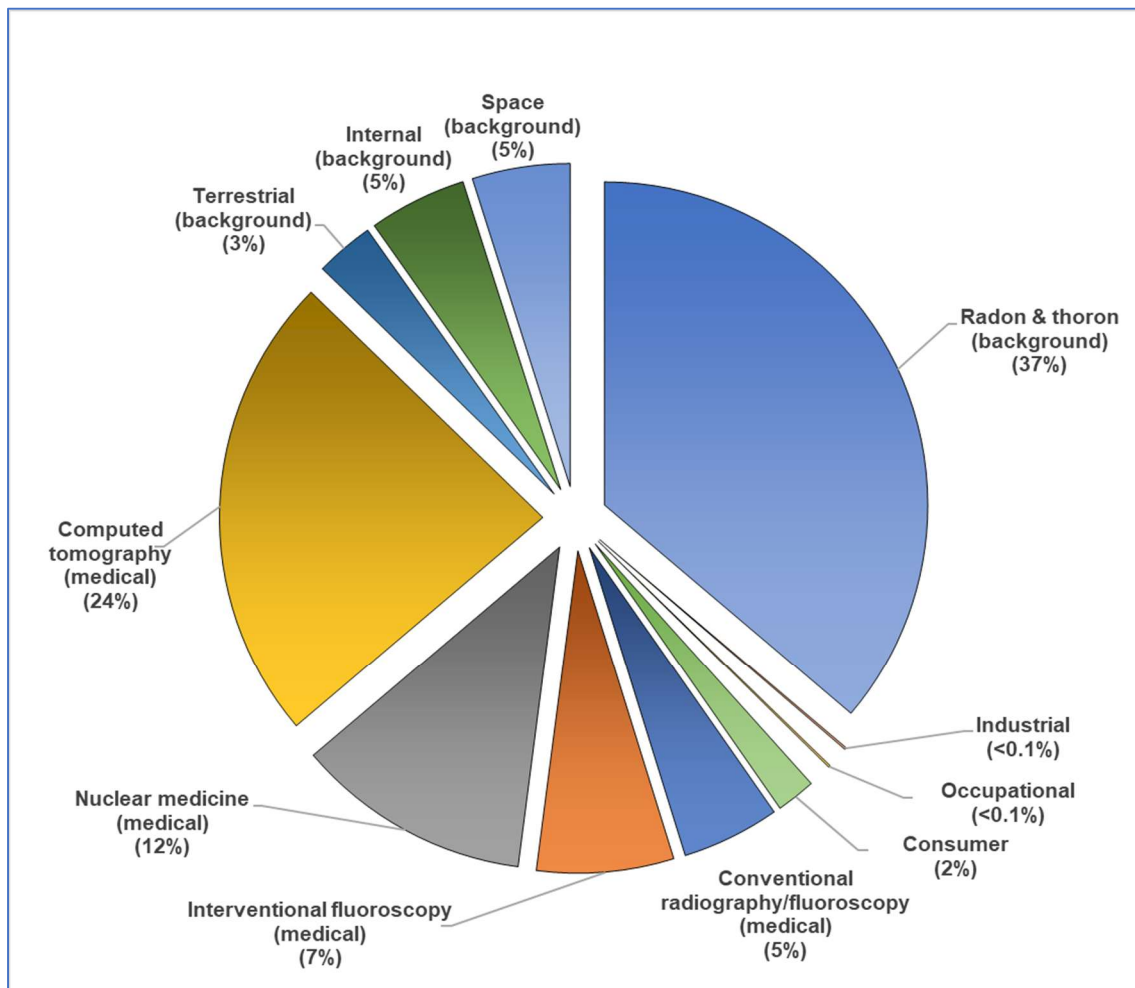


Figure 3, Sources of Radiation Exposure (NCRP Report No. 160) [3]

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3.2 (Continued)

The National Council on Radiation Protection (NCRP) has evaluated the population dose for the US and determined that the average individual is exposed to approximately 620 mrem per year [3]. There are many sources for radiation dose, ranging from natural background sources to medical procedures, air travel, and industrial processes. Approximately half (310 mrem) of the average exposure is due to natural sources of radiation including exposure to radon, cosmic radiation, and internal radiation and terrestrial due to naturally occurring radionuclides. The remaining 310 mrem of exposure is due to man-made sources of exposure, with the most significant contributors being medical (48% of total mrem per year) due to radiation used in various types of medical scans and treatments. Of the remaining 2% of dose, most is due to consumer activities such as air travel, smoking cigarettes, and building materials. A small fraction of this 2% is due to industrial activities including generation of nuclear power.

Readers that are curious about common sources and effects of radiation dose that they may encounter can find excellent sources of information from the Health Physics Society, including the Radiation Fact Sheets [4], and from the US Nuclear Regulatory Commission website [5].

3.3 About Dose Calculation

Concentrations of radioactive material in the environment resulting from plant operations are very small and it is not possible to determine doses directly using measured activities of environmental samples. To overcome this, dose calculations based on measured activities of effluent streams are used to model the dose impact for Members of the Public due to plant operation and effluents. There are several mechanisms that can result in dose to Members of the Public, including: Ingestion of radionuclides in food or water; Inhalation of radionuclides in air; Immersion in a plume of noble gases; and Direct Radiation from the ground, the plant or from an elevated plume.

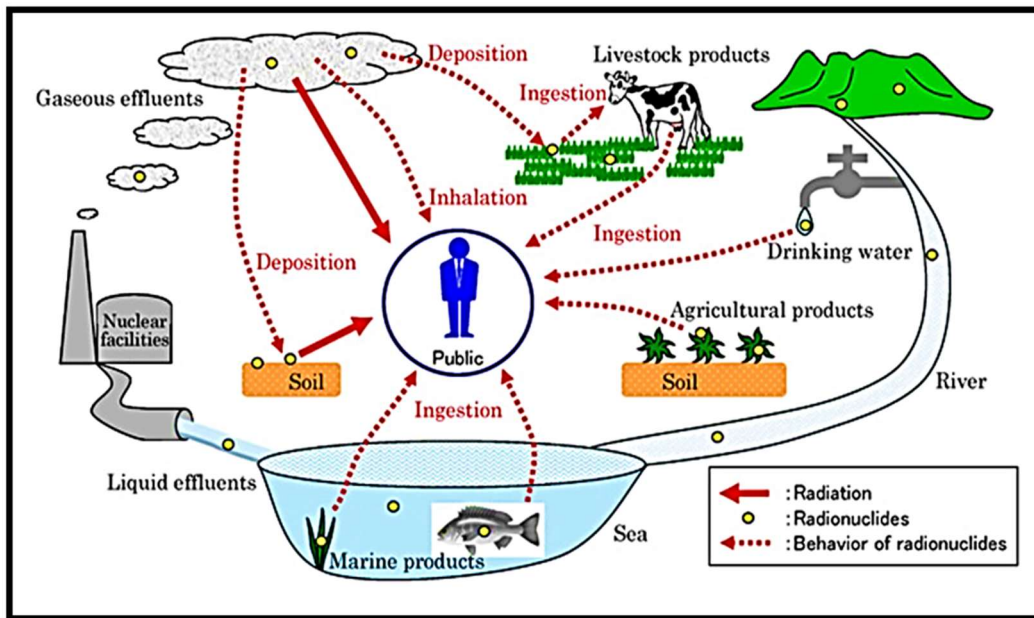


Figure 4, Potential exposure pathways to Members of the Public due to Plant Operations [6]

Each plant has an Offsite Dose Calculation Manual (ODCM) that specifies the methodology used to obtain the doses in the Dose Assessment section of this report. The dose assessment methodology in the ODCM is based on NRC Regulatory Guide 1.109 [7] and NUREG-0133 [8]. Doses are calculated by determining what the nuclide concentration will be in air, water, on the ground, or in food products based on plant effluent releases. Release points are continuously monitored to quantify what concentrations of nuclides are being released. For gaseous releases meteorological data is used to determine how much of the released activity will be present at a given location outside of the plant either deposited onto the ground or in gaseous form. Intake patterns and nuclide bio-concentration factors are used to determine how much activity will be transferred into animal milk or meat. Finally, human ingestion factors and dose factors are used to determine how much activity will be consumed and how much dose the consumer will receive. Inhalation dose is calculated by determining the concentration of nuclides and how much air is breathed by the individual.

3.3 (Continued)

For liquid releases, dilution and mixing factors are used to model the environmental concentrations in water. Drinking water pathways are modeled by determining the concentration of nuclides in the water at the point where the drinking water is sourced (e.g., taken from wells, rivers, or lakes). Fish and invertebrate pathways are determined by using concentration at the release point, bioaccumulation factors for the fish or invertebrate and an estimate of the quantity of fish consumed.

Biennially, a Land Use Census is performed to determine what potential dose pathways currently exist within a five-mile radius around the plant, the area most affected by plant operations. The Annual Land Use Census identifies the locations of vegetable gardens, nearest residences, milk animals and meat animals. The data from the census is used to determine who is the likely to be most exposed to radiation dose as a result of plant operation.

There is significant uncertainty in dose calculation results, due to modeling dispersion of material released and bioaccumulation factors, as well as assumptions associated with consumption and land-use patterns. Even with these sources of uncertainty, the calculations do provide a reasonable estimate of the order of magnitude of the exposure. Conservative assumptions are made in the calculation inputs such as the number of various foods and water consumed, the amount of air inhaled, and the amount of direct radiation exposure from the ground or plume, such that the actual dose received are likely lower than the calculated dose. Even with the built-in conservatism, doses calculated for the maximum exposed individual due to plant operation are a very small fraction of the annual dose that is received due to other sources. The calculated doses due to plant effluents, along with REMP results, serve to provide assurance that radioactive effluents releases are not exceeding safety standards for the environment or people living near the plant.

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4.0 DOSE ASSESSMENT FOR PLANT OPERATIONS

4.1 Regulatory Limits

Regulatory limits are detailed in station licensing documents: Technical Requirements Manual (TRM) and the Offsite Dose Calculation Manual (ODCM). These documents contain the limits to which WF3 must adhere. WF3 drives to maintain the philosophy to keep dose “as low as is reasonably achievable” (ALARA) and actions are taken to reduce the amount of radiation released to the environment. Liquid and gaseous release data show that the dose from WF3 is well below the ODCM/TRM limits. The instantaneous concentration of liquid radioactive material released shall be limited to ten times the concentration specified in 10 CFR 20, Appendix B, Table 2, Column 2, for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the total concentration released shall be limited to 2.0×10^{-4} microcuries/ml.

The annual whole body, skin and organ dose was computed using the 2025 source term using the dose calculation methodology provided in the ODCM. The calculated doses due to gaseous effluents are used to demonstrate compliance with offsite dose limits are presented in Table 1, Waterford 3 Dose Summary and Table 2, Total Annual Offsite-Dose Comparison to 40 CFR 190 Limits for WF3.

4.2 Regulatory Limits for Gaseous Effluent Doses:

1. Fission and activation gases:
 - a. Noble gases 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 the following:
 - 1) Less than or equal to 500 mrem/year to the total body
 - 2) Less than or equal to 3000 mrem/year to the skin
 - b. Noble gas air dose due to noble gases released in gaseous effluents, from each reactor unit, to areas at and beyond the site boundary shall be limited to the following:
 - 1) Quarterly
 - a) Less than or equal to 5 mrad gamma
 - b) Less than or equal to 10 mrad beta
 - 2) Yearly
 - a) Less than or equal to 10 mrad gamma
 - b) Less than or equal to 20 mrad beta

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4.2 (Continued)

2. Iodine, tritium, and all radionuclides in particulate form with half-lives greater than 8 days.
 - a. The dose rate for iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from the site to areas at and beyond the site boundary shall be limited to the following:
 - 1) Less than or equal to 1500 mrem/yr to any organ
 - b. The dose to a MEMBER OF THE PUBLIC from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 DAYS in gaseous effluents released to areas at and beyond the site boundary shall be limited to the following:
 - 1) Quarterly
 - a) Less than or equal to 7.5 mrem to any organ
 - 2) Yearly
 - a) Less than or equal to 15 mrem to any organ

4.3 Regulatory Limits for Liquid Effluent Doses

1. The dose or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released to unrestricted areas shall be limited to the following:
 - a. Quarterly
 - 1) Less than or equal to 1.5 mrem total body
 - 2) Less than or equal to 5 mrem critical organ
 - b. Yearly
 - 1) Less than or equal to 3 mrem total body
 - 2) Less than or equal to 10 mrem critical organ

4.4 40 CFR 190 Regulatory Dose Limits for a Member of the Public

1. Total Dose (40 CFR 190)
 - a. The annual (calendar year) dose or dose commitment to any MEMBER OF THE PUBLIC in the unrestricted area due to releases of radioactivity and to radiation from uranium fuel cycle sources shall be limited to the following:
 - 1) Less than or equal to 25 mrem, Total Body or any Organ except Thyroid.
 - 2) Less than or equal to 75 mrem, Thyroid.

4.5 Onsite Doses (Within Site Boundary)

WF3 classifies individuals within the site boundary as either occupationally exposed individuals or members of the public. This section evaluates dose to non-occupationally exposed workers and members of the public that may be onsite for various reasons. The report must include any other information as may be required by the Commission to estimate maximum potential annual radiation doses to the public resulting from airborne effluents, carbon-14, and direct shine as required by 10 CFR 50.36a(a)(2) (Technical Specifications on Effluents from Nuclear Power Reactors). While within controlled or restricted areas, the limits from Sections 4.1 through 4.4 do not apply; however, 10 CFR 20.1301 (Dose Limits for Individual Members of the Public) dose limit of 100 mrem per year TEDE and dose rate limit of 2 mrem per hour from external sources continue to apply. Occupancy times within the controlled areas are generally sufficiently low to compensate for increase in the atmospheric dispersion factor above the site boundary. Groups of concern include an employee at the Waterford 1 and 2 fossil fuel plants, located in the NW sector at a distance of approximately 670 meters (0.42 miles) from the reactor building. Use of a conservative assumption of 40 hours/week spent inside the site boundary by these groups conservatively represents the most-exposed individual.

Table 3, Onsite Doses (Within Site Boundary)

Location	Sector	Approx. Distance (Meters)	X/Q s/m ³	D/Q 1/m ²	Total Body Dose (mrem)		External Dose	Total
					Noble Gas	Iodine, Particulate, C-14, shine, & H-3	TLD or OSLD	
Waterford 1 and 2 fossil fuel plants	NW	670	5.50E-06	3.60E-08	4.45E-3	8.21E-1	0.00E+00	8.26E-1

Company: Entergy

Plant: Waterford 3

5.0 SUPPLEMENTAL INFORMATION**5.1 Gaseous Batch Releases**5.1.1 WF3

Number of batch releases	4
Total time period for a batch release	1540 minutes
Maximum time period for a batch release	770 minutes
Average time period for a batch release	385 minutes
Minimum time period for a batch release	20 minutes

5.2 Liquid Batch Releases5.2.1 WF3

Number of batch releases	77
Total time period for a batch release	22884 minutes
Maximum time period for a batch release	395 minutes
Average time period for a batch release	297.2 minutes
Minimum time period for a batch release	8 minute
Average total flow during period of release	2.38E+8 gpm

5.3 Abnormal Releases5.3.1 Gaseous Abnormal Releases

There were no abnormal releases during the reporting period.

Number of releases	0
Total activity released	None

5.3.2 Liquid Abnormal Releases

There was one abnormal release during the reporting period.

Number of releases	1
Total activity released	2.61E-6 Curies

5.4 Land Use Census Changes

A land use census performed in 2024 did not identify the need for any changes to locations being used for effluent dose calculations or radiological environmental sampling.

5.5 Meteorological Data

The USNRC Regulatory Guide 1.23 Revision 1 (Meteorological Monitoring Programs for Nuclear Power Plants) specifies that for each parameter collected, a 90 percent data recovery rate should be achieved for an annual collection cycle. Also, a joint recovery rate for parameters used in classifying atmospheric transport and diffusion values should be 90 percent. The Primary and Backup Towers provided 98.9% data recovery in 2025. This meets the greater than 90% requirement. An Annual Meteorological Monitoring Program Report is maintained on site and is available for review upon request. Attachment 3, Meteorological Data, provides information on the 2025 Joint Frequency Distributions and Classification of Atmospheric Stability.

5.6 Effluent Radiation Monitors Out of Service Greater Than 30 Days

Technical Requirements Manual (TRM) Specifications 3.3.3.10 and 3.3.3.11 require reporting in the Annual Radioactive Effluent Release Report of why designated inoperable effluent monitoring instrumentation was not restored to operability within the time specified in the Action Statement. Waterford 3 had multiple effluent radiation monitors inoperable greater than the 30 days specified in the action statement of the TRM 3.3.3.10 and 3.3.3.11; however, not all monitors that were inoperable greater than 30 days had TRM entries greater than 30 days. All Waterford 3 effluent radiation monitors that were inoperable for 30 days or more are listed below.

Effluent Radiation Monitor Name	Number of Days Out of Service	Date Range Out of Service	Reason Out of Service >30 Days	Additional Notes (ODCM or TS)
PRM-IRE-0648 Gaseous Waste Monitor Particulate Iodine and Gas (PIG)	964 as of 4/20/2026	8/30/2023 – Current	PMI calibration A source spacer may have been used for the primary calibration, while the vendor recommended methodology is to install source directly on the detector face (CR-WF3-2023-15326)	EOS 23-0369: TRM is only applicable during releases. Permit numbers documenting releases that occurred during the period of inoperability: W3GB2023-160, W3GB2023-163, W3GB2024-037, W3GB2024-042, W3GB2025-052

Company: Entergy

Plant: Waterford 3

Effluent Radiation Monitor Name	Number of Days Out of Service	Date Range Out of Service	Reason Out of Service >30 Days	Additional Notes (ODCM or TS)
PRM-IRE-6776 Dry Cooling Tower Sump 2	354	7/28/2024 – 7/17/2025	Broken Filter Housing (CR-WF3-2024- 03787), Wall piping leak on line 7WM1-362 (CR-WF3-2024-04315), Leak on line 7WM1-457 (CR-WF3-2025-00753), High rad contacts never had a voltage change (CR-WF3-2025-03408)	EOS 24-0307: Entered TRM the entire time of inoperability.
PRM-IRE-5107A Fuel Handling Building (FHB) PIG A	519	9/4/2023 – 2/4/2025	PMI calibration The board inside the process flow probe failed (CR-WF3-2023-15394)	EOS 23-0382: TRM entry is not required with FHB PIG B exhaust in service. Multiple planned TRM entries were made for FHB PIG B maintenance and when weekly filter replacement on FHB B was completed. Multiple unplanned TRM entries were made for site RM-11 issues
PRM-IRE-5107B FHB PIG B	61	1/24/2025 – 3/26/2025	PMI calibration No process flow (CR-WF3-2025-01086), Monitor/channel items in the master database of MI-003-368 did not match the RM-11 printout (CR-WF3-2025-00241), Background was found high out of tolerance (CR-WF3-2025-00257), Broken check source assembly (CR-WF3-2025-01052)	EOS 25-0023: Planned TRM entry for calibration. Chemistry installed alternate sampling until FHB A was declared operable on 2/4/2025. Multiple planned TRM entries were made from 2/4/2025 through 3/26/2025 for weekly filter replacement on FHB A.
PRM-IRE-0002 Main Condenser Evacuation (MCES) Wide Range Gas Monitor (WRGM)	33	4/26/2025 – 5/29/2025	Refuel 26 Work	EOS 25-0152: TRM is not applicable when MCES is not under vacuum. Planned TRM entry when plant entered Mode 4 on 5/28/2025.

Company: Entergy

Plant: Waterford 3

Effluent Radiation Monitor Name	Number of Days Out of Service	Date Range Out of Service	Reason Out of Service >30 Days	Additional Notes (ODCM or TS)
PRM-IRE-0100.2 Plant Stack (PS) PIG B	74	5/25/2025 – 8/7/2025	Gas Channel Shows No Pulses Received (CR-WF3-2025-02536) Gas channel was reading above alarm setpoint (CR-WF3-2025-03395), Detector may also be failing (CR-WF3-2025-02565), Documenting changing of channel item 15 (CR-WF3-2025-02603), Channel 1 item 15 needs to be updated (CR-WF3-2025-03345)	EOS 25-0294: No TRM entry required with PS PIG A Noble Gas operable. Multiple planned TRM entries were made for weekly filter replacement and planned maintenance on PS A.
PRM-IRE-0100.2 PS PIG B	58	11/24/2025 – 1/21/2026	PMI Calibration PRMMVAAA009-105 broken actuator (CR-WF3-2025-05320), Loss of Flow Control (CR-WF3-2025-05347)	EOS 25-0504: No TRM entry required with PS PIG A Noble Gas operable. Unplanned TRM entry made from 11/25/2025 through 12/10/2025 (CR-WF3-2025-05309) for PS PIG A going inoperable for loss of process flow. Multiple planned TRM entries were made for weekly filter replacement and planned maintenance on PS A.

5.7 Offsite Dose Calculation Manual (ODCM) Changes

There were no changes to the Offsite Dose Calculation Manual, UNT-005-014, in 2025.

5.8 Process Control Program (PCP) Changes

There were no changes to the Process Control Program, EN-RW-105, in 2025.

5.9 Radioactive Waste Treatment System Changes

During the reporting period, no major changes were made to any Radioactive Waste Systems. All major changes to Radioactive Waste Systems are included in Waterford 3's FSAR updates.

Company: Entergy**Plant: Waterford 3****5.10 Other Supplemental Information****5.10.1 Unprotected Outside Storage Tank Radioactivity Limit**

Technical Specification 3/4.11.1.4 specifies that the quantity of radioactivity contained in each unprotected outdoor storage tank be maintained less than or equal to 7.85E-04 Curies (excluding tritium and dissolved and entrained noble gases). At no time during the reporting period was this value exceeded.

5.10.2 Gaseous Storage Tank Total Radioactivity Limit

Technical Specification 3/4.11.2.6 specifies that the quantity of radioactivity contained in each gas storage tank be maintained less than or equal to 8.5E+04 Curies noble gas (considered as Xe-133 equivalent). At no time during the reporting period was this value exceeded.

5.10.3 Non-Routine Planned Discharges

There were no non-routine planned discharges for the reporting period.

5.10.4 Unavailability of REMP Milk Samples

Due to the unavailability of three milk sampling locations within five kilometers of the plant, Broad Leaf sampling is performed in accordance with Technical Requirements Manual (TRM) Table 3.12-1. The collection of milk occurred until 6/15/2021 when revision 308 of the ODCM became effective at WF3 after the owner of the cows at location MKE-3 got rid of all milking cows and after the 2020 land use census was performed. Before 6/15/2021, milk was collected, when available, from the control location and one identified sampling location as indicated in UNT-005-014, Offsite Dose Calculation Manual, Attachment 13.

Company: Entergy**Plant: Waterford 3**

5.10.5 Activity Released Via Secondary Pathways

The following secondary release paths were continuously monitored for radioactivity:

- The Hot Machine Shop Exhaust (AH-35)
- Decontamination Shop Exhaust (AH-34)
- The RAB H&V Equipment Room Ventilation System Exhaust (E-41A and E-41B)
- The Switchgear/Cable Vault Area Ventilation System (AH-25)

Continuous sampling for these areas is maintained to demonstrate the operability of installed treatment systems and to verify integrity of barriers separating primary and secondary ventilation systems. Sampling for these areas was limited to continuous particulate and iodine sampling and monthly noble gas grab sampling. The activity released via these secondary pathways resulted from routine operations and remained below significant levels, with one positive iodine result on E41B (1.61E-13uCi/cc). This result is documented through CR-WF3-2025-04938.

5.10.6 Missed or Late for Radioactive Effluent Program Samples or Analysis

There were two missed Radioactive Effluent Program sample requirements during the calendar year 2025.

The first TRM violation was a weekly Fuel Handling Building (FHB) tritium (documented in CR-WF3-2025-01604). The tritium sampled on 4/15/2025 at 1107 was completed on the wrong train. The sample was taken from FHB PIG A when the A train was not running. The sample was supposed to be pulled on FHB PIG B. This results in a TRM violation due to a missed tritium weekly sample as required by TRM Table 4.11-2, Radioactive Gaseous Waste Sampling and Analysis Program.

The second TRM violation (documented in CR-WF3-2025-03202) was on the PS A Gross Alpha analysis for the 5/20/25 0746 through 5/27/25 1034 sample. This sample analysis was not performed within the required 10 days after changing or removal from sampler as required by TRM Table 4.11-2, Radioactive Gaseous Waste Sampling and Analysis Program, resulting in a missed TRM sample.

5.10.7 Reactor Coolant System Average Energy (E-Bar)

Reactor Coolant System E-Bar calculations were performed on 2/5/2025 and 8/6/2025 with values of 0.0385 and 0.0988 MeV/disintegration, respectively. Reactor Coolant System E-Bar is supplied for information only and is not used for effluent dose calculations.

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Company: Entergy	Plant: Waterford 3	

5.10.8 Carbon-14

Carbon-14 (C-14) is a naturally occurring radionuclide with a 5,730-year half-life. Nuclear weapons testing in the 1950s and 1960s significantly increased the amount of C-14 in the atmosphere. Nuclear power plants also produce C-14, but the amount is infinitesimal compared to what has been distributed in the environment due to weapons testing and what is produced by natural cosmic ray interactions.

In accordance with Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactive Material in Liquid and Gaseous Effluents and Solid Waste," the NRC recommended re-evaluating "principal radionuclides" and reporting C-14 as appropriate. Carbon-14 production and release estimates were calculated using active core coolant mass, average neutron flux by energy and reactor coolant nitrogen concentrations to determine Carbon-14 generation based upon an effective full power year. The estimated generation for Waterford 3 during 2025 was 9.53E+00 Curies.

Public dose estimates were performed using methodology from the ODCM which is based on Regulatory Guide 1.109 methodology.

5.10.9 Errata/Corrections to Previous ARERRs

Through investigation from a Pre-NRC Assessment (tracked through LO-WF3-2025-00039), Waterford 3 found the 2023 ARERR Table 5, Batch Mode Liquid Effluents, has Kr-85m in the Fission and Activation product section. Kr-85m should be in the Entrained Dissolved gas section in the lower part of the table. The concentration was low enough that it did not have an impact on the total for the period. Kr-85m was moved from the Fission and Activation section of Table 5 to the dissolved gas section. A snip of the corrected page 22 of the 2023 ARERR is shown below.

Through investigation from a Pre-NRC Assessment (tracked through LO-WF3-2025-00039), Waterford 3 found that incorrect gaseous dose data was submitted in the 2023 Annual Radiological Effluent Report (ARERR), Table 11, Dose Assessment – Waterford 3. When transferring the data, the wrong data was entered into the table. A snip of the corrected page 27 of the 2023 ARERR is shown below.

Through investigation from a Pre-NRC Assessment (tracked through LO-WF3-2025-00039), Waterford 3 found that incorrect dose data was submitted in the 2024 Annual Radiological Effluent Report (ARERR), Table 3, Onsite Doses (Within Site Boundary). The calculation was reviewed and the value 20.6 is the summation of the Curie release of each radionuclide and not the dose. A snip of the corrected page 16 of the 2024 ARERR is shown below.

While creating the 2025 ARERR, it was noticed that PRM-IRE-5107A, Fuel Handling Building (FHB) PIG A, was not listed in Section 5.6, Effluent Radiation Monitors Out of Service Greater than 30 Days. FHB PIG A went out of service on 9/4/2023 and remained out of service until 2/4/2025. This inoperability was reported in the 2023 ARERR but was missed when transferring data to the new NISP format. TRM entry was not required with FHB PIG B exhaust in service. A snip of the corrected page 20 of the 2024 ARERR is shown below.

Table 5, Batch Mode Liquid Effluents -Waterford 3

Nuclides Released	Unit	Batch Mode				Total
		Quarter 1	Quarter 2	Quarter 3	Quarter 4	
Ag-110m	Ci	1.95E-05	1.13E-04	6.00E-06	0.00E+00	1.39E-04
Br-82	Ci	0.00E+00	0.00E+00	3.05E-06	0.00E+00	3.05E-06
Co-57	Ci	0.00E+00	5.21E-06	0.00E+00	2.08E-04	2.13E-04
Co-58	Ci	3.91E-05	2.30E-04	1.07E-05	1.58E-04	4.38E-04
Co-60	Ci	2.25E-04	3.62E-03	4.55E-04	7.86E-04	5.09E-03
Cr-51	Ci	0.00E+00	0.00E+00	0.00E+00	5.09E-04	5.09E-04
Cs-137	Ci	0.00E+00	0.00E+00	2.01E-06	0.00E+00	2.01E-06
Cs-138	Ci	0.00E+00	8.12E-06	0.00E+00	0.00E+00	8.12E-06
Fe-55	Ci	0.00E+00	0.00E+00	1.72E-03	7.84E-04	2.50E-03
Fe-59	Ci	0.00E+00	0.00E+00	0.00E+00	1.05E-05	1.05E-05
H-3	Ci	2.26E+01	1.21E+02	3.99E+02	5.36E+02	1.08E+03
I-132	Ci	0.00E+00	0.00E+00	0.00E+00	7.26E-05	7.26E-05
Mn-54	Ci	2.37E-05	3.41E-04	2.73E-05	5.52E-05	4.47E-04
Nb-95	Ci	3.51E-05	2.22E-04	0.00E+00	2.37E-05	2.81E-04
Np-239	Ci	0.00E+00	0.00E+00	0.00E+00	2.22E-04	2.22E-04
Sb-122	Ci	0.00E+00	0.00E+00	0.00E+00	1.30E-05	1.30E-05
Sb-124	Ci	1.95E-05	0.00E+00	0.00E+00	5.65E-04	5.85E-04
Sb-125	Ci	6.38E-04	1.35E-04	2.09E-06	2.74E-03	3.52E-03
Sb-126	Ci	0.00E+00	0.00E+00	0.00E+00	3.43E-05	3.43E-05
Sc-46	Ci	0.00E+00	0.00E+00	0.00E+00	3.55E-06	3.55E-06
Sn-113	Ci	0.00E+00	8.10E-06	0.00E+00	0.00E+00	8.10E-06
Sn-125	Ci	0.00E+00	0.00E+00	0.00E+00	4.92E-06	4.92E-06
Te-123m	Ci	0.00E+00	0.00E+00	0.00E+00	6.75E-05	6.75E-05
Tc-99m	Ci	0.00E+00	0.00E+00	0.00E+00	1.13E-06	1.13E-06
Zn-65	Ci	0.00E+00	8.78E-05	0.00E+00	9.89E-06	9.77E-05
Zr-95	Ci	1.62E-05	9.15E-05	0.00E+00	1.25E-05	1.20E-04
Total for Period	Ci	2.26E+01	1.21E+02	3.99E+02	5.36E+02	1.08E+03
Kr-85M	Ci	0.00E+00	0.00E+00	7.22E-07	0.00E+00	7.22E-07
Xe-133	Ci	2.16E-04	1.46E-05	8.58E-05	2.13E-03	2.45E-03
Xe-135	Ci	0.00E+00	0.00E+00	0.00E+00	3.68E-06	3.68E-06
Xe-138	Ci	0.00E+00	0.00E+00	0.00E+00	7.62E-06	7.62E-06
Total for Period	Ci	2.16E-04	1.46E-05	8.65E-05	2.14E-03	2.46E-03

6.0 RADIOLOGICAL IMPACT TO MAN

6.1 10CFR Part50, Appendix I Evaluation

Table 11, Dose Assessment – Waterford 3

	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Annual
Liquid Effluent Dose Limit, Total Body	1.5 mrem	1.5 mrem	1.5 mrem	1.5 mrem	3 mrem
Total Body Dose (mrem)	6.41E-05	1.07E-04	2.72E-04	5.96E-04	1.04E-03
% of Limit	4.27E-03	7.13E-03	1.81E-02	3.97E-02	3.47E-02
Liquid Effluent Dose Limit, Any Organ	5 mrem	5 mrem	5 mrem	5 mrem	10 mrem
Maximum Organ Dose (mrem)	7.30E-05	2.25E-04	2.80E-04	6.77E-04	1.26E-03
% of Limit	1.46E-03	4.50E-03	5.60E-03	1.35E-02	1.26E-02
Gaseous Effluent Dose Limit, Gamma Air	5 mrad	5 mrad	5 mrad	5 mrad	10 mrad
Gamma Air Dose (mrad)	1.87E-06	0.00E+00	3.86E-04	8.37E-04	1.23E-03
% of Limit	3.74E-05	0.00E+00	7.72E-03	1.67E-02	1.23E-02
Gaseous Effluent Dose Limit, Beta Air	10 mrad	10 mrad	10 mrad	10 mrad	20 mrad
Beta Air Dose (mrad)	5.57E-06	0.00E+00	1.43E-04	3.47E-04	4.96E-04
% of Limit	5.57E-05	0.00E+00	1.43E-03	3.47E-03	2.48E-03
Gaseous Effluent Organ Dose Limit (Iodine, Tritium, Particulates with > 8 day half-life)	7.5 mrem	7.5 mrem	7.5 mrem	7.5 mrem	15 mrem
Gaseous Effluent Organ Dose (Iodine, Tritium, Particulates with > 8 day half-life) (mrem)	5.04E-03	2.12E-03	2.35E-03	3.67E-03	1.32E-02
% of Limit	6.72E-02	2.83E-02	3.13E-02	4.89E-02	8.80E-02

4.4 40 CFR 190 Regulatory Dose Limits for a Member of the Public

1. Total Dose (40 CFR 190)
 - a. The annual (calendar year) dose or dose commitment to any MEMBER OF THE PUBLIC in the unrestricted area due to releases of radioactivity and to radiation from uranium fuel cycle sources shall be limited to the following:
 - 1) Less than or equal to 25 mrem, Total Body or any Organ except Thyroid.
 - 2) Less than or equal to 75 mrem, Thyroid.

4.5 Onsite Doses (Within Site Boundary)

WF3 classifies individuals within the site boundary as either occupationally exposed individuals or members of the public. This section evaluates dose to non-occupationally exposed workers and members of the public that may be onsite for various reasons. The report must include any other information as may be required by the Commission to estimate maximum potential annual radiation doses to the public resulting from airborne effluents, carbon-14, and direct shine as required by 10 CFR 50.36a(a)(2). While within controlled or restricted areas, the limits from Sections 4.1 through 4.4 do not apply; however, 10 CFR 20.1301 dose limit of 100 mrem per year TEDE and dose rate limit of 2 mrem per hour from external sources continue to apply. Occupancy times within the controlled areas are generally sufficiently low to compensate for increase in the atmospheric dispersion factor above the site boundary. Groups of concern include an employee at the Waterford 1 and 2 fossil fuel plants, located in the NW sector at a distance of approximately 670 meters (0.42 miles) from the reactor building. Use of a conservative assumption of 40 hours/week spent inside the site boundary by these groups conservatively represents the most-exposed individual.

Table 3, Onsite Doses (Within Site Boundary)

Location	Sector	Approx. Distance (Meters)	X/Q s/m ³	D/Q 1/m ²	Total Body Dose (mrem)		External Dose	Total
					Noble Gas	Iodine, Particulate, C-14 & H-3	TLD or OSLD	
Waterford 1 and 2 fossil fuel plants	NW	670	9.80E-06	6.40E-08	1.60E-04	1.07E+00	0.00E+00	1.07E+00

Effluent Radiation Monitor Name	Number of Days Out of Service	Date Range Out of Service	Reason Out of Service >30 Days	Additional Notes (ODCM or TS)
PRM-IRE-5107A Fuel Handling Building (FHB) PIG A	519	9/4/2023 – 2/4/2025	PMI calibration, CR-WF3-2023-15394	EOS 23-0382: TRM entry is not required with FHB PIG B exhaust in service. Multiple planned TRM entries were made for FHB PIG B maintenance and when weekly filter replacement on FHB B was completed. Multiple unplanned TRM entries were made for site RM-11 issues

5.7 Offsite Dose Calculation Manual (ODCM) Changes

There were no changes to the Offsite Dose Calculation Manual, UNT-005-014, in 2024.

5.8 Process Control Program (PCP) Changes

There were no changes to the Process Control Program, EN-RW-105, in 2024.

5.9 Radioactive Waste Treatment System Changes

During the reporting period, no major changes were made to any Radioactive Waste Systems. All major changes to Radioactive Waste Systems are included in Waterford 3's FSAR updates.

5.10 Other Supplemental Information

5.10.1 Unprotected Outside Storage Tank Radioactivity Limit

Technical Specification 3/4.11.1.4 specifies that the quantity of radioactivity contained in each unprotected outdoor storage tank be maintained less than or equal to 7.85E-04 Curies (excluding tritium and dissolved and entrained noble gases). At no time during the reporting period was this value exceeded.

5.10.2 Gaseous Storage Tank Total Radioactivity Limit

Technical Specification 3/4.11.2.6 specifies that the quantity of radioactivity contained in each gas storage tank be maintained less than or equal to 8.5E+04 Curies noble gas (considered as Xe-133 equivalent). At no time during the reporting period was this value exceeded.

5.10.3 Non-Routine Planned Discharges

There were no non-routine planned discharges for the reporting period.

6.0 NEI 07-07 ONSITE RADIOLOGICAL GROUNDWATER MONITORING PROGRAM

Waterford 3 has developed a Groundwater Protection Initiative (GPI) program in accordance with NEI 07-07, Industry Ground Water Protection Initiative – Final Guidance Document [9]. The purpose of the GPI is to ensure timely detection and an effective response to situations involving inadvertent radiological releases to groundwater in order to prevent migration of licensed radioactive material off-site and to quantify impacts on decommissioning. During 2025, WF3 collected and analyzed groundwater samples in accordance with the requirements of EN-CY-111, Radiological Groundwater Protection Program.

This section is included in this report to communicate results of NEI 07-07 Radiological Groundwater Monitoring Program. Monitoring wells installed as part of GPI program are sampled and analyzed as summarized in Table 4, Groundwater Protection Program Monitoring Well Sample Schedule. In addition to reporting results from NEI 07-07 monitoring wells, voluntary communications to offsite governmental agencies for onsite leaks or spills per NEI 07-07 Objective 2.2, are also reported as part of this report. It is important to note, samples and results taken in support of NEI 07-07 groundwater monitoring program are not part of the Radiological Environmental Monitoring Program (REMP) but should be reported as part of ARERR.

Table 4, Groundwater Protection Program Monitoring Well Sample Schedule

Well Name	Tritium	Gamma	HTD	Alpha Emitters
Monitoring Well #3	Quarterly	Quarterly	If tritium or plant-related gamma activity is present	If tritium or plant-related gamma activity is present
Monitoring Well #4	Quarterly	Quarterly	If tritium or plant-related gamma activity is present	If tritium or plant-related gamma activity is present
Monitoring Well #5	Quarterly	Quarterly	If tritium or plant-related gamma activity is present	If tritium or plant-related gamma activity is present
Monitoring Well #6	Quarterly	Quarterly	If tritium or plant-related gamma activity is present	If tritium or plant-related gamma activity is present
Monitoring Well #7	Quarterly	Quarterly	If tritium or plant-related gamma activity is present	If tritium or plant-related gamma activity is present
Monitoring Well #8	Quarterly	Quarterly	If tritium or plant-related gamma activity is present	If tritium or plant-related gamma activity is present
Monitoring Well #9	Quarterly	Quarterly	If tritium or plant-related gamma activity is present	If tritium or plant-related gamma activity is present
Monitoring Well #10	Quarterly	Quarterly	If tritium or plant-related gamma activity is present	If tritium or plant-related gamma activity is present
Monitoring Well #11	Quarterly	Quarterly	If tritium or plant-related gamma activity is present	If tritium or plant-related gamma activity is present
Monitoring Well #12	Quarterly	Quarterly	If tritium or plant-related gamma activity is present	If tritium or plant-related gamma activity is present

The 2025 Radiological Groundwater Monitoring Program results are summarized in Table 5, Groundwater Protection Program Monitoring Well Results. All results were less than minimum detectable activity for gamma emitters and tritium during 2025.

Table 5, Groundwater Protection Program Monitoring Well Results⁵
(all results reported in pCi/L)

Monitoring Well #3														
Sample Date and Time	Number of Positive Detections	Tritium	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
2/18/2025 7:50	0	< 574	< 4.70	< 4.82	< 9.98	< 6.62	< 10.90	< 5.43	< 9.24	< 8.13	< 4.64	< 5.20	< 25.70	< 7.74
5/6/2025 10:25	0	< 507	< 7.24	< 6.25	< 12.60	< 6.99	< 16.50	< 6.49	< 12.00	< 8.72	< 6.89	< 7.31	< 26.50	< 10.20
8/13/2025 14:55	0	< 532	< 8.18	< 7.65	< 19.40	< 11.30	< 15.20	< 8.60	< 13.60	< 13.10	< 8.94	< 8.12	< 37.70	< 12.40
11/19/2025 10:20	0	< 550	< 7.32	< 6.63	< 17.90	< 6.65	< 15.10	< 7.62	< 11.80	< 12.10	< 9.63	< 9.17	< 36.90	< 8.84
Monitoring Well #4														
Sample Date and Time	Number of Positive Detections	Tritium	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
2/18/2025 8:50	0	< 585	< 4.07	< 5.04	< 12.50	< 7.66	< 9.17	< 5.89	< 8.47	< 9.21	< 5.75	< 6.34	< 27.80	< 7.36
5/6/2025 9:10	0	< 513	< 8.18	< 8.59	< 13.10	< 8.95	< 16.50	< 6.44	< 13.10	< 9.15	< 8.88	< 8.40	< 29.30	< 10.20
8/13/2025 13:45	0	< 539	< 6.72	< 7.88	< 11.60	< 7.99	< 14.10	< 8.13	< 11.60	< 10.30	< 8.98	< 7.60	< 35.80	< 12.80
11/18/2025 16:40	0	< 549	< 5.60	< 6.47	< 14.30	< 6.19	< 19.00	< 8.49	< 13.00	< 8.91	< 7.80	< 8.93	< 33.40	< 12.90
Monitoring Well #5														
Sample Date and Time	Number of Positive Detections	Tritium	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
2/18/2025 9:55	0	< 602	< 5.67	< 5.09	< 10.60	< 6.15	< 11.90	< 5.98	< 9.30	< 7.75	< 5.91	< 4.72	< 24.30	< 9.44
5/6/2025 8:25	0	< 506	< 8.17	< 7.41	< 16.80	< 8.74	< 17.80	< 8.00	< 13.40	< 9.84	< 7.77	< 7.77	< 21.60	< 11.20
8/13/2025 12:25	0	< 539	< 7.55	< 8.82	< 15.50	< 9.22	< 16.70	< 10.40	< 14.20	< 13.50	< 7.66	< 8.91	< 40.40	< 14.20
11/18/2025 12:20	0	< 554	< 5.63	< 7.32	< 13.00	< 10.10	< 15.70	< 5.33	< 8.49	< 11.30	< 9.26	< 6.10	< 36.40	< 10.80

⁵ Maximum concentrations for each well are **BOLDED** throughout the table.

Table 5, Groundwater Protection Program Monitoring Well Results⁵
(all results reported in pCi/L)

Monitoring Well #6														
Sample Date and Time	Number of Positive Detections	Tritium	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
2/18/2025 12:10	0	< 590	< 5.23	< 6.46	< 9.64	< 4.77	< 13.30	< 5.64	< 8.92	< 8.96	< 5.45	< 6.20	< 24.70	< 9.65
5/5/2025 18:25	0	< 505	< 6.10	< 5.42	< 12.80	< 6.69	< 8.73	< 6.25	< 12.60	< 7.85	< 7.12	< 5.91	< 23.50	< 7.60
8/13/2025 11:15	0	< 543	< 6.72	< 7.07	< 15.60	< 9.57	< 13.30	< 7.12	< 10.50	< 11.70	< 8.28	< 8.16	< 28.90	< 11.80
11/18/2025 11:25	0	< 553	< 6.89	< 7.20	< 17.90	< 8.55	< 15.20	< 6.86	< 10.90	< 11.30	< 7.63	< 8.70	< 32.70	< 11.80
Monitoring Well #7														
Sample Date and Time	Number of Positive Detections	Tritium	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
2/17/2025 17:25	0	< 589	< 4.10	< 4.45	< 8.30	< 5.27	< 8.97	< 4.49	< 8.51	< 8.10	< 5.04	< 4.32	< 21.80	< 9.04
5/5/2025 17:05	0	< 510	< 8.41	< 5.76	< 12.60	< 13.0	< 17.70	< 6.53	< 9.83	< 11.00	< 6.61	< 8.67	< 25.90	< 5.04
8/13/2025 10:10	0	< 528	< 7.83	< 5.75	< 15.90	< 8.35	< 15.00	< 8.46	< 13.70	< 11.80	< 7.93	< 8.44	< 34.90	< 11.50
11/18/2025 15:30	0	< 558	< 6.13	< 5.97	< 10.80	< 8.64	< 9.78	< 6.53	< 8.03	< 8.27	< 5.05	< 6.72	< 22.80	< 9.17
Monitoring Well #8														
Sample Date and Time	Number of Positive Detections	Tritium	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
2/18/2025 11:10	0	< 572	< 6.33	< 7.28	< 14.10	< 6.61	< 16.10	< 7.04	< 12.70	< 12.30	< 7.61	< 6.09	< 32.50	< 12.00
5/5/2025 16:05	0	< 494	< 8.06	< 5.86	< 12.10	< 7.50	< 13.50	< 6.57	< 10.40	< 7.10	< 7.72	< 7.59	< 28.50	< 9.91
5/5/2025 16:15 DUP	0	< 503	< 7.85	< 5.95	< 14.80	< 6.66	< 14.70	< 7.81	< 14.10	< 11.00	< 6.59	< 7.81	< 27.10	< 7.66
8/13/2025 9:25	0	< 534	< 9.10	< 6.50	< 16.60	< 9.60	< 19.50	< 8.49	< 14.20	< 13.00	< 8.84	< 8.52	< 35.30	< 13.40
11/18/2025 10:50	0	< 570	< 6.60	< 7.54	< 15.10	< 8.54	< 16.40	< 8.06	< 9.57	< 10.80	< 7.22	< 7.36	< 35.10	< 10.80

Table 5, Groundwater Protection Program Monitoring Well Results⁵
(all results reported in pCi/L)

Monitoring Well #9														
Sample Date and Time	Number of Positive Detections	Tritium	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
2/18/2025 13:30	0	< 585	< 1.59	< 1.79	< 3.79	< 2.19	< 3.22	< 1.78	< 2.96	< 2.90	< 1.62	< 1.49	< 7.62	< 3.18
5/5/2025 15:15	0	< 509	< 9.70	< 5.18	< 16.20	< 7.51	< 18.50	< 8.62	< 12.70	< 8.81	< 8.26	< 7.54	< 31.60	< 11.60
8/12/2025 16:55	0	< 532	< 6.95	< 6.38	< 12.20	< 10.60	< 15.50	< 7.33	< 13.20	< 13.50	< 9.60	< 6.92	< 41.00	< 13.20
8/12/2025 17:05 DUP	0	< 542	< 7.29	< 9.89	< 18.40	< 9.01	< 12.90	< 8.52	< 12.10	< 11.10	< 9.35	< 8.43	< 41.90	< 13.90
11/18/2025 9:40	0	< 565	< 7.38	< 5.19	< 15.00	< 7.32	< 12.00	< 6.91	< 7.89	< 10.80	< 6.75	< 7.14	< 30.60	< 12.80
11/18/2025 9:50 DUP	0	< 541	< 5.04	< 6.10	< 15.20	< 5.75	< 12.70	< 5.99	< 8.74	< 9.53	< 6.86	< 5.61	< 27.10	< 9.89
Monitoring Well #10														
Sample Date and Time	Number of Positive Detections	Tritium	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
2/18/2025 14:20	0	< 574	< 5.87	< 6.29	< 13.30	< 6.98	< 16.20	< 6.97	< 9.72	< 8.87	< 7.98	< 5.93	< 27.60	< 10.60
2/18/2025 14:40 DUP	0	< 575	< 4.76	< 5.84	< 9.86	< 5.28	< 11.10	< 5.14	< 8.42	< 9.21	< 5.33	< 5.38	< 25.60	< 5.44
5/5/2025 14:20	0	< 514	< 7.07	< 7.24	< 12.50	< 9.11	< 14.60	< 8.27	< 14.70	< 9.03	< 8.45	< 8.59	< 27.80	< 10.60
8/12/2025 14:45	0	< 530	< 7.70	< 6.95	< 18.40	< 9.39	< 17.20	< 7.88	< 12.20	< 13.90	< 8.13	< 7.61	< 39.20	< 8.25
11/18/2025 12:05	0	< 567	< 6.59	< 9.10	< 16.50	< 9.02	< 16.50	< 6.34	< 14.50	< 12.40	< 9.13	< 8.41	< 34.30	< 12.10
Monitoring Well #11														
Sample Date and Time	Number of Positive Detections	Tritium	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
2/18/2025 15:45	0	< 588	< 5.42	< 5.51	< 12.10	< 6.39	< 12.80	< 6.13	< 11.40	< 7.45	< 6.80	< 5.50	< 22.90	< 10.20
5/5/2025 12:50	0	< 506	< 8.25	< 9.04	< 21.60	< 12.7	< 17.20	< 8.45	< 13.90	< 11.00	< 12.3	< 8.29	< 32.90	< 13.00
8/12/2025 15:30	0	< 528	< 5.52	< 7.12	< 9.72	< 7.00	< 14.30	< 5.59	< 13.40	< 11.20	< 6.57	< 6.31	< 29.70	< 14.40
11/18/2025 14:00	0	< 561	< 6.06	< 6.28	< 13.00	< 9.04	< 13.90	< 6.38	< 12.20	< 9.77	< 6.95	< 5.78	< 27.20	< 12.40

Table 5, Groundwater Protection Program Monitoring Well Results⁵
(all results reported in pCi/L)

Monitoring Well #12														
Sample Date and Time	Number of Positive Detections	Tritium	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
2/17/2025 16:20	0	< 583	< 3.55	< 3.42	< 7.05	< 4.13	< 8.11	< 3.56	< 6.50	< 5.79	< 4.14	< 3.21	< 16.80	< 6.43
5/5/2025 11:45	0	< 511	< 7.47	< 7.13	< 13.40	< 8.06	< 13.70	< 8.14	< 13.00	< 10.20	< 8.57	< 8.36	< 30.00	< 11.10
8/12/2025 13:30	0	< 535	< 6.69	< 4.10	< 17.80	< 8.50	< 13.20	< 7.72	< 11.60	< 13.40	< 8.05	< 7.13	< 26.10	< 9.66
11/19/2025 9:10	0	< 553	< 6.96	< 8.06	< 20.90	< 8.55	< 17.60	< 9.50	< 14.60	< 13.70	< 9.10	< 8.28	< 36.70	< 13.50

6.1 Voluntary Notification

During 2025, Waterford 3 did not make a voluntary NEI 07-07 notification to State/Local officials, NRC, and to other stakeholders required by site procedures.

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Company: Entergy	Plant: Waterford 3	

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Attachment 1, ARERR Release Summary Tables (RG-1.21 Tables)

1.0 GASEOUS EFFLUENTS

Table 6, Gaseous Effluents Summation of All Releases WF3⁶

A.	Fission & Activation Gases	Units	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Est. Total Error %
1.	Total Release	Ci	6.26E-02	2.23E+00	0.00E+00	0.00E+00	2.50E+01
2.	Average release rate for the period	μCi/sec	8.04E-03	2.83E-01	0.00E+00	0.00E+00	

B.	Iodine						
1.	Total Iodine – 131	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.50E+01
2.	Average release rate for the period	μCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

C.	Particulates						
1.	Particulates with half-lives > 8 days	Ci	2.14E-06	3.77E-06	1.61E-07	1.69E-07	2.50E+01
2.	Average release rate for the period	μCi/sec	2.76E-07	4.80E-07	2.03E-08	2.13E-08	

D.	Tritium						
1.	Total Release	Ci	1.92E+01	1.55E+01	1.23E+01	8.97E+00	2.50E+01
2.	Average release rate for the period	μCi/sec	2.47E+00	1.97E+00	1.54E+00	1.13E+00	

E.	Gross Alpha						
1.	Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.50E+01
2.	Average release rate for the period	μCi/sec	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

F.	Carbon-14						
1.	Total Release	Ci	2.83E+00	1.03E+00	2.83E+00	2.83E+00	
2.	Average release rate for the period	μCi/sec	3.64E-01	1.31E-01	3.56E-01	3.56E-01	

⁶ % of limit is provided in Table 1, Waterford 3 Dose Summary

Company: Entergy

Plant: Waterford 3

Table 7, Gaseous Effluents – Ground Level Release Batch Mode WF3

Radionuclide Released	Units	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total for year
Fission Gases						
Ar-41	Ci	5.80E-02	2.66E-01	0.00E+00	0.00E+00	3.24E-01
Xe-133	Ci	4.51E-03	3.89E-02	0.00E+00	0.00E+00	4.34E-02
Total for Period	Ci	6.25E-02	3.05E-01	0.00E+00	0.00E+00	3.68E-01
Iodines						
Total for Period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulates						
Total for Period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tritium						
H-3	Ci	1.11E-01	2.55E-01	0.00E+00	0.00E+00	3.66E-01
Gross Alpha						
Alpha	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Company: Entergy

Plant: Waterford 3

Table 8, Gaseous Effluents – Ground Level Release Continuous Mode WF3

Radionuclide Released	Units	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total for year
Fission Gases						
Ar-41	Ci	0.00E+00	1.79E+00	0.00E+00	0.00E+00	1.79E+00
Xe-133	Ci	0.00E+00	1.34E-01	0.00E+00	0.00E+00	1.34E-01
Total for Period	Ci	0.00E+00	1.92E+00	0.00E+00	0.00E+00	1.92E+00
Iodines						
Total for Period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulates						
Co-58	Ci	0.00E+00	1.80E-07	0.00E+00	0.00E+00	1.80E-7
Co-60	Ci	7.95E-07	6.77E-07	1.61E-07	1.69E-07	1.80E-6
Cr-51	Ci	0.00E+00	1.28E-06	0.00E+00	0.00E+00	1.28E-06
Cs-137	Ci	1.35E-06	6.64E-08	0.00E+00	0.00E+00	1.42E-06
Nb-95	Ci	0.00E+00	1.14E-07	0.00E+00	0.00E+00	1.14E-07
Os-191	Ci	0.00E+00	1.45E-06	0.00E+00	0.00E+00	1.45E-06
Total for Period	Ci	2.14E-06	3.77E-06	1.61E-07	1.69E-07	6.24E-06
Tritium						
H-3	Ci	1.91E+01	1.53E+01	1.23E+01	8.97E+00	5.57E+01
Gross Alpha						
Alpha	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Carbon-14						
C-14	Ci	2.83E+00	1.03E+00	2.83E+00	2.83E+00	9.52E+00

Company: Entergy

Plant: Waterford 3

2.0 LIQUID EFFLUENTS

Table 9, Liquid Effluents – Summation of All Releases WF3 ⁷

A.	Fission & Activation Products	Units	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Est. Total Error %
1.	Total Release	Ci	2.72E-03	8.48E-03	4.22E-03	7.89E-04	2.50E+01
2.	Average diluted concentration	μCi/mL	7.77E-11	1.14E-10	6.80E-11	2.75E-11	

B.	Tritium						
1.	Total Release	Ci	4.72E+01	1.64E+02	8.43E+01	5.25E+01	2.50E+01
2.	Average diluted concentration	μCi/mL	1.35E-06	2.21E-06	1.36E-06	1.83E-06	

C.	Dissolved & Entrained Gases						
1.	Total Release	Ci	1.07E-05	4.52E-04	6.59E-05	2.95E-04	2.50E+01
2.	Average diluted concentration	μCi/mL	3.05E-13	6.10E-12	1.06E-12	1.03E-11	

D.	Gross Alpha Activity						
1.	Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.50E+01

E.	Volume of Waste Released (prior to dilution)	Liters				
			8.99E+06	1.91E+07	1.72E+07	5.84E+06

F.	Volume of Dilution Water Used During Period	Liters				
			3.49E+10	7.41E+10	6.20E+10	2.87E+10

⁷ % of limit is provided in Table 1, Waterford 3 Dose Summary

Company: Entergy

Plant: Waterford 3

Table 10, Batch Mode Liquid Effluents WF3

Radionuclide Released	Units	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total for year
Fission and Activation Products						
Ag-110m	Ci	6.19E-05	1.02E-05	0.00E+00	0.00E+00	7.21E-05
Ar-41	Ci	0.00E+00	6.71E-06	0.00E+00	0.00E+00	6.71E-06
Br-82	Ci	0.00E+00	4.58E-06	0.00E+00	0.00E+00	4.58E-06
Ce-141	Ci	0.00E+00	4.64E-06	0.00E+00	0.00E+00	4.64E-06
Co-57	Ci	1.65E-06	0.00E+00	0.00E+00	0.00E+00	1.65E-06
Co-58	Ci	1.34E-04	6.29E-04	3.77E-04	6.24E-05	1.20E-03
Co-60	Ci	1.21E-03	6.18E-04	1.71E-03	2.38E-04	3.78E-03
Cr-51	Ci	0.00E+00	1.94E-03	1.13E-04	0.00E+00	2.05E-03
Cs-137	Ci	0.00E+00	4.26E-05	0.00E+00	0.00E+00	4.26E-05
Cs-138	Ci	0.00E+00	0.00E+00	2.67E-06	0.00E+00	2.67E-06
Fe-55	Ci	7.79E-04	1.70E-03	6.98E-04	4.70E-04	3.65E-03
Fe-59	Ci	0.00E+00	4.39E-05	6.44E-06	0.00E+00	5.03E-05
Mn-54	Ci	2.61E-05	5.29E-05	1.09E-04	4.35E-06	1.92E-04
Na-24	Ci	0.00E+00	1.23E-06	0.00E+00	0.00E+00	1.23E-06
Nb-95	Ci	1.73E-05	2.86E-04	5.92E-05	2.99E-06	3.65E-04
Ni-63	Ci	4.43E-04	2.09E-03	1.00E-03	0.00E+00	3.53E-03
Sb-122	Ci	0.00E+00	7.11E-06	0.00E+00	0.00E+00	7.11E-06
Sb-124	Ci	0.00E+00	3.14E-04	0.00E+00	0.00E+00	3.14E-04
Sb-125	Ci	3.41E-05	5.18E-04	1.05E-04	1.01E-05	6.67E-04
Sb-126	Ci	0.00E+00	1.54E-05	0.00E+00	0.00E+00	1.54E-05
Sc-46	Ci	0.00E+00	1.48E-06	0.00E+00	0.00E+00	1.48E-06
Sn-113	Ci	0.00E+00	9.76E-06	0.00E+00	0.00E+00	9.76E-06
Te-123m	Ci	0.00E+00	1.19E-06	0.00E+00	0.00E+00	1.19E-06
Zn-65	Ci	0.00E+00	1.12E-05	1.71E-05	0.00E+00	2.83E-05
Zr-95	Ci	8.24E-06	1.78E-04	2.20E-05	0.00E+00	2.08E-04
Zr-97	Ci	1.83E-06	0.00E+00	0.00E+00	0.00E+00	1.83E-06
Total for Period	Ci	2.72E-03	8.49E-03	4.22E-03	7.88E-04	1.62E-02
Tritium						
H-3	Ci	4.72E+01	1.64E+02	8.43E+01	5.24E+01	3.48E+02
Gross Alpha						
Alpha	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 10, Batch Mode Liquid Effluents WF3

Entrained Gases						
Kr-85m	Ci	0.00E+00	2.24E-06	0.00E+00	0.00E+00	2.24E-06
Xe-133	Ci	1.07E-05	3.65E-04	6.37E-05	2.49E-04	6.88E-04
Xe-135	Ci	0.00E+00	7.79E-05	2.21E-06	4.55E-05	1.26E-04
Total for Period	Ci	1.07E-05	4.45E-04	6.59E-05	2.95E-04	8.16E-04

Table 11, Continuous Mode Liquid Effluents WF3

Radionuclide Released	Units	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total for year
Fission and Activation Products						
Total for Period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tritium						
H-3	Ci	3.03E-02	8.23E-02	1.77E-02	1.98E-02	1.50E-1
Gross Alpha						
Alpha	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Entrained Gases						
Total for Period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Company: Entergy

Plant: Waterford 3

Attachment 2, Solid Waste Information

1.0 SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (NOT IRRADIATED FUEL)

Table 12, Types of Solid Waste Summary WF3

Types of Waste	Total Volume (m3)	Total Activity (Ci)	Est. Total Error (%)
a. Spent resins, filter sludges, evaporator bottoms, etc.	2.80E+01	5.79E+01	25
Waste Class A	2.49E+01	6.79E+00	
Waste Class B	3.11E+00	5.11E+01	
Waste Class C	0.00E+00	0.00E+00	
Unclassified	0.00E+00	0.00E+00	
b. Dry compressible waste, contaminated equip, etc.	2.99E+02	1.16E-01	25
Waste Class A	2.99E+02	1.16E-01	
Waste Class B	0.00E+00	0.00E+00	
Waste Class C	0.00E+00	0.00E+00	
Unclassified	0.00E+00	0.00E+00	
c. Irradiated components, control rods, etc.	0.00E+00	0.00E+00	25
Waste Class A	0.00E+00	0.00E+00	
Waste Class B	0.00E+00	0.00E+00	
Waste Class C	0.00E+00	0.00E+00	
Unclassified	0.00E+00	0.00E+00	
d. Other: Oil/Sludge	7.10E+00	4.04E-03	25
Waste Class A	7.10E+00	4.04E-03	
Waste Class B	0.00E+00	0.00E+00	
Waste Class C	0.00E+00	0.00E+00	
Unclassified	0.00E+00	0.00E+00	

Company: Entergy

Plant: Waterford 3

2.0 ESTIMATE OF MAJOR NUCLIDE COMPOSITION (BY WASTE TYPE) ONLY >1% ARE REPORTED. [NOTE 1]

Table 13, Major Nuclides WF3

Major Nuclide Composition	%	Curies
a. Spent resins, filter sludges, evaporator bottoms, etc.		
Mn-54	6.18%	3.58E+00
Fe-55	3.51%	2.03E+00
Co-58	1.72%	9.97E-01
Co-60	37.73%	2.18E+01
Ni-63	38.09%	2.20E+01
Sb-125	2.07%	1.20E+00
Cs-137	8.78%	5.08E+00
b. Dry compressible waste, contaminated equip, etc.		
H-3	1.53%	1.78E-03
Mn-54	2.71%	3.15E-03
Fe-55	17.32%	2.01E-02
Co-58	1.32%	1.53E-03
Co-60	60.43%	7.01E-02
Ni-63	14.4%	1.67E-02
Cs-137	1.63%	1.89E-03
c. Irradiated components, control rods, etc.		
N/A	N/A	N/A

Company: Entergy**Plant: Waterford 3**

d. Other: Oil/Sludge		
H-3	1.31%	5.27E-05
Mn-54	2.64%	1.07E-04
Fe-55	16.29%	6.58E-04
Co-58	1.2%	4.87E-05
Co-60	62.04%	2.51E-03
Ni-63	14.53%	5.87E-04
Cs-137	1.69%	6.81E-05

3.0 SOLID WASTE DISPOSITION

Table 14, Solid Waste Disposition WF3

Number of Shipments	Mode of Transportation	Destination
10	Hittman Transport	Energy Solutions Bear Creek Processing 1560 Bear Creek Road
2	Hittman Transport	Energy Solutions-Memphis 1790 Dock Street

4.0 IRRADIATED FUEL DISPOSITION

Table 15, Irradiated Fuel Shipments Disposition WF3

Number of Shipments	Mode of Transportation	Destination
None	N/A	N/A

Attachment 3, Meteorological Data**1.0 METEOROLOGICAL DATA SUMMARY****1.1 Joint Frequency Distributions**

1. Period of Record: 2025
2. Stability Class: All
 - a. Periods of calm (hours): 1
 - b. Hours of missing data: 93
 - c. Meteorological data are reported in number of hours for all stability classes.
3. Elevation: 10m

Company: Entergy

Plant: Waterford 3

Hours of Each Wind Speed and Direction -Stability A

Wind Speed (m/s)

Wind Direction	0.21-0.75	0.76-1.00	1.01-1.50	1.51-2.0	2.01-3.00	3.01-5.00	5.01-7.00	7.01-10.0	10.01-13.0	13.01-18.0	>18.00	Total
N	0	0	1	2	13	13	14	3	0	0	0	46
NNE	0	0	0	2	6	6	3	0	0	0	0	17
NE	0	1	1	0	24	103	2	0	0	0	0	131
ENE	0	0	0	0	8	30	1	0	0	0	0	39
E	0	0	0	0	1	3	1	0	0	0	0	5
ESE	0	0	0	1	3	13	2	0	0	0	0	19
SE	0	0	0	0	5	12	5	0	0	0	0	22
SSE	0	0	0	2	16	58	26	1	0	0	0	103
S	0	0	1	4	26	37	19	1	0	0	0	88
SSW	0	0	1	4	21	36	13	0	0	0	0	75
SW	0	0	0	4	10	22	4	0	0	0	0	40
WSW	0	0	0	2	17	10	0	0	0	0	0	29
W	0	0	0	0	1	4	1	2	0	0	0	8
WNW	0	0	0	2	2	2	4	1	0	0	0	11
NW	0	0	0	0	2	1	5	1	0	0	0	9
NNW	0	0	0	1	1	9	10	7	0	0	0	28
Total	0	1	4	24	156	359	110	16	0	0	0	670

Company: Entergy

Plant: Waterford 3

Hours of Each Wind Speed and Direction -Stability B

Wind Speed (m/s)

Wind Direction	0.21-0.75	0.76-1.00	1.01-1.50	1.51-2.0	2.01-3.00	3.01-5.00	5.01-7.00	7.01-10.0	10.01-13.0	13.01-18.0	>18.00	Total
N	0	0	0	4	14	15	11	0	0	0	0	44
NNE	0	0	1	2	13	10	5	1	0	0	0	32
NE	0	0	0	2	30	44	4	0	0	0	0	80
ENE	0	0	0	0	13	14	2	0	0	0	0	29
E	0	0	0	0	2	0	1	0	0	0	0	3
ESE	0	0	0	0	2	2	3	0	0	0	0	7
SE	0	0	0	1	4	8	1	0	0	0	0	14
SSE	0	0	1	1	5	18	9	4	0	0	0	38
S	0	2	1	3	13	25	6	5	0	0	0	55
SSW	0	0	0	1	11	20	4	0	0	0	0	36
SW	0	0	1	3	7	20	2	0	0	0	0	33
WSW	0	0	0	2	22	5	0	0	0	0	0	29
W	0	0	1	5	12	4	0	0	0	0	0	22
WNW	0	0	0	3	7	3	3	1	1	0	0	18
NW	0	0	0	0	2	0	3	0	0	0	0	5
NNW	0	0	0	2	10	11	8	3	0	0	0	34
Total	0	2	5	29	167	199	62	14	1	0	0	479

Company: Entergy

Plant: Waterford 3

Hours of Each Wind Speed and Direction -Stability C

Wind Speed (m/s)

Wind Direction	0.21-0.75	0.76-1.00	1.01-1.50	1.51-2.0	2.01-3.00	3.01-5.00	5.01-7.00	7.01-10.0	10.01-13.0	13.01-18.0	>18.00	Total
N	0	0	1	6	26	16	11	0	0	0	0	60
NNE	0	0	1	9	10	10	0	1	0	0	0	31
NE	0	0	0	5	42	38	4	0	0	0	0	89
ENE	0	0	1	2	13	18	4	0	0	0	0	38
E	0	0	0	1	5	2	0	0	0	0	0	8
ESE	1	0	1	1	4	1	1	0	0	0	0	9
SE	0	0	0	0	1	17	1	0	0	0	0	19
SSE	0	0	2	0	3	21	12	3	2	0	0	43
S	0	1	1	2	6	23	7	11	4	0	0	55
SSW	0	0	1	3	13	13	3	1	0	0	0	34
SW	0	1	2	3	16	15	2	0	0	0	0	39
WSW	0	0	2	4	9	11	0	0	0	0	0	26
W	0	0	1	3	24	4	4	0	0	0	0	36
WNW	0	0	0	0	7	5	1	2	0	0	0	15
NW	0	0	0	3	6	3	1	1	0	0	0	14
NNW	0	0	0	0	6	13	9	2	0	0	0	30
Total	1	2	13	42	191	210	60	21	6	0	0	546

Company: Entergy

Plant: Waterford 3

Hours of Each Wind Speed and Direction -Stability D

Wind Speed (m/s)

Wind Direction	0.21-0.75	0.76-1.00	1.01-1.50	1.51-2.0	2.01-3.00	3.01-5.00	5.01-7.00	7.01-10.0	10.01-13.0	13.01-18.0	>18.00	Total
N	0	1	14	33	64	88	63	24	0	0	0	287
NNE	0	2	15	31	63	58	50	6	0	0	0	225
NE	0	2	14	20	106	139	34	1	0	0	0	316
ENE	0	1	4	17	51	89	27	0	0	0	0	189
E	0	1	2	7	11	30	18	1	0	0	0	70
ESE	0	1	2	3	13	30	19	0	0	0	0	68
SE	0	2	0	2	8	30	26	5	0	0	0	73
SSE	1	1	4	5	59	97	77	12	0	0	0	256
S	0	2	16	12	47	75	41	25	8	0	0	226
SSW	0	1	13	16	30	54	12	18	1	0	0	145
SW	1	3	12	25	34	36	8	1	1	0	0	121
WSW	0	10	21	23	25	10	1	0	0	0	0	90
W	0	5	14	22	20	8	0	0	0	0	0	69
WNW	0	4	11	9	25	21	6	3	0	0	0	79
NW	0	3	6	8	18	54	21	4	0	0	0	114
NNW	0	1	5	18	50	70	18	5	0	0	0	167
Total	2	40	153	251	624	889	421	105	10	0	0	2495

Company: Entergy

Plant: Waterford 3

Hours of Each Wind Speed and Direction -Stability E

Wind Speed (m/s)

Wind Direction	0.21-0.75	0.76-1.00	1.01-1.50	1.51-2.0	2.01-3.00	3.01-5.00	5.01-7.00	7.01-10.0	10.01-13.0	13.01-18.0	>18.00	Total
N	0	8	32	40	82	45	5	0	0	0	0	212
NNE	2	15	21	31	54	53	10	0	0	0	0	186
NE	3	5	18	35	105	69	2	0	0	0	0	237
ENE	1	2	9	19	35	56	4	0	0	0	0	126
E	2	3	5	9	17	21	7	0	0	0	0	64
ESE	1	0	5	8	16	27	2	0	0	0	0	59
SE	3	4	5	11	35	73	8	0	0	0	0	139
SSE	4	6	17	45	123	64	8	1	0	0	0	268
S	9	22	33	56	125	43	2	0	0	0	0	290
SSW	6	7	39	61	56	16	2	0	0	0	0	187
SW	4	10	32	37	36	25	0	0	0	0	0	144
WSW	10	11	46	22	19	8	0	0	0	0	0	116
W	7	7	32	22	8	7	2	0	0	0	0	85
WNW	5	6	29	17	10	4	0	0	0	0	0	71
NW	3	7	21	19	24	18	4	0	0	0	0	96
NNW	3	4	21	24	35	14	5	0	0	0	0	106
Total	63	117	365	456	780	543	61	1	0	0	0	2386

Company: Entergy

Plant: Waterford 3

Hours of Each Wind Speed and Direction -Stability F

Wind Speed (m/s)

Wind Direction	0.21-0.75	0.76-1.00	1.01-1.50	1.51-2.0	2.01-3.00	3.01-5.00	5.01-7.00	7.01-10.0	10.01-13.0	13.01-18.0	>18.00	Total
N	4	15	17	24	15	1	0	0	0	0	0	76
NNE	4	6	7	12	12	2	0	0	0	0	0	43
NE	2	1	7	14	14	0	0	0	0	0	0	38
ENE	3	2	5	2	3	2	0	0	0	0	0	17
E	0	5	2	1	4	0	1	0	0	0	0	13
ESE	0	1	3	3	3	0	0	0	0	0	0	10
SE	0	1	5	9	7	1	0	0	0	0	0	23
SSE	0	6	16	24	38	6	0	0	0	0	0	90
S	6	17	70	94	37	0	0	0	0	0	0	224
SSW	12	36	113	43	9	0	0	0	0	0	0	213
SW	14	29	80	35	4	0	0	0	0	0	0	162
WSW	9	37	49	11	2	0	0	0	0	0	0	108
W	19	29	36	2	1	0	0	0	0	0	0	87
WNW	10	14	39	11	1	0	1	0	0	0	0	76
NW	6	26	28	8	9	0	0	0	0	0	0	77
NNW	3	9	18	6	5	0	0	0	0	0	0	41
Total	92	234	495	299	164	12	2	0	0	0	0	1298

Company: Entergy

Plant: Waterford 3

Hours of Each Wind Speed and Direction -Stability G

Wind Speed (m/s)

Wind Direction	0.21-0.75	0.76-1.00	1.01-1.50	1.51-2.0	2.01-3.00	3.01-5.00	5.01-7.00	7.01-10.0	10.01-13.0	13.01-18.0	>18.00	Total
N	6	3	9	2	0	0	0	0	0	0	0	20
NNE	4	2	2	1	0	0	0	0	0	0	0	9
NE	3	4	2	0	0	0	0	0	0	0	0	9
ENE	0	1	2	0	0	0	0	0	0	0	0	3
E	1	0	0	1	1	0	0	0	0	0	0	3
ESE	1	0	4	0	0	0	0	0	0	0	0	5
SE	0	2	2	2	0	0	0	0	0	0	0	6
SSE	2	5	6	13	11	0	0	0	0	0	0	37
S	2	13	58	28	8	0	0	0	0	0	0	109
SSW	2	28	105	19	1	0	0	0	0	0	0	155
SW	17	51	51	15	1	0	0	0	0	0	0	135
WSW	23	40	18	3	0	0	0	0	0	0	0	84
W	25	52	24	1	0	0	0	0	0	0	0	102
WNW	16	25	20	4	0	0	0	0	0	0	0	65
NW	8	11	15	1	0	0	0	0	0	0	0	35
NNW	4	5	6	0	0	0	0	0	0	0	0	15
Total	114	242	324	90	22	0	0	0	0	0	0	792

Company: Entergy

Plant: Waterford 3

Hours of Each Wind Speed and Direction -Stability ALL

Wind Speed (m/s)

Wind Direction	0.21-0.75	0.76-1.00	1.01-1.50	1.51-2.0	2.01-3.00	3.01-5.00	5.01-7.00	7.01-10.0	10.01-13.0	13.01-18.0	>18.00	Total
N	10	27	74	111	214	178	104	27	0	0	0	745
NNE	10	25	47	88	158	139	68	8	0	0	0	543
NE	8	13	42	76	321	393	46	1	0	0	0	900
ENE	4	6	21	40	123	209	38	0	0	0	0	441
E	3	9	9	19	41	56	28	1	0	0	0	166
ESE	3	2	15	16	41	73	27	0	0	0	0	177
SE	3	9	12	25	60	141	41	5	0	0	0	296
SSE	7	18	46	90	255	264	132	21	2	0	0	835
S	17	57	180	199	262	203	75	42	12	0	0	1,047
SSW	20	72	272	147	141	139	34	19	1	0	0	845
SW	36	94	178	122	108	118	16	1	1	0	0	674
WSW	42	98	136	67	94	44	1	0	0	0	0	482
W	51	93	108	55	66	27	7	2	0	0	0	409
WNW	31	49	99	46	52	35	15	7	1	0	0	335
NW	17	47	70	39	61	76	34	6	0	0	0	350
NNW	10	19	50	51	107	117	50	17	0	0	0	421
Total	272	638	1359	1191	2104	2212	716	157	17	0	0	8666

Company: Entergy**Plant: Waterford 3****1.2 Stability class**

Table 16, Classification of Atmospheric Stability

Stability Condition	Pasquill Categories	Percentage
Extremely Unstable	A	7.65%
Moderately Unstable	B	5.47%
Slightly Unstable	C	6.23%
Neutral	D	28.48%
Slightly Stable	E	27.24%
Moderately Stable	F	14.82%
Extremely Stable	G	9.04%