

FINAL SUPPORTING STATEMENT
FOR NRC FORMS 541 AND 541A
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST CONTAINER AND WASTE
DESCRIPTION AND CONTINUATION PAGE

(3150-0166)

EXTENSION

Description of the Information Collection

The Nuclear Regulatory Commission (NRC) regulations in Title 10 of the Code of Federal Regulations (10 CFR) 20.2006, "Transfer for Disposal and Manifest" and 10 CFR Part 20, Appendix G, "Requirements for Transfers of Low-Level Radioactive Waste (LLRW) Intended for Disposal at Licensed Land Disposal Facilities and Manifests" established requirements for a nationwide system to ensure the safe and efficient transportation and disposal of LLRW.

The Uniform LLRW Manifest system is implemented by utilization of specific NRC Forms to document the information required by 10 CFR 20.2006 and 10 CFR Part 20, Appendix G. The NRC Forms 541/541A, Uniform LLRW Manifest Container and Waste Description and Continuation Page," combined with NRC Forms 540/540A, "Uniform LLRW Manifest (Shipping Paper) And Continuation Page" and, if necessary, NRC Forms 542/542A, "Uniform Low-Level Radioactive Waste Manifest Index and Regional Compact Tabulation," are collectively referred to as the Uniform LLRW Manifest Forms. The forms were originally developed by the NRC at the request of LLRW industry groups, and Federal and State agencies. These forms assist in providing a standardized nationwide framework for collecting and transmitting LLRW related information from generation to disposal. The NUREG/BR-0204, Rev. 3, contains instructions for completing NRC Uniform LLRW Manifest Forms.

The NRC Forms 541 and 541A or Agreement State equivalent forms are used on a nationwide basis to reflect the minimum safety-related information for a LLRW shipment as required by Federal and State reporting requirements for the safe transportation and disposal of LLRW. The Uniform LLRW Manifest Form 541/541A is completed by shippers of LLRW intended for disposal at a licensed LLRW land disposal facility. These NRC Forms include information regarding the disposal container description, waste description for each waste type in the container (physical and chemical description of the waste, and the radiological description (radionuclides and activity)) and the classification of the waste in accordance with 10 CFR Part 61.55 "Waste Classification." The completed NRC Manifest Form 541 also contains information necessary to satisfy the Department of Transportation (DOT) regulations in 49 CFR Part 172, "Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans."

The Uniform LLRW Manifest Forms 541/541A are not required to physically accompany the shipment. Upon agreement between the shipper and consignee, NRC Form 541/541A is 1) mailed or electronically transferred to the intended consignee prior to the shipment arriving at the consignee or 2) delivered with the waste to the consignee. The use of either method is acceptable.

The NRC does not collect or retain data on the manifest forms, and the forms are not sent to or

received by the NRC because the NRC has no operating LLRW disposal facilities under its regulatory authority. However, LLRW is generated and shipped from all States. Because of the NRC's national oversight responsibilities for the safety and security of LLRW, the agency is required to establish requirements for the national regulation of LLRW disposal. As such, the establishment of the Uniform LLRW Manifest Forms is a part of the NRC's oversight responsibilities.

Some States have entered into Agreements with the NRC, which allows the NRC to relinquish its authority for LLRW disposal and for States to assume this authority from the NRC. In order for a State to assume authority from the NRC, it must be adequate to protect public health and safety and be compatible with NRC's regulatory programs. These States are referred to as "Agreement States." Agreement States, where applicable, use the information found on the Uniform Manifest Forms to determine whether LLRW shipments are suitable for disposal at their respective LLRW disposal facilities.

Agreement States are not required to adopt the NRC Uniform LLRW Manifest Forms. Rather, Agreement States are required to adopt the NRC Uniform LLRW Manifest requirements in 10 CFR 20.2006 and 10 CFR Part 20, Appendix G, as a matter of compatibility with NRC's regulatory programs. These NRC regulations should be adopted by Agreement States in an essentially identical manner to ensure adequate protection and compatible regulation of LLRW disposal on a nationwide basis. These concepts are reflected in 10 CFR Part 20, Appendix G, which provides:

NRC Forms 540, 540A, 541, 541A, 542, and 542A are official NRC Forms referenced in this appendix. Licensees need not use originals of these NRC Forms as long as any substitute forms are equivalent to the original documentation in respect to content, clarity, size, and location of information. Upon agreement between the shipper and consignee, NRC Forms 541 (and 541A) and NRC Forms 542 (and 542A) may be completed, transmitted, and stored in electronic media. The electronic media must have the capability for producing legible, accurate, and complete records in the format of the uniform manifest

A. JUSTIFICATION

1. Need for and Practical Utility of the Collection of Information

To meet existing regulations, each shipment of LLRW, either directly or indirectly goes (e.g., through a waste processor or waste collector), to a licensed LLRW disposal facility that is accompanied by a waste manifest that describes the shipment contents as required in 10 CFR 20.2006, 10 CFR Part 20, Appendix G and the DOT regulations in 49 CFR Part 172.

Presently, there are four operating LLRW disposal facilities in the United States. They are all located in the Agreement States. They are located in Barnwell, South Carolina; Clive, Utah; Hanford, Washington, and Andrews, Texas. These LLRW disposal facilities are licensed and regulated under the Agreement State regulations that are compatible with NRC waste disposal regulations in 10 CFR Part 61.

The Uniform LLRW Manifest Forms establish a clear chain of custody for LLRW from generation to disposal of LLRW shipments, It provides a detailed record of the waste's characteristics, quantity, and the movement of the waste from generation through the disposal process. They also provide essential information to ensure that LLRW is handled safely, to ensure radiation exposures are minimized and to ensure appropriate emergency response in the event of an accident.

2. Agency Use of Information

The NRC Forms 541 and 541A and associated forms facilitate State and Federal collaboration in the management of LLRW and helps to streamline the process of transporting waste between States. It also facilitates federal cooperation between NRC and DOT regulations because the Uniform LLRW Manifest is designed to meet the DOT requirements in 49 CFR Part 172.

3. Reduction of Burden Through Information Technology

10 CFR Part 20, Appendix G allows licensees to use substitute forms provided that they are equivalent to the original NRC Forms 541 and 541A documentation with respect to content, clarity, size, and location of information. Upon agreement between the shipper and consignee, the forms may be completed, transmitted, and stored in electronic media. The electronic media must have the capability for producing legible, accurate, and complete records in the format of the uniform manifest. The Uniform LLRW Manifest Forms 541/541A are not required to physically accompany the shipment.

Licensees can use software packages from several commercial vendors to generate NRC Form 541/541A or equivalent Agreement State forms electronically. The electronic facsimiles of the forms must be equivalent to the original documentation in respect to content, clarity, size, and location of information, include the OMB clearance number, and Paperwork Reduction Act statement.

4. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of NRC requirements.

5. Effort to Reduce Small Business Burden

The required information is necessary from all shippers of LLRW pursuant to 10 CFR 20.2006, 10 CFR Part 20, Appendix G and DOT shipping paper requirements in 49 CFR Part 172. To the extent that small entities may make fewer waste shipments than larger entities, fewer manifests would be required of small entities, and their burden would be proportionately less.

6. Consequences to Federal Program or Policy Activities if the Collection is Not Conducted or Is Conducted Less Frequently

Several public health and safety concerns arose in the past that necessitated the creation of a standardized nationwide framework for collecting and transmitting LLRW related information from generation to disposal. Some of the consequences of not collecting this information included: 1. The inability of State and Federal agencies to properly respond to transportation accidents involving LLRW because they had no information on the physical, chemical, and radiological characteristics of the nuclear material in the shipment, and 2. The inability of LLRW disposal site operators to return unacceptable waste packages, e.g., waste packaged in leaking cardboard boxes, to the originator because this information was not available. Thus, this information collection is essential for the safe and secure regulation of LLRW transportation and disposal.

7. Circumstances Which Justify Variation from OMB Guidelines

There are no variations from OMB guidelines.

8. Consultations Outside the NRC

Opportunity for public comment on the information collection requirements for this clearance package was published in the Federal Register on December 10, 2025, 90 FR 57218. The NRC staff solicited feedback by email on this information collection from the four Agreement State Regulatory Programs that currently have operating LLRW disposal sites. The Agreement States contacted included South Carolina, Texas, Utah, and Washington. No comments were received through the Federal Register or public consultation.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of the Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a), "Agency records exempt from public disclosure," and 10 CFR 2.390(b), "Public inspections, exemptions, requests for withholding." However, no information normally considered confidential or proprietary is requested.

11. Justification for Sensitive Questions

This information collection does not involve sensitive questions.

12. Estimated Burden and Burden Hour Cost

NRC staff estimates that 4,616 NRC Form 541/541A (or equivalent Agreement State forms) will be processed annually by 712 NRC and Agreement State licensees. The NRC Form 541 is used by all LLRW shippers; however, most shippers use

Agreement State equivalent versions of the NRC Form. It is assumed that all shippers prepare the manifests electronically. Therefore, the average burden to complete the form is estimated to be 3.3 staff-hours/form. The total industry burden for completion of the NRC Form 541/541A is estimated at 15,233 staff-hours annually (4,616 forms x 3.3 staff-hours/form) for reporting. The total cost is estimated to be \$4,828,861 (15,233 staff-hours x \$317 per staff-hour).

The \$317 staff-hour rate used in the burden estimates is based on the NRC's fee for hourly rates as noted in 10 CFR 170.20 "Average cost per professional staff-hour." For more information on the basis of this rate, see the Revision of Fee Schedules; Fee Recovery for Fiscal Year 2024 (89 FR 51789, June 20, 2024).

13. Estimate of Other Additional Costs

There are no other additional costs.

14. Estimated Annualized Cost to the Federal Government

There are no annual printing and distribution costs to the Federal Government as the manifest forms are available for electronic downloading.

15. Reasons for Changes in Burden or Cost

There is no change in burden. The overall burden for this renewal remains unchanged at 15,233 staff-hours annually. The staff hourly rate for professional staff increased from \$288 per staff-hour to \$317 per staff-hour in June 2024, which was an increase of \$29 per staff-hour (\$317 per staff-hour minus \$288 per staff-hour = \$29 per staff-hour). This resulted in an overall annual increase of \$441,757 (\$29.00 per staff-hour x 15,233 staff-hour).

16. Publication for Statistical Use

None.

17. Reason for Not Displaying the Expiration Date

The LLRW shipping industry utilizes software to generate Form 541/541A. This software must undergo a verification and validation process by the waste generators every time a change is made to the form. Many waste generators at nuclear power plants have strict change management processes that are time-consuming and expensive because any change to the software used during daily plant operations could impact the plant operations.

For this reason, changing the expiration date on the form would cause the industry the burden of performing a time-consuming verification and validation on the software that generates the forms. As such, the expiration date will not be displayed on the hardcopy form. Only changes to the content of the NRC Form 541/541A will

require imposing the burden of the software update and subsequent verification and validation on form users.

18. Exceptions to the Certification Statement

There are no exceptions.

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

The collection of information does not employ statistical methods.