

A Low-Level Radioactive Waste (LLRW) Generator Report needs to be completed if:

Any LLRW as defined in OAC 3701:1-38-01(94) was generated, possessed, stored, or shipped during the current reporting year.

However, some facilities may be exempted from low level radioactive waste generator reporting requirements under OAC 3701:1-54-02 if they exclusively generate and dispose of LLRW in accordance with paragraphs (D) to (G) of OAC 3701:1-38-19. Those wastes include decay in storage (DIS), sewerage, and incinerated wastes.

Complete this report using data representing your facility's LLRW activities from the prior calendar year.

[Example: In 2015, you would enter data for LLRW reporting year 2014]

Licensee Information

Low- Level Radioactive Waste Generator Report for Reporting Year: _____
Ohio Department of Health - Bureau of Environmental Health and Radiation Protection

Radioactive Materials License Number: _____

Licensee Name	
Street Address	
Telephone	Federal Tax ID number
<input type="checkbox"/> Academic <input type="checkbox"/> Industrial <input type="checkbox"/> Medical <input type="checkbox"/> Utility <input type="checkbox"/> Government Office <input type="checkbox"/> Uranium Enrichment <input type="checkbox"/> Academic and Medical	
Person Completing LLRW Annual Report	
Name	Title
Telephone	Email Address
Signature	Date
Radiation Safety Officer for License	
Name (printed)	Title
Telephone	Email Address
RSO Signature	Date

Table 1a - LLRW Generated and Not Placed in Storage
[OAC 3701:1-54-02(A)(2), - 02(E)]

Complete the following table for the types and amount of waste generated in the current reporting year and not placed into storage. Summarize from your records, and subtotal based on waste class and type, the information requested in the table below.

- In the column “Waste Class,” enter the waste classification of A, B or C as defined in OAC 3701:1-54-10.
- In the column “Waste Type,” enter the waste type as a generic description of the physical characteristics of the waste. Examples of generic descriptions are dry solid, aqueous liquid, scintillation vials, biological (animal carcasses) or high-volume, low-level radioactive waste (HV-LLRW) from decommissioning or decontamination. HV-LLRW is defined in OAC 3701:1-54-02(C).
- Enter the predominant radionuclides contained in each waste class and type in the column labeled “Radionuclide.”
- Enter the total radionuclide activity for each waste class and type in the column labeled “Activity.” Indicate by check mark the units of activity that are being used.
- In the column labeled “Volume Generated,” enter the volume of waste generated in cubic feet before using waste treatment techniques.
- If the waste was treated, enter the volume of waste after treatment in cubic feet in the column labeled “Volume after Treatment.” [Complete information on the processor in table “Generator Certification of Processed Waste” as applicable.]
- Treatment is defined in OAC 3701:1-54-01.
- In the column labeled “Type of Disposal,” indicate the disposition of the waste as land burial, vitrification, etc.

Does not apply - no data to report for this table.

Waste Class	Waste Type	Radionuclide	Activity			Volume Generated (cu ft)	Volume after treatment (cu ft)	Type of Disposal
			<input type="checkbox"/> Ci	<input type="checkbox"/> mCi	<input type="checkbox"/> MBq			

Table 1b - LLRW Generated and Placed in Storage [OAC 3701:1-54-02(A)(2), - 02(E)]

Complete the following table for the types and amount of waste generated in the current reporting year and placed into storage. Summarize from your records, and subtotal based on waste class and type, the information requested in the table below.

- In the column “Waste Class,” enter the waste classification of A, B or C as defined in OAC 3701:1-54-10.
- In the column “Waste Type,” enter the waste type as a generic description of the physical characteristics of the waste. Examples of generic descriptions include dry solid, aqueous liquid, scintillation vials, biological (animal carcasses) or high- volume, low- level radioactive waste (HV-LLRW) from decommissioning or decontamination. HV-LLRW is defined in OAC 3701:1-54-02(C).
- Enter the predominant radionuclides for the waste class and type in the column labeled “Radionuclide.”
- Enter the total radionuclide activity for the waste class and type in the column labeled “Activity.” Indicate by check mark the units of activity that are being used.
- In the column labeled “Volume Generated,” enter the volume in cubic feet of waste generated before treating the waste.
- If the waste was treated, enter the volume of waste (in cubic feet) placed into storage after treatment in the column labeled “Volume After Treatment.” [Complete information on the processor in table “Generator Certification of Processed Waste” as applicable.]
- Treatment is defined in OAC 3701:1-54-01.

Does not apply - no data to report for this table.

Waste Class	Waste Type	Radionuclide	Activity			Volume Generated (cu ft)	Volume after treatment (cu ft)
			<input type="checkbox"/> Ci	<input type="checkbox"/> mCi	<input type="checkbox"/> MBq		

Prior Reporting Year LLRW Remaining in Storage **[OAC 3701:1-54-02(A)(3)]**

- Complete the following table for the types and amounts of LLRW that was placed in storage before Jan. 1, of the current reporting year, and continued to be held in storage as of Dec. 31, of the current reporting year. Summarize from your records, subtotal based on the waste class and type by year, the information requested in the table below.
 - In the column labeled “Year Generated,” enter the year that the waste was placed into storage.
 - Enter the waste classification of A, B or C as defined in OAC 3701:1-54-10 in the column labeled “Waste Class.”
 - Enter the waste type as a description of the physical characteristics of the waste in the column labeled “Waste Type.” Examples of the generic descriptions include dry solid, aqueous liquid, scintillation vials, biological (animal carcasses) or high- volume, low-level radioactive waste (HV-LLRW) from decommissioning or decontamination. HV-LLRW is defined in OAC 3701:1-54-02(C).
 - In the column “Radionuclide,” enter the predominant radionuclides remaining in the waste as of December 31, of the current reporting year.
 - Enter the decay corrected activity of the waste remaining in storage as of Dec. 31, of the current reporting year, in the column labeled “Activity.” Indicate by check mark the units of activity that are being used.
 - In the column “Volume,” enter the volume (in cubic feet) of waste held in storage after any treatment techniques were used.
- Does not apply - no data to report for this table.

Year Generated	Waste Class	Waste Type	Radionuclide(s)	Activity			Volume (cu ft)
				<input type="checkbox"/> Ci	<input type="checkbox"/> mCi	<input type="checkbox"/> MBq	

LLRW Shipment Information [OAC 3701:1-54-02(A)(4)]

Identify the types and amount of LLRW shipped in the current reporting year, including carrier or broker, shipment dates and modes of transportation. Provide a summary of the information from your individual waste manifest forms. The summaries may be subtotaled by carrier and destination for a shipment period in lieu of specifying individual dates. For example, a period may be a calendar quarter or a year. Make additional copies of this page if needed.

- In the column "Waste Class," enter the waste classification of A, B or C as defined in OAC 3701:1-54-10.
- In the column "Waste Type," enter the waste type as a generic description of the physical characteristics of the waste as entered on your waste manifest (ref. OAC 3701:1-38-19 Appendix A, OAC 3701:1-50-05).
- In the column "Radionuclide," enter the predominant radionuclides contained in each waste class and type.
- Enter the total radionuclide activity in the column labeled "Activity" for each waste class and type. Indicate by check mark the units of activity that are being used.
- In the column labeled "Volume," enter the volume of waste transported by the carrier/broker in cubic feet. (Note: there are 35.3 cu. ft. in a cubic meter.)
- Enter the final destination/disposal site (City, State / Facility name). List only one disposal site per table.
- Make as many copies of this page as needed.

Does not apply - no data to report for this table.

Carrier/Broker	Shipment date(s)/period
<i>Final Destination</i>	Disposal Site
Mode of Transportation (OAC 3701:1-50-05)	
<input type="checkbox"/> public highway <input type="checkbox"/> air <input type="checkbox"/> vessel <input type="checkbox"/> rail	

Waste Class	Waste Type	Radionuclide	Activity			Volume (cu ft)
			<input type="checkbox"/> Ci	<input type="checkbox"/> mCi	<input type="checkbox"/> MBq	

LLRW General Information

Was any LLRW stored or shipped in the prior reporting year that was not reported in last year's report?

Yes No [OAC 3701:1-54-02(A)(5)]

If yes, describe the types and amounts.

Describe the methods used to treat, store and dispose of LLRW.
[OAC 3701:1-54-02(A)(6)]

Describe actions taken, or planned to be taken, to reduce the LLRW volume or production
[OAC 3701:1-54-02(A)(7)]

Anticipated Next Reporting Year LLRW Generation **[OAC 3701:1-54-02(A)(8)]**

If the anticipated types and amount of waste to be generated or placed in storage during the next reporting year will be approximately the same as the current reporting year check the box below. Otherwise, complete the table below estimating the type and amount of LLRW to be generated or placed in storage during the next reporting year.

Approximately the same as the current reporting year.

Waste Class	Waste Type	Radionuclide	Activity			Volume (cu ft)
			<input type="checkbox"/> Ci	<input type="checkbox"/> mCi	<input type="checkbox"/> MBq	

Generator Certification of Processed Waste [OAC 3701:1-54-02(E)]

Was any low-level radioactive waste sent to a processor for the purpose of treating the low-level radioactive waste, and either returning the waste to the generator or disposing of the waste on behalf of the generator?

Yes No

If yes, complete the following table for low level radioactive waste that was sent out for volume reduction. The date is the date shipped. The volume shipped is the initial volume of the shipment being sent out for volume reduction. Indicate who the processor was and what treatment was used (e.g. compaction, incineration). Indicate for that particular shipment the volume of waste returned or disposed on behalf of the generator. If the waste was returned to the generator, include the date of the return by the processor.

Date	Volume Shipped	Processor	Process Technique	Volume Return or Disposed	Return Date

Supplemental Information to the LLRW Generators Report

Introduction

The attached forms consisting of questions and tables are provided on behalf of the director. Requested information is required for the annual LLRW report submission. Efforts were taken to minimize the required effort on the part of the waste generator while fulfilling the information collection requirements in accordance with Ohio Administrative Code (OAC) rule 3701:1-54-02.

An important distinction for LLRW generators to understand while completing the report is that the current reporting year is data from the last calendar year. For example: In 2015, you would enter 2014 data for LLRW reporting year 2014.

The contents of the annual LLRW report are:

- Licensee Information (with generator information)
- Table 1a ~ LLRW Generated and Not Placed in Storage
- Table 1b ~ LLRW Generated and Placed Into Storage
- Prior-Reporting Year LLRW Remaining in Storage
- LLRW Shipment
- LLRW General
- Anticipated Next Reporting Year LLRW
- Generator Certification of Processed Waste

Each report page has its own instructions on how to complete the table for that page. If the table does not apply to your facility, mark the box indicating that you have no data to report. The following information is intended to clarify potential or common questions that generators may have when completing the reports. Address specific questions with the LLRW Generator Report to the Bureau of Environmental Health and Radiation Protection, Radiological Health and Safety-Nuclear Materials Support.

Who needs to file a LLRW generator report?

A LLRW generator report needs to be completed if:

- Any LLRW as defined in OAC 3701:1-38-01(94) was generated, possessed, stored, or shipped during the current reporting year.

Facilities may be exempted from low level radioactive waste generator reporting requirements under OAC 3701:1-54-02 if they exclusively generate and dispose of LLRW in accordance with paragraphs (D) to (G) of OAC 3701:1-38-19. Those wastes include decay in storage (DIS), sewerage, and incinerated wastes which were previously reportable.

Licensee Information

The organization classification is determined by the licensee. Licensees that are both medical and academic facilities can choose whether they want to identify themselves as academic or medical or both, depending on how they interpret their waste streams. All commercial facilities that do not have a general category are listed under "Industrial". Utilities can be any electrical power generator (including coal), and water and sewer treatment facilities.

Supplemental Information to the LLRW Generators Report

LLRW Generation and Storage Information

NORM and NARM radioactive wastes **do not** meet the definition of LLRW and are not required to be reported, and should not be reported. Reporting of such wastes may artificially increase the volume of low-level radioactive waste generated. NARM and NORM radioactive materials are defined in OAC 3701:1-38-01. Examples of NORM/NARM material include F-18, Tl-201, Ga-68, Gd-153, and Ra-226.

Tables 1a and 1b request information on the activity and volumes of waste generated in the current reporting year and their final volume after treatment. The two tables segregate the listing of waste based on the disposition (storage vs. disposal) of the waste. Any waste listed in Table 1a should not be listed in Table 1b, or vice versa.

Table 1a is for LLRW generated and disposed in the current reporting year.

Table 1b is for LLRW generated and placed for storage awaiting disposal. LLRW held in storage more than forty-two months are subject to fees in accordance with OAC 3701:1-54-02 (B)(2). Licensees that continue to hold LLRW beyond five years may be subject to additional conditions as found in OAC 3701:1-54-03, the Assured Isolation Facility rule.

The table "Prior Reporting Year LLRW Remaining in Storage" requests information on the volume and activity of LLRW remaining in storage as of December 31, of the current reporting year, that was generated before January 1, of the current reporting year. The information is to be broken down by its waste class and waste type with the calculated radionuclide activity of the waste as of December 31, of the current reporting year, and subtotaled by the year that the waste was placed into storage.

LLRW class descriptions of Class A, B, and C may be referenced in OAC 3701:1-54-10.

All radioactive waste containing exclusively radionuclides with a half-life of less than five years is class A waste regardless of the activity. Typical waste types include, but are not limited to; animal carcass; bulk aqueous liquid; bulk scintillation fluid; construction debris; dry/solid or dry active waste (less than 0.5% free standing liquid); liquid mixed waste (radioactive and hazardous); scintillation vials; sealed sources and devices; biological or pathological media; ion exchange resin and media; and contaminated soils.

The activity of the radioactive waste is the activity contained within the waste container when the container is segregated for disposal or it has been closed to preclude further additions of radioactive materials and waste.

Mixed hazardous waste is waste that contains radioactive and hazardous waste. Scintillation fluid and scintillation vials are a special category of mixed radioactive / hazardous that should be entered separately as bulk scintillation fluid or scintillation vials. (Note: mixed wastes must be maintained in accordance with EPA regulations and guidelines. Contact Ohio EPA for the current regulation and policy on handling mixed waste.)

The volume after commercial treatment may be estimated from the treatment of generated waste in prior years if this information is not available from the commercial facility at the time of reporting.

For the purposes of this report, the return of nuclear medicine radioactive materials to the originating pharmacy, or returning a sealed source or device to the manufacturer, is considered a transfer of radioactive material and not a waste generation or a waste shipment.

Questions regarding the accounting of satellite waste accumulation are occasionally raised. The radioactive waste at satellite accumulation sites **must** be accounted for and reported, but **when** it is accounted for and reported depends on the licensee's operation. It is the responsibility of the licensee to verify that all the waste is accounted for, whether the waste is included in the current year's report or the following year's report. Therefore, if the satellite accumulation containers are partially filled, then the low-level radioactive waste does not need to be reported in the current year, if it will be reported in the following year when the waste container is closed and/or collected for disposal.

Supplemental Information to the LLRW Generators Report

LLRW Shipment Information

Calculate by carrier/broker and destination/disposal site the subtotals of the waste class and type shipped. Do not list more than one disposal location in a single table. List the final destination of the shipment (city, state) and also list the land disposal facility name.

A licensed land disposal facility available to most Ohio generators is EnergySolutions in Utah. The EnergySolutions Barnwell, S.C. facility closed to Ohio generators in July, 2008.

The LLRW shipments to be reported in this section are those that required completion of a manifest in accordance with OAC 3701:1-38-19 Appendix A when shipped for ultimate disposal.

LLRW General Information

Methods used to treat, or dispose of LLRW may include, but are not limited to, decay-in-storage; compaction; incineration; freeze dry; fuel blending; evaporation; distillation; vitrification; digestion; sewer disposal; decontamination; and solidification/ stabilization.

Methods used to store LLRW may include, but are not limited to, seal in steel drums; hold in waste container; hold in liquid waste container; hold in "structurally stable" high integrity container (HIC) for land disposal; keep frozen in a freezer.

Methods used to reduce the volume of LLRW requiring off-site disposal or production of LLRW may include, but are not limited to, reuse or recycle contaminated item; substitute use of radioactive with non-radioactive material; substitute longer-lived with shorter-lived radionuclides; decontamination; compaction; incineration; decay-in-storage; process changes. NCRP Report 143 "Management Techniques for Laboratories and Other Small Institutional Generators to Minimize Off-Site Disposal of Low-Level Radioactive Waste" may provide additional information of use to generators.

Generator Certification of Processed Waste

This section is for LLRW sent to a processor with the radioactive waste residue either returned to the generator or disposed of on behalf of the generator.

A common form of LLRW processing to be entered on this table includes incineration of LLRW at a commercial facility. For the fuel blending and incineration of scintillation vials, the final volume is normally zero. For the incineration of dry active waste, the final volume is the volume of the ash either returned to the generator or disposed on behalf of the generator.

If you have comments and/or suggestions on how to improve the report form, please contact the Radiological Health and Safety-Nuclear Materials Support Section of the Bureau of Environmental Health and Radiation Protection at 614-644-2727.