



Nevada National Security Site Waste Acceptance Criteria

Prepared for the U.S. Department of Energy
Environmental Management Nevada Program
and
National Nuclear Security Administration
Nevada Field Office



Volume I: Administrative Waste Acceptance Criteria
Volume II: Technical and Regulatory Waste Acceptance Criteria

March 2022

APPROVED FOR PUBLIC RELEASE

EDITOR'S NOTE: Certain hyperlinks featured herein may be temporarily non-functional as administrative actions are completed in tandem with implementation of the revised NNSSWAC. If a non-functional hyperlink is encountered, please contact RWAP@emnv.doe.gov to request a copy of the reference material.

NNSSWAC Revision History

Date	Pages Changed	Revision
1978–1996		* Historical note below
09/1996	All	Rev. 0
08/1997	All	Rev. 1
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06/2008	All	Rev. 7 - Clarifications and edits based on NNSA/NSO, NDEP, RWAP, and Waste Generator reviews. Revisions identified by change bars.
05/2009	Incorporate new classified waste disposal requirement; remove the term “storage” for waste received at NNSS.	Rev. 7-01, Sections, 1.1, 3.1.18, 3.2.8, 3.2.10, App. D, App. H, and References
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NNSSWAC Revision History

Date	Pages Changed	Revision
03/2013	Sections 1.1 1.2, 1.3, 1.4, 2.1; 2.2, 2.6, 3.1, 3.2.2, 3.2.4, 3.2.6, 3.2.13, 3.3, 4.0, 5.6, 5.10, 6.1, 6.3.2, 6.3.4, 6.4, 6.6, Appendix C, Appendix F, Appendix G, Appendix H	Rev. 10, Add information regarding disposing/transferring classified matter at the NNSS, update acronyms and abbreviations, change Waste Management Project to Environmental Management Operations, incorporate new PE-g limits, update shipping forms for MLLW and classified non-radioactive hazardous waste/matter, update definitions, change NNSA/NSO to NNSA/NFO to reflect the new name of the Nevada Field Office; other revisions identified by change bars
02/2015	Sections 3.2.2 and 6.4	Revision 10a, Revised language to be similar to the language found in Revision 9; added deviation request option
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03/2022	All	Complete revision of document, creating Volume I (Administrative Waste Acceptance Criteria) and Volume II (Technical and Regulatory Waste Acceptance Criteria). <i>Note: 04/05/2022, document reposted to remove distribution letter, correct document number on cover pages, and include active bookmarks; 06/14/2022, document reposted to align AWAC cross references in Sections 5.2 and 6.2, pagination in Appendix E, and TWAC Table 3-10 formatting.</i>



Nevada National Security Site Waste Acceptance Criteria



Volume I: Administrative Waste Acceptance Criteria

March 2022

NNSWAC Administrative Waste Acceptance Criteria

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This document is correct, and the process and criteria stated within meet the U.S. Department of Energy and appropriate federal regulation requirements.

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List of Acronyms and Abbreviations

ALARA	As low as reasonably achievable
ASTM	ASTM International
AWAC	Administrative Waste Acceptance Criteria
AWCO	Alternate Waste Certification Official
Bq	Becquerel
Bq/m ³	Becquerels per cubic meter
CAC	Competent Authority Certification
CAP	Corrective action plan
CERCLA	<i>Comprehensive Environmental Response, Compensation, and Liability Act</i>
CFR	<i>Code of Federal Regulations</i>
Ci	Curie
cm	Centimeter
COC	Certificate of Compliance
DAS	Disposal Authorization Statement
DAW	Dry active waste
DC/RO	Derivative Classifier/Reviewing Official
DHS	U.S. Department of Homeland Security
DoD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOECAP	DOE Consolidated Audit Program
DOT	U.S. Department of Transportation
DP	Defense Programs
DQO	Data quality objective
DSA	Documented safety analysis
DU	Depleted uranium
ECHO	Enforcement and Compliance History Online
ECPL	Evaluated Carriers Performance List
EM	Environmental Management
EPA	U.S. Environmental Protection Agency
FE	Facility evaluation
FMCSA	Federal Motor Carrier Safety Administration
FOAV	Finding of Alleged Violation
ft	Foot
ft ³	Cubic foot
FY	Fiscal year
g	Gram

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gal	Gallon
HAZMAT	Hazardous materials
HAZTRAK	Hazardous Materials Tracking System
HQ	Headquarters
HRCQ	Highway Route Controlled Quantity
HRI	Human readable interpretation
IP-1	Industrial Package-1
kg/m ²	Kilograms per square meter
lb	Pound
lb/ft ²	Pounds per square foot
LDR	Land disposal restriction
LLW	Low-level waste
M	Manual
m	Meter
MC&A	Material Control and Accountability
MCEP	Motor Carrier Evaluation Program
mg/kg	Milligrams per kilogram
MIPR	Military Interdepartmental Purchase Request
MLLW	Mixed low-level waste
mrem/hr	Millirem per hour
mSv/hr	Millisieverts per hour
M&TE	Measuring and test equipment
MW	Mixed waste
nCi/g	Nanocuries per gram
NCSE	Nuclear Criticality Safety Evaluation
NDA	Nondestructive assay
NDEP	Nevada Division of Environmental Protection
NDOT	Nevada Department of Transportation
NIC	NNSSWAC Implementation Crosswalk
NMMSS	Nuclear Materials Management and Safeguards System
NNSA	National Nuclear Security Administration
NNSA/NFO	National Nuclear Security Administration Nevada Field Office
NNSS	Nevada National Security Site
NNSSWAC	<i>Nevada National Security Site Waste Acceptance Criteria</i>
NOV	Notice of Violation
NR	Naval Reactors
NRC	U.S. Nuclear Regulatory Commission
O	Order

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OCC	Operations Command Center
OFI	Opportunity for improvement
ORPS	Occurrence Reporting and Processing System
OSHA	Occupational Safety and Health Administration
OT	Other
OVP	Over-Dimensional Vehicle Permits
PCB	Polychlorinated biphenyl
pCi/g	Picocuries per gram
PCL	Package certification label
PFAS	Per-and polyfluoroalkyl substance
PK	Process knowledge
POC	Point of contact
PSDR	Package Shipment Disposal Request
PTNF	Pre-Treatment Notification Form
QA	Quality assurance
QAP	Quality Assurance Program
QAPP	Quality Assurance Program Plan
RACM	Regulated asbestos-containing material
RCA	Root cause analysis
RCRA	<i>Resource Conservation and Recovery Act</i>
rem/hr	Rem per hour
R/hr	Roentgens per hour
RTR	Real-time radiography
RWAP	Radioactive Waste Acceptance Program
RWMC	Radioactive Waste Management Complex
RWMS	Radioactive Waste Management Site
RWP	Radiological Work Permit
SAP	Sampling and Analysis Plan
SAR	Safety Analysis Report
S/CI	Suspect/Counterfeit Items
SDS	Safety Data Sheet
SME	Subject matter expert
SPO	Security Police Officer
SPP	Strategic Partnership Program
STD	Standard
TBq	Terabecquerel
TID	Tamper-indicating device
TRU	Transuranic

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TSDF	Treatment, storage, and disposal facility
TWAC	Technical and Regulatory Waste Acceptance Criteria
UHWM	Uniform Hazardous Waste Manifest
USDA	U.S. Department of Agriculture
WAC	Waste Acceptance Criteria
WARP	Waste Acceptance Review Panel
WCO	Waste Certification Official
WCP	Waste Certification Program
WCPP	Waste Certification Program Plan
WG	Waste Generator
WP	Waste Profile
°C	Degree Celsius
μCi	Microcurie
μg/L	Micrograms per liter

1.0 Purpose and Scope

This document establishes the *Nevada National Security Site Waste Acceptance Criteria* (NNSSWAC) for the U.S. Department of Energy (DOE), National Nuclear Security Administration Nevada Field Office (NNSA/NFO) and DOE Environmental Management (EM) Nevada Program. The NNSSWAC provides the requirements, terms, and conditions under which the Nevada National Security Site (NNSS) will accept waste. The NNSS has the following express purposes:

- Support ongoing National Nuclear Security Administration (NNSA) operations critical to national security.
- Support the DOE mission of remediating Cold War legacy sites.
- Support other DOE missions, including Office of Science, Nuclear Energy, and Nuclear Nonproliferation programs.
- Ensure long-term protection of national security interests by providing a secure, compliant, permanent outlet for classified waste for DOE/NNSA and for the U.S. Department of Defense (DoD).
- Serve the national interest through the acceptance of radioactive sources or radioactive waste (or as directed by U.S. Congress) that the U.S. Government has taken ownership of when it is in the interest of national security and public safety.

The NNSSWAC is designed to ensure that adherence to its requirements will result in waste that is compliant with applicable federal and state regulations, DOE orders, permits, and authorizations. Classified matter to be shipped for permanent burial at the NNSS is not addressed under the NNSSWAC. Separate acceptance criteria and instructions will be provided to facilities managing classified matter destined for burial at the NNSS.

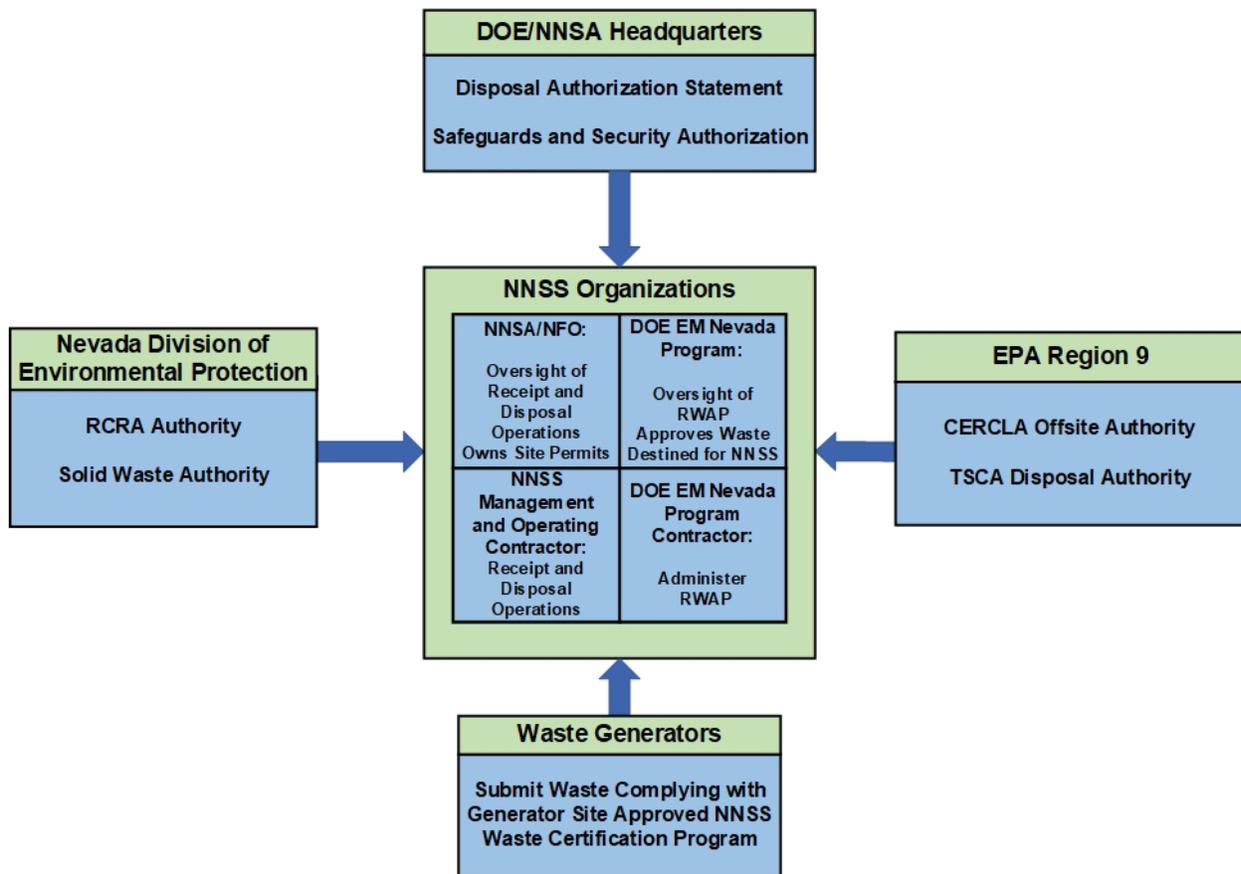
The NNSSWAC specifies controls that promote the protection of the environment, workers, and members of the public from physical, chemical, and radiological hazards through waste transportation and disposal at the NNSS.

This NNSSWAC fulfills requirements outlined in DOE O 435.1, *Radioactive Waste Management*; the disposal authorization statement (DAS); the documented safety analysis (DSA); State of Nevada hazardous waste regulations and state-issued permits; and relevant state

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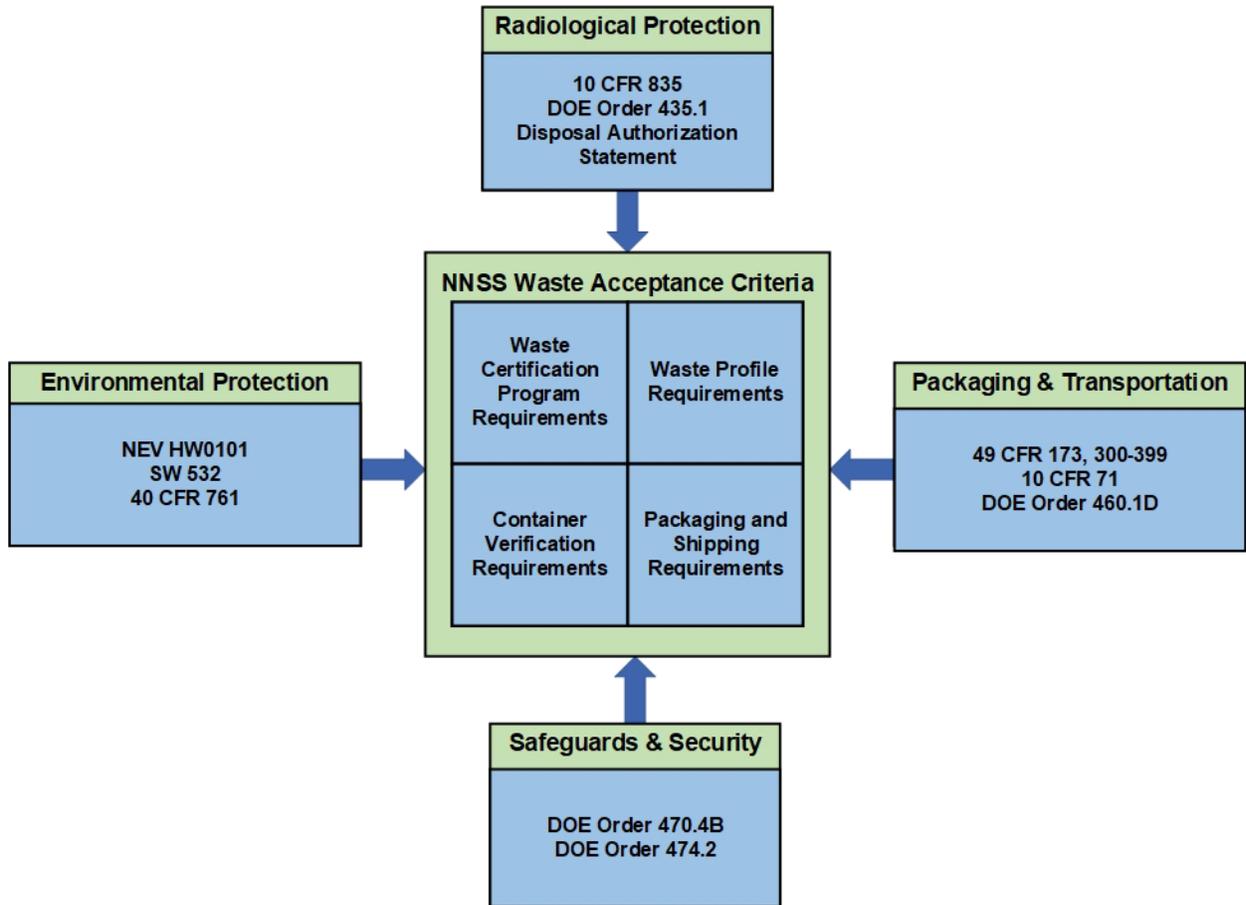
and federal regulations. This document applies to all entities shipping waste to the NNS Radioactive Waste Management Complex (RWMC) (hereafter, “RWMC” references both the Area 5 RWMC and Area 3 Radioactive Waste Management Site [RWMS]) for disposal. Changes to DOE O 435.1 and the other listed requirement sources will be reviewed and, as necessary, addenda or interim direction will be issued in accordance with [Section 1.1.1](#) and incorporated into subsequent revisions.

A depiction of the NNS program structure with organizational interaction and key regulatory drivers is included as [Figures 1-1](#) and [1-2](#), respectively.



**Figure 1-1
Organizational Interactions**

NNSWAC Administrative Waste Acceptance Criteria



**Figure 1-2
Key Regulatory Drivers**

1.1 NNSWAC Overview

The NNSWAC is divided into two (2) volumes: the Administrative Waste Acceptance Criteria (AWAC), and the Technical and Regulatory Waste Acceptance Criteria (TWAC). The AWAC specifies administrative processes and is designed to be revised to reflect NNS operational changes. The TWAC identifies waste form requirements derived from regulations and governing site documents. Revisions to the TWAC are contingent upon changes to the performance assessment, the DSA, state-issued permits, or pertinent regulations. Waste Generators (WGs) *shall* comply with requirements contained in both the AWAC and TWAC.

AWAC and TWAC requirements directly related to the Waste Certification Program (WCP) are identified by the inclusion of the term “*shall*.” Non-bolded *shall* statements derive from NNS

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operating procedures or state agreements. Bolded *shall* statements are derived from federal or state regulations, permits, the DAS, or the DSA. Source documentation for references will be maintained on the Radioactive Waste Acceptance Program (RWAP) SharePoint site (hereafter, “SharePoint”). Current contact information for NNS personnel with responsibilities defined in the NNSWAC are listed in [Appendix A](#) and will also be maintained on SharePoint. Alerts will be sent to WGs when references or contact information updates are made in SharePoint.

The appendices include examples of forms referenced in the NNSWAC. Current versions of forms will be retrievable from SharePoint. Alerts will be sent to WGs when forms are updated in SharePoint. NNSWAC forms are required to be submitted via SharePoint, or as directed in the AWAC or TWAC. Electronic signatures through Entrust or other encryption software are accepted. New generators *shall* contact the SharePoint Administrator for RWAP, as identified in [Appendix A](#), to obtain access to SharePoint. The RWAP Manager may authorize alternative submissions mechanisms in the event a WG cannot access SharePoint.

NO CLASSIFIED INFORMATION IS TO BE UPLOADED TO SHAREPOINT. THE WG *SHALL* NOTIFY THE RWAP MANAGER TO COORDINATE SUBMISSIONS OF CLASSIFIED NNS DOCUMENTS (E.G., PRE-TREATMENT NOTIFICATION FORMS [PTNFs], WASTE PROFILES [WPs]).

1.1.1 Changes to the NNSWAC

The NNSA/NFO Manager, in conjunction with the DOE EM Nevada Program Manager, may issue revisions, addenda, and interpretations to the NNSWAC. Addenda, interim direction, and interpretations are considered NNSWAC requirements and will be formally issued with a required implementation date. Failure to adhere to an addendum, interim direction, or interpretation after the required implementation date may result in a finding.

1.1.1.1 Addenda and Interim Direction

Addenda and/or interim direction are issued to the DOE/NNSA site office or senior facility management for non-DOE/NNSA sites by formal letter. Addenda are to enact new requirements, and interim direction are to enact changes to existing requirements without issuing formal revisions. Addenda/interim direction will be incorporated in future NNSWAC revisions.

1.1.1.2 Interpretations

Interpretations are issued to DOE/NNSA site offices by formal letter to clarify existing NNSWAC requirements without issuing formal revisions. Interpretations will be incorporated in future NNSWAC revisions.

1.1.1.3 Guidance

Guidance is issued by the RWAP Manager via email to WGs. Guidance includes responses to questions, best practices, lessons learned, and other clarifying information regarding NNSWAC requirements. Unlike addenda or interpretations, WGs are not required to comply with guidance.

1.1.1.4 Alerts

Alerts are issued by the RWAP Manager or the RWMC Waste Operations Supervisor via email to WGs. Alerts are provided for immediate awareness and action regarding arising conditions, but do not require program changes.

1.2 NNS Eligibility

The following wastes are eligible for disposal at the NNS: (1) low-level waste (LLW), (2) mixed low-level waste (MLLW), and (3) non-radioactive classified waste originating from DOE/NNSA-funded sites and/or operations. DOE/NNSA-funded operations include those operations that accept and manage sources originating from non-DOE/NNSA facilities.

1.2.1 DOE/NNSA Waste

Waste without a clear and unambiguous nexus to DOE/NNSA will be verified by NNSA in consultation with DOE to be eligible for disposal. Federal personnel responsible for wastes generated at sites not under current DOE management may contact the DOE EM Nevada Deputy Program Manager, Operations for guidance on determining eligibility for disposal at the NNS.

Waste transferred from a DOE/NNSA site to a commercial treatment, storage, and disposal facility (TSDF) for storage, sorting, treatment, and/or sanitization is eligible for disposal at the NNS provided that the waste is traceable to the originating DOE/NNSA site.

1.2.2 DoD Waste

Classified DoD waste (radioactive or non-radioactive) is authorized for disposal at the NNSS. Non-classified radioactive waste originating from DoD operations is eligible for disposal at the NNSS if a positive Eligibility Determination is made.

1.3 NNSSWAC Roles and Responsibilities

The following subsections describe the organizational roles and responsibilities for selected NNSSWAC organizational positions. Additional personnel and contact details for contacts and data submissions are identified in [Appendix A](#) and on SharePoint.

1.3.1 Federal Personnel

1.3.1.1 NNSA/NFO Manager

The NNSA/NFO Manager is the Field Element Manager for ensuring that safety, security, maintenance, and nuclear safety programs for radioactive waste management activities at the RWMC are conducted by the site contractor in accordance with all applicable state and federal regulations, DOE orders, and state-issued permits and authorizations. The NNSA/NFO Manager is responsible for coordination with the DOE EM Nevada Program Manager to ensure operational alignment with the NNSSWAC. This includes engaging and obtaining DOE EM Nevada Program concurrence on operational changes, permit modifications, and/or interpretations that impact the NNSSWAC and coordinating on communications elevated to DOE/NNSA Headquarters (HQ).

1.3.1.2 DOE EM Nevada Program Manager

The DOE EM Nevada Program Manager is responsible for ensuring that programs are established and funded to execute the RWAP and associated radioactive waste management activities at the RWMC in accordance with applicable state and federal regulations, DOE orders, and state-issued permits and authorizations. This includes managing RWAP in evaluating independent oversight of generator compliance with the NNSSWAC; administrating independent waste verification; and maintaining the NNSSWAC. The DOE EM Nevada Program Manager is responsible for issuing addenda, revisions, and/or interpretations to the NNSSWAC in

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conjunction with NNSA/NFO. In addition, the DOE EM Nevada Program Manager coordinates with the NNSA/NFO Manager to ensure operational alignment on radioactive waste disposal activities and coordinating on communications elevated to DOE/NNSA HQ.

1.3.1.3 DOE EM Nevada Deputy Program Manager, Operations

The DOE EM Nevada Deputy Program Manager, Operations is responsible for oversight of RWAP scope, schedule, execution, and budget. The DOE EM Nevada Deputy Program Manager, Operations is the primary point of contact (POC) for initiating and receiving federal correspondence and notifications on behalf of the NNSR regarding WCPs, WPs, and waste shipments to the RWMC.

1.3.1.4 Local DOE/NNSA Site Federal Personnel and DoD Federal Personnel

Federal personnel at each local DOE/NNSA waste generating site are responsible for ensuring that work is planned considering the waste to be generated and that commensurate funding is budgeted to ensure waste destined for the NNSR is certified to the requirements of this NNSSWAC. The local DOE/NNSA office is also responsible for declaring contractor readiness prior to requesting an RWAP assessment for new programs and programs that have been suspended.

The local DOE/NNSA site office is required to identify a site representative as the primary contact for NNSR federal personnel regarding WCP and WP submissions. The local DOE/NNSA site representative is responsible for responding to requests from the DOE EM Nevada Deputy Program Manager, Operations or from other NNSR federal personnel. The local DOE/NNSA site office representative is responsible for ensuring that the contractor's Waste Certification Official (WCO) has a mechanism for reporting safety, quality, and/or compliance issues.

DOE/NNSA federal personnel overseeing projects conducted at a facility other than a DOE or NNSA site but shipping waste for disposal at the NNSR are responsible for adhering to the requirements specified in this section. DoD personnel overseeing the shipment of waste for disposal at the NNSR are also responsible for adhering to the requirements specified in this section.

1.3.2 NNS Contracting

1.3.2.1 DOE EM Nevada Program Contractor – RWAP Manager

The RWAP Manager is responsible for maintaining the program for evaluating WCPs, administering WP reviews, chairing the Waste Acceptance Review Panel (WARP), conducting waste verifications, and reporting on these activities to the DOE EM Nevada Deputy Program Manager, Operations. The RWAP Manager's office serves as the primary POC for WCO NNSSWAC inquiries, facility evaluations (FEs), verifications, and WP submissions.

1.3.2.2 NNSA/NFO Contractor – RWMC Waste Operations Supervisor

The RWMC Waste Operations Supervisor oversees the scheduling, receipt, handling, and compliant placement of waste. The RWMC Waste Operations Supervisor coordinates information requests regarding discrepancies involving packages or shipments received at the RWMC, and responds to non-emergency questions arising during transit. The RWMC Waste Operations Supervisor serves as the primary POC for RWMC shipment scheduling and logistics. The RWMC Waste Operations Supervisor has delegated specific operational and reporting functions as noted in this NNSSWAC.

1.3.2.3 NNSA/NFO Contractor – Operations Command Center

The Operations Command Center (OCC) receives initial notifications regarding in-transit waste shipment incidents or delays. The OCC relays notifications to cognizant NNSA/NFO and DOE EM Nevada Program federal and contractor personnel for action.

1.3.3 Generators Submitting Waste to the NNS

1.3.3.1 Site Contractors

Site contractors are those executing work on sites owned and operated by DOE/NNSA and other government-contracted fixed facilities with an ongoing mission. When submitting waste to the NNS, these site contractors are responsible for establishing a WCP aligned with NNSSWAC requirements with a designated WCO. Site contractors are expected to support the WCO and

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wider staff personnel in self-identifying and reporting issues proactively, and to participate in sharing lessons learned across the complex.

The site contractor is responsible for submitting requested documentation relative to site programs, including forecasting, and/or specific wastes and for ensuring necessary facility access for RWAP and observers to complete FEs and waste verifications.

1.3.3.2 Commercial TSDFs

Commercial TSDFs have the same responsibilities identified in [Section 1.3.3.1](#). Commercial TSDFs *shall* identify the senior facility manager with authority over budget and schedule.

The TSDFs *shall* also adhere to these additional requirements:

- Participating in the DOE Consolidated Audit Program (DOECAP).
- Notifying the RWAP Manager of entries related to waste management that must be reported into the U.S. Environmental Protection Agency (EPA) Enforcement and Compliance History Online (ECHO) website for facilities managing DOE/NNSA wastes.
- Notifying the RWAP Manager of waste to be disposed at the NNSS prior to acceptance for treatment through [Pre-Treatment Notification Forms \(PTNFs\)](#) or other agreed means.

1.3.3.3 Other Non-DOE/NNSA Facilities

Other facilities that establish a DOE/NNSA nexus that produce waste for disposal at the NNSS have the same responsibilities as in [Section 1.3.3.1](#).

1.3.3.4 Project Contractors

Project contractors are responsible for fixed work scopes with defined waste types and volumes. Projects have scheduled completion dates, and are conducted at DOE/NNSA or other sites that do not have an established WCP.

For projects shipping waste to the NNSS, the project contractor *shall* develop a WCP or *shall* establish a contract with an entity with an established WCP. A WCO *shall* be identified with responsibility to oversee implementation of the WCP and certification of each package

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shipped to the NNSS. Waste certification criteria are required to be applied to the specific project site waste.

1.4 Fines/Penalties

Fines and penalties incurred by the NNSS for the failure of the WG to adhere to the requirements of this NNSWAC will be referred to DOE/NNSA HQ, as appropriate.

2.0 NNSW Waste Certification Program

The NNSSWAC is based on the premise that generators have well-established, documented work control systems for the execution of work processes, including waste management. Work control systems *shall* include training (initial and continuing) for personnel generating waste commensurate with their responsibilities to ensure awareness of proper handling protocols (e.g., identification of prohibited items, appropriate disposal receptacles) and whom to contact for evaluating new waste(s). The WG *shall* ensure that the WCO and Alternate Waste Certification Official (AWCO) (if applicable) are trained to the requirements of the AWAC and TWAC prior to assuming WCO certification duties.

WGs *shall* document, maintain, and implement a WCP in compliance with the AWAC and TWAC; and with DOE O 435.1, *Radioactive Waste Management*, and associated directives. The WCP may stand alone, or may be incorporated into the site or project Quality Assurance (QA) Program (QAP). The controlling documentation (e.g., plans, procedures, work instructions, operator aids) that make up the WCP may reference the AWAC or TWAC for specific NNSW criteria. The WG *shall* maintain an organization chart that specifically depicts key WCP functions (characterization, packaging, certification, transportation) and support organizations including, but not limited to, procurement, training, and contracts.

The WG's QA Program *shall* comply with DOE O 414.1D, *Quality Assurance*; or 10 *Code of Federal Regulations* (CFR) 830.122, "Quality Assurance Criteria." Detailed QA requirements *shall* be addressed in the WG's Quality Assurance Program Plan (QAPP) or WCP-specific Waste Certification Program Plan (WCPP). The WG *shall* provide a current copy of the QAPP or WCPP to the RWAP Manager via SharePoint. The WG *shall* ensure that software is managed in accordance with DOE O 414.1D and DOE O 200.1A, *Information Technology Management*.

The WCPP *shall* identify site or project programs that provide necessary elements (e.g., training, document control, records retention and storage). The WCPP *shall* address task-specific or specialty training requirements and qualifications for waste management functions (e.g., training to interpret radiographs, signing transportation documentation), including when services are contracted out. The WG *shall* submit the QAPP and/or WCPP to the RWAP Manager when

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requesting initial program approval and when it is revised. Specific items to be addressed under DOE 414.1D as they apply to an NNSW WCPP are included in [Appendix B](#).

Project contractors may have a dedicated Project QAPP and/or WCPP. For WGs who perform routine work (e.g., shipment of sources) at remote locations, the *Guidance for Planning and Performing Off-Site Waste Certification* may be used.

2.1 WCO Empowerment and Responsibilities

The WCO is considered NNSW's primary WG POC. The WG *shall* empower the WCO to execute their responsibilities without pressure regarding schedule or budget. The WG *shall* empower the WCO to interface with the local DOE/NNSA site office for NNSSWAC compliance issues that cannot be resolved through the WG's management chain. For sites without a local DOE/NNSA site office, the WCO *shall* be empowered by senior facility management to contact the DOE EM Nevada Deputy Program Manager, Operations or the RWAP Manager directly for NNSSWAC compliance issues.

The WG *shall* maintain written procedures directing the work elements of the WCO. The WCO *shall* execute or delegate the specific responsibilities detailed in the following subsections. The AWCO and package certifier(s) *shall* report to the WCO when undertaking certification duties.

2.1.1 WCO Review and Concurrence of Controlling Documentation

The WCO *shall* document their participation in the review and concurrence of controlling documentation (including revisions) critical to waste certification activities (e.g., generation, packaging, inspection, characterization, certification).

2.1.2 NNSSWAC Implementation Crosswalk

The WCO *shall* ensure that an [NNSSWAC Implementation Crosswalk \(NIC\)](#)—identifying NNSSWAC requirements and the WG's WCP implementing procedures, processes, and/or methods—is available and accurate. The WCO *shall* conduct and document an annual NIC review and revise as necessary. The initial NIC and any revisions *shall* be signed and dated by

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the WCO. If the annual review indicates no changes are necessary, the WCO *shall* sign and date the NIC to acknowledge that no changes are necessary. The WCO *shall* submit the initial NIC and annual review documentation to the RWAP Manager via SharePoint or email to RWAP@emnv.doe.gov.

Unless specified otherwise by DOE EM Nevada Program, within 90 days of an NNSSWAC revision, interim guidance, interpretation, or addendum, the WCO *shall* submit a revised NIC or a record of review indicating no revisions to the RWAP Manager.

For projects ([Section 1.3.3.4](#)) not executed under an approved, contracted WCP, the WCO *shall* submit a signed and dated, project-specific NIC reflecting applicable processes and/or methods a minimum of 60 days prior to the start of the project to the RWAP Manager.

2.1.3 Certifying WPs

The WCO *shall* certify each WP submitted is an accurate and current representation of the waste. The WCO *shall* engage with onsite WGs to ensure process parameters such as materials of construction, system inputs, operational conditions, waste forms, and contaminant loading have been considered and evaluated. For multi-generator waste streams such as dry active waste (DAW), the WCO *shall* develop a protocol for determining which generators are engaged (e.g., largest generators, highest activity areas, past performance).

Annual recertification requirements are discussed in [Section 4.3](#).

2.1.4 Package Certification

Each package *shall* be certified prior to shipment. Each package certification *shall* be completed by the WCO, the AWCO(s), or a delegated package certifier based on WG controls that ensure the waste traceability.

At a minimum, the package certifier *shall* confirm the following:

- The waste and the packaging are as described on the WP.
- No prohibited wastes as defined in the TWAC are present.

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- Restricted wastes as defined in the TWAC meet the requirements as specified in the TWAC, Table 3-3.
- Packages with MLLW or classified hazardous waste meet permit requirements as specified in the TWAC.
- Packages with regulated asbestos-containing material (RACM) meet permit requirements as specified in the TWAC.
- The package is closed in accordance with manufacturer's instructions or as stated in the approved WP.

The package certifier *shall* sign and ensure the package certification label (PCL) is affixed to the package in accordance with [Section 7.5.3.1](#).

The WCO *shall* submit a list and contact information for authorized package certifier(s) to the RWAP Manager and the RWMC Waste Operations Supervisor prior to release of the first shipment. The WCO *shall* provide new or revised contact information prior to release of packages with their certification signatures.

2.1.5 Shipment Certification

The WCO or the AWCO(s) *shall* certify that each NNSS-bound shipment complies with AWAC and TWAC requirements. The WCO *shall* document certification in accordance with [Section 10.2.2](#).

2.1.6 Corrective Action Concurrence

The WCO *shall* document their involvement in the corrective action processes related to issues involving management of waste destined for the NNSS, including issues identified prior to certification involving procurement, analytical services, nondestructive testing, treatment, packaging, and transportation.

2.2 WG Surveillance and Assessment

The WG *shall* ensure that resources are available to complete assessments specified in the following subsections.

2.2.1 WG Surveillance

Surveillances *shall* assess the application of controlling documentation (e.g., plans, procedures, work instructions) to actual work performed and *shall* include objective evidence of compliance. Surveillances supporting the WCP *shall* focus on the following: criteria of DOE O 414.1D or 10 CFR 830.122; radiological and chemical characterization; waste traceability; and waste packaging and transportation. The WCO or the AWCO *shall* ensure that there is a documented annual plan for surveillances that is tracked through completion. The WCO *shall* ensure subject matter experts (SMEs) completing surveillances are independent of the work being performed.

2.2.2 Management Assessment

The WG *shall* conduct management assessments in accordance with DOE O 414.1D or 10 CFR 830.122. The WCO *shall* document their review of management assessments that pertain to WCP elements. The WCO *shall* document their involvement in the review of any corrective actions, resulting from management assessments, pertinent to the WCP.

2.2.3 Annual Independent Assessment

The WG *shall* ensure an independent assessment of the WCP is completed annually, which is recognized to be within ten (10) to twelve (12) months of the prior assessment. The WCO may request an extension from the RWAP Manager with an estimated date for completion. The independent assessment *shall* include a review of AWAC and TWAC requirements. The independent assessment *shall* be led by a qualified lead assessor, independent of the work performed. The WCO *shall* submit the independent assessment to the RWAP Manager via SharePoint within thirteen (13) months of the last submission.

The WG may accumulate surveillances completed within twelve (12) months of the last annual independent assessment to satisfy the independent assessment requirement. The accumulated surveillances *shall* include an assessment of each NNSSWAC WCP key area: QA, radiological characterization, chemical characterization, waste traceability, and waste packaging and transportation. Assessments performed by state EPA, federal EPA, U.S. Nuclear Regulatory Commission (NRC) inspectors, local assessors, and DOECAP may be used in the report. The surveillances *shall* be evaluated by an independent, qualified lead assessor who *shall* prepare a

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report identifying trends, the assessed program elements, activities, conclusions, findings, observations, and the effectiveness of the surveillance program. WG site QA personnel or other site SMEs may be used for the review of the assessments if their independence is documented in the assessment report.

WG *shall* provide supporting information as requested by RWAP.

New WGs *shall* complete an independent assessment of their WCP to NNSWAC requirements as a part of establishing their program. Corrective action completion *shall* be verified by the WG prior to requesting an initial RWAP onsite FE. The assessment report and completed corrective actions *shall* be submitted to the local DOE/NNSA site organization or facility senior management for non-DOE/NNSA sites for submission to the DOE EM Nevada Deputy Program Manager, Operations with the request for an RWAP FE.

2.3 Program Notifications

The WCO *shall* notify the RWAP Manager of changes to key certification personnel, organizational changes impacting certification personnel reporting lines, site contractor changes, or changes to subcontractors involved in waste management.

The WCO is requested to provide copies of news articles prepared by the WG site that discuss disposal shipments to the NNSWAC to the RWAP Manager prior to publication.

The WCO *shall* notify the RWAP Manager of any of the following upon discovery:

- Information that may result in changes to the chemical or radiological values or regulatory categorization reported for waste previously disposed at the NNSWAC.
- Notification of any *Price-Anderson Amendments Act* action taken by the local DOE/NNSA office for waste management activities.
- Information that indicates that the chemical or radiological characteristics documented on the NNSWAC WP may be incomplete or incorrect, or there is other emerging information that may impact the overall waste package contents or integrity for an active NNSWAC WP.
- Occurrence Reporting and Processing System (ORPS) notifications regarding waste shipped or approved for shipment to the NNSWAC or shipped to any other TSDF.

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- Receipt of potential or final Notice of Violation (NOV) or Finding of Alleged Violation (FOAV) from a federal, state, or local authority regarding wastes shipped or approved to ship to the NNSS or shipped to any other TSDFs.
- Receipt of potential or final NOV's or FOAV from a federal, state, or local authority issued against a *Resource Conservation and Recovery Act* (RCRA) storage and/or treatment permit.
- Violation of onsite disposal facility DAS.

The WG *shall* provide additional information requested by the RWAP Manager regarding the notification. Notification requirements regarding waste in transit are included in [Table 12-1](#). Corrective actions are addressed in [Section 2.1.6](#).

3.0 WCP Approval and Evaluation Process

The WCP initial approval and ongoing evaluation processes combine FEs and document reviews to assess program implementation. The WG *shall* provide requested information to the designated RWAP Lead.

3.1 RWAP Facility Evaluations

RWAP FEs are conducted at the direction of DOE EM Nevada Program and may be conducted as audits, surveillances, or verifications. FEs may be conducted at the WG's site, remotely, or in combination. FEs will be executed by RWAP personnel and SMEs working under their technical direction. DOE EM Nevada Program, Nevada Division of Environmental Protection (NDEP) personnel, and other participants or observers may also be present. Each FE will have a designated RWAP Lead to coordinate logistics and information requests for participants and observers. The WG *shall* provide site and facility access for FE participants and observers, including access to classified areas based on clearances and need-to-know.

WGs forecasting zero shipments for an upcoming fiscal year (FY) (October 1 through September 30) but who subsequently determine a shipment is required *shall* notify the RWAP Manager a minimum of ninety (90) days in advance of the proposed shipment date, and an FE will be scheduled. A WG that has not shipped for two (2) consecutive fiscal years *shall* undergo an FE prior to resuming shipments to the NNSS.

3.1.1 RWAP Audits

An audit is a comprehensive assessment and evaluates the five (5) program elements: radiological characterization, chemical waste characterization, QA, packaging and transportation, and waste traceability. The audit team will assess WCP controlling documentation and *shall* verify implementation through reviewing objective evidence.

3.1.1.1 RWAP Audits for Approved WGs

Audits are formally scheduled a minimum of thirty (30) days in advance by the DOE EM Nevada Deputy Program Manager, Operations or designee through correspondence to the local DOE/NNSA site representative or to the senior facility manager for non-DOE/NNSA sites.

3.1.1.2 RWAP Audits for New WGs

New WGs *shall* undergo an onsite RWAP audit as part of obtaining WCP approval. New WGs are encouraged to use an assist visit as described in [Section 3.1.4](#) to identify potential weaknesses prior to the onsite audit.

New WGs *shall* submit a request for an RWAP onsite audit via their local DOE/NNSA site office to the DOE EM Nevada Deputy Program Manager, Operations a minimum of ninety (90) days prior to the desired audit date.

No less than forty-five (45) days in advance of the planned audit date, the WG *shall* submit a QAPP/WCPP, completed NIC, independent assessment report, and WP in accordance with [Sections 2.1.2](#), [2.2.3](#), and [4.2](#), respectively. The onsite audit will be scheduled after the local DOE/NNSA site office submits a written notice to the DOE EM Nevada Deputy Program Manager, Operations that the contractor has established a WCP compliant with the NNSSWAC.

The WG *shall* provide information requested by the RWAP audit lead.

3.1.2 RWAP Surveillances

Surveillances evaluate specific programmatic and/or operational element implementation. They may include one or more of the following: (1) specific program element evaluation(s), (2) corrective action evaluation(s), or (3) verifications as described in [Section 3.1.3](#).

Surveillances are scheduled directly between RWAP and the WG. There is no defined advance notification time requirement.

3.1.3 RWAP Verifications

Verifications evaluate waste streams and/or waste containers compliance with the WP.

Verifications are categorized as follows:

- Physical verifications
 - Real-time radiography (RTR)
 - Direct visual (e.g., observing content loading)
 - Other visual (e.g., video)
- Chemical verifications
 - Sampling and analysis provided by the generator
 - Sampling and analysis observed by RWAP
 - Field kits or other field tests
- Alternative methods recommended by WARP with NDEP consultation

Ten (10) percent of all MLLW and classified hazardous waste containers **shall** be verified through physical, chemical, or alternative methods; or as recommended at WARP with NDEP consultation. [A.2.1](#) Additionally, containers requiring disposal in the Solid Waste Permitted SW 532 cell (e.g., RACM) **shall** be verified at a rate of ten (10) percent or as recommended at WARP with NDEP consultation. [A.2.2](#) The WP approval letter will denote whether verification is required along with the required frequency. Verification may be conducted at either the WG's site or upon receipt at the RWMC. Verification at the RWMC is limited to RTR.

WGs *shall* submit notifications for visual verifications or for analytical verification sampling (e.g., collection or observation of split samples) directly to the RWAP Manager via email to RWAP@emnv.doe.gov. Requests should be made thirty (30) days in advance where possible.

Requirements for specific verification techniques are described in [Sections 3.1.3.1](#) through [3.1.3.3](#).

3.1.3.1 Physical Verifications

Physical verifications are observations of the actual waste. Visual verifications are the most common form of physical verification and are visual observations of waste container contents. The WG **shall** affix a non-lead tamper-indicating device (TID) to the verified waste package. [A.2.1](#)

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The verifier will complete a label indicating the container has been visually verified, recording the affixed TID number for confirmation upon receipt at the NNSS. The WG *shall* affix the label in the presence of the verifier. The WG *shall* mark the [Package Shipment Disposal Request](#) (PSDR) instructions, example included in [Appendix D](#), to denote the presence of the verification label.

RWAP is responsible for conducting verifications. RWAP-trained local DOE/NNSA site personnel who have volunteered and have been authorized by the DOE EM Nevada Deputy Program Manager, Operations may conduct visual verifications to satisfy visual verification requirements when agreed by the RWAP Manager. The WG *shall* coordinate with the RWAP Manager for scheduling visual verifications to be performed by local DOE/NNSA site personnel. Upon verification checklist review and resolution of any issues, the RWAP Manager will provide a signed waste verification approval to the WG.

If restrictions or limitations prevent onsite physical observations, the WG *shall* provide videos, digital recordings, RTR videographs, and/or detailed photographs of waste treatment and/or waste contents for review.

3.1.3.2 Chemical Verifications

The most common chemical verification technique consists of analysis of a split sample of the waste to verify the stated WP waste type (e.g., LLW, land disposal restriction [LDR]-compliant MLLW) or to screen for key characteristics (e.g., pH, moisture via paint filter test). The WP approval letter will identify the frequency of verification, and the analytical methods and analytes to be verified. The WG *shall* physically collect samples using the same protocols as identified in the WP (e.g., grab or composite) in the verifier's presence. The WG *shall* affix a non-lead TID to the MLLW or classified hazardous waste package after sampling. [A.2.1](#) The RWAP verifier will complete a label indicating the container has been sampled for verification, recording the affixed TID number for confirmation upon receipt at the NNSS. The WG *shall* affix the label in the presence of the verifier.

The WG *shall* manage and package the split sample(s) in accordance with the WG site's procedures. The WG *shall* confirm that the laboratory can accept the split sample based on the

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laboratory's permits and radiological license. The WG *shall* notify the RWAP Manager if there is an issue with the designated laboratory receipt based on their permits or license. The WG *shall* ship the split sample to the laboratory under the RWAP billing codes for shipment and analysis with a DOE EM Nevada Program's Environmental Program Services contractor's chain-of-custody provided by RWAP.

The WG *shall* participate in resolution of any issues or questions arising from the sample results. RWAP will use DOECAP-accredited laboratories for chemical constituent verification analyses.

3.1.3.3 Alternative RWAP Verifications

Alternative verifications may be specified by WARP. These may include onsite reviews prior to removal and packaging, such as an asbestos abatement project. An onsite WP verification is another alternative verification and is an in-depth confirmation of the information in the WP. The WG *shall* ensure that personnel knowledgeable about the selected WP's generation, characterization, and packaging—preferably from the point of initial generation—are available for interviewing.

3.1.4 RWAP Assist Visit

Assist visits typically involve review of a new program or corrective action implementation. RWAP will provide a written assist report, but the WG is not required to respond. RWAP will follow up on identified issues during subsequent FEs.

Assist visits may be requested in writing from the local DOE/NNSA site federal or project office to the DOE EM Nevada Deputy Program Manager, Operations.

3.2 Responding to Findings, Observations, Opportunities for Improvement, and Discrepancies

A finding is issued whenever an NNSSWAC violation is discovered, including during an FE, upon waste receipt, or upon review of records. Findings are issued by the DOE EM Nevada Program in writing to the local DOE/NNSA site office, or to the senior facility manager for non-DOE/NNSA sites. Program weaknesses noted during an FE will be noted as observations in the FE report. RWMC may notify the WG of discrepancies with shipping paperwork or packages

that do not meet the definition of a finding. Findings, observations, opportunities for improvement (OFIs), and discrepancies are tracked by RWAP. The WG *shall* enter findings, observations, OFIs, and discrepancies in their internal issues management system consistent with DOE O 226.1B, *Implementation of Department of Energy Oversight Policy*, or equivalent for WGs that adhere to 10 CFR 830.122 requirements.

3.2.1 Findings

3.2.1.1 Priority I Finding

A Priority I Finding is an issue documenting a regulatory violation or a deficiency from an NNSS requirement derived from site permits, the DAS, the DSA, or the site Nuclear Criticality Safety Evaluation (NCSE) that represents a substantial risk and liability to the NNSS. These requirements are denoted by the bolded *shall* requirements in the AWAC and TWAC. A Priority I Finding may also be issued for systemic issues that indicate serious programmatic weaknesses. The WG *shall* perform an extent-of-condition evaluation, a root cause analysis (RCA) to a recognized industry protocol to formally identify the primary cause(s) of the finding, and generate a corrective action plan (CAP) to prevent recurrence.

The CAP *shall* specify completion dates and objective evidence. The WG *shall* provide the CAP and subsequent closure evidence to the local DOE/NNSA site representative for submission to the DOE EM Nevada Deputy Program Manager, Operations. For commercial TSDFs or other non-DOE/NNSA facilities, the senior facility manager *shall* submit the CAP and closure evidence to the DOE EM Nevada Deputy Program Manager, Operations. Priority I Findings will be reviewed by WARP, and the WG *shall* respond to any requests for information until WARP deems the CAP acceptable. The CAP will specify the schedule for implementation, and WARP will specify evidence (if any) to be submitted for review prior to closure of the Priority I Finding.

The WG *shall* perform and document a corrective action effectiveness review for a Priority I Finding within twelve (12) months of closure. The results of the effectiveness review *shall* be submitted to the DOE EM Nevada Deputy Program Manager, Operations. RWAP will review closure of Priority I Findings during subsequent FEs unless otherwise specified by the DOE EM Nevada Deputy Program Manager, Operations.

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The DOE EM Nevada Program Manager will evaluate each Priority I Finding to determine whether a program and/or WP suspension will be issued. Suspensions and reinstatements are discussed in [Sections 3.3.2](#) and [3.3.3](#), respectively.

3.2.1.2 Priority II Finding

A Priority II Finding is an issue documenting a noncompliance with an internal WG requirement or NNSSWAC requirement not related to a regulation, the permit(s), the DAS, the DSA, or NCSE requirements and is denoted as a non-bold *shall* statement. The WG *shall* enter into their issues management system; perform an extent-of-condition, causal analysis in accordance with their site protocols; and submit a CAP to prevent recurrence. The CAP *shall* specify completion dates and objective evidence to be submitted. The WG *shall* provide the CAP to the local DOE/NNSA site office for submission to the DOE EM Nevada Deputy Program Manager, Operations. For commercial TSDFs or other non-DOE/NNSA facilities, the facility manager *shall* submit the CAP to the DOE EM Nevada Deputy Program Manager, Operations. Once CAP actions are complete, the local DOE/NNSA site office or facility manager submits closure evidence to the DOE EM Nevada Deputy Program Manager, Operations. RWAP will review closure documentation of Priority II Findings during subsequent FEs.

3.2.2 Observations

Observations are noted through FEs. An observation has no current impact to compliance but, if left unaddressed, could result in an NNSSWAC or regulatory noncompliance in the future. The WG *shall* enter observations in their issue management system. The WG *shall* provide a written response to observations to the DOE EM Deputy Manager, Operations stating what actions will be taken or the rationale for no action. RWAP will review observation closure actions during subsequent FEs.

3.2.3 Opportunities for Improvement

OFIs are noted through FEs. OFIs include deviations from standard industry practices, non-NNSSWAC based issues, or noted inefficiencies. The WG *shall* enter OFIs into their tracking system; no written response is required. RWAP will review during subsequent FEs.

3.2.4 Discrepancies

Discrepancies are items noted by RWMC personnel upon receipt of paperwork or packages (e.g., damaged labels or TIDs). The WG *shall* submit discrepancy responses directly to the RWMC Waste Operations Supervisor. Discrepancies are reviewed by the RWAP Manager to determine whether a finding is required.

3.3 Program Approvals, Suspensions, Reinstatements, and Closures

3.3.1 Program Approval

Upon completion of an onsite audit, closure of any corrective actions, and approval of a WP, the DOE EM Nevada Deputy Program Manager, Operations will issue the WP approval letter to the local DOE/NNSA site office, or to the senior facility manager for a commercial TSDF or other non-DOE/NNSA facility. Upon receipt of the WP approval letter, the WG may schedule shipments in accordance with [Section 11.0](#).

3.3.2 Program Suspension

The DOE EM Nevada Program Manager has the authority to suspend a WCP due to any of the following:

- A Priority I Finding
- Regulatory statute or permit violation related to waste shipped to the NNS
- Improper shipping paperwork (e.g., incorrect nuclide inventory or activity level reported)
- Repetitive program deficiencies
- Radiological contamination or dose event
- Incorrect waste characterization
- Waste container integrity deficiency
- Transportation routing or in-transit violation
- Inadequate nuclear criticality safety determination
- Extensive Priority II Findings noted during an RWAP FE
- Significant validated ORPS event or external assessment findings
- Any other issues the DOE EM Nevada Program Manager deems a risk to the NNS

A WG may voluntarily suspend their WCP. The WG *shall* notify the RWAP Manager and their local DOE/NNSA site office if they self-suspend. WP suspensions are discussed in [Sections 4.4](#) and [4.5](#).

3.3.3 Program Reinstatement

For WG self-suspensions, CAPs *shall* be submitted to the DOE EM Nevada Deputy Program Manager, Operations. The DOE EM Nevada Deputy Program Manager, Operations will provide a written response to the local DOE/NNSA site program or senior facility manager for non-DOE/NNSA sites either requesting further information, requiring an FE, or authorizing scheduling shipments in accordance with [Section 11.0](#).

For suspensions issued by the DOE EM Nevada Program Manager, an audit is required prior to reinstatement. Prior to scheduling the audit, the local DOE/NNSA site office or senior facility manager will submit a declaration that corrective actions are complete and the WG WCP is compliant with the NNSSWAC based on an independent assessment. RWAP will conduct an audit after review of the independent assessment.

WARP will review corrective actions, independent assessments, and audit results. Upon acceptance of the WG's corrective action evidence, WARP will make a recommendation to the DOE EM Nevada Program Manager to reinstate the WCP. Upon receipt of the reinstatement letter from the DOE EM Nevada Program Manager, the WG may resume scheduling shipments in accordance with [Section 11.0](#).

3.2.4 Program Closure

WGs *shall* notify the DOE EM Nevada Program Deputy Manager, Operations via email or letter if they no longer intend to ship waste to the NNSS under their WCP. The notification may be submitted by the site contractor, commercial site, project contractor, or the cognizant local DOE/NNSA site office.

4.0 Waste PTNFs and WPs

WGs *shall* ensure that [WPs](#) and waste [PTNFs](#) have a documented characterization basis in accordance with [Section 5.0](#). Examples of WPs and PTNFs are included in [Appendix D](#).

4.1 Pre-Treatment Notifications

The WG *shall* complete a PTNF for each RCRA characteristic hazardous waste undergoing treatment to remove the hazard prior to disposal as LLW and for any RCRA-listed hazardous waste undergoing treatment to render it compliant with LDRs. PTNFs are not required for hazardous debris being treated via macroencapsulation.

The WG *shall* upload unclassified PTNFs to SharePoint. The WG *shall* contact the RWAP Manager for directions on submitting classified PTNFs. All PTNFs will be reviewed by WARP.

4.2 WP Requirements

The WG *shall* complete a [WP](#), example included in [Appendix D](#), for each waste stream proposed for disposal in accordance with the associated WP instructions. [Profile A](#) is to be used for LLW (including classified waste with no hazardous constituents) and for LLW with polychlorinated biphenyls (PCBs) that are authorized for disposal in a State permitted municipal or non-municipal non-hazardous waste landfill. [Profile B is to be used](#) for MLLW (including non-radioactive classified hazardous waste) and for wastes with PCBs required to be shipped on a Uniform Hazardous Waste Manifest (UHWB). The WG *shall* upload unclassified WPs to SharePoint for WARP review.

The WG *shall* ensure that waste included on a WP originates under a single EPA generator number unless it is transported to a central accumulation site or to a commercial TSDF for treatment or management. The WG *shall* be responsible for documenting the commonality of wastes included on a WP. Commonality may be defined by any of the following:

- Waste physical, chemical, and/or radiological properties
- The generation source
- Common waste processing

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New WGs *shall* complete and upload at least one (1) WP to SharePoint prior to the initial program audit.

For MLLW and classified hazardous waste, the total waste volume and number of containers will be used to determine the percentage of verifications required under the NNS RCRA Part B Permit. The WG *shall* revise the WP if the number of containers changes by more than ten (10) percent, impacting the number of verifications required.

The WG *shall* have WPs reviewed by an Authorized Derivative Classifier/Reviewing Official (DC/RO) and marked according to DOE orders prior to submission. The WG *shall* contact the RWAP Manager via phone or email to RWAP@emnv.doe.gov if the WP is classified or if classified information associated with a WP is required to be transferred.

The WG *shall* provide a letter authorizing permanent burial for classified waste WPs. The WG *shall* ensure the letters are signed by the site security authority and clearly specify “waste.”

4.2.1 Wastes To Be Profiled Separately

The WG *shall* profile the following wastes separately from other wastes based on the waste characteristics, regulatory classification, or handling procedures: [A.3.2](#)

- RACM requiring disposal in the Solid Waste Permitted SW 532 landfill
- LDR-compliant MLLW
- LDR-compliant classified hazardous waste
- RCRA waste treated under a Treatability Variance
- RCRA waste subject to a “Contained-in” Determination
- RCRA waste treated under a Determination of Equivalent Technology
- Formerly RCRA characteristic waste that has undergone treatment to remove the characteristic
- PCB waste disposed under Risk-Based Disposal Authorizations
- Combined PCB/RCRA/RACM

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- Classified waste
- Packaged with sealed sources greater than 100 μCi
- DOE/NNSA wastes originating and shipped from non-DOE/NNSA sites unless being shipped from a commercial TSDF
- Soils originating from U.S. Department of Agriculture (USDA) fire ant quarantine areas
- Wastes originating from international sites
- Shipments using Federal Drivers
- Highway Route Controlled Quantity (HRCQ) wastes or Super Loads
- Waste shipped in U.S. Department of Transportation (DOT) Certificate of Compliance (COC) Type B casks
- Wastes or material submitted that have specified time and/or temperature limits associated with the packaging (e.g., waste in a model 9979 package)
- WPs with Category II (or greater) quantities of special nuclear material.
- Test specimens of fissionable material irradiated for research and development.

Note: WGs **shall** submit documentation for appropriate state or federal regulatory agency approved RCRA Treatability Variance(s), Risk-based Disposal Approval(s), Contained-in Determination(s), and Determination(s) of Equivalent Technology to the RWAP Manager via RWAP@emnv.doe.gov prior to or with the associated WP.

Note: The WG **shall** ensure that a security analysis is completed and concurrence is obtained from the NNS Security Expert for WPs listing Category II (or greater) quantities of special nuclear material. Contact the RWAP Manager via RWAP@emnv.doe.gov to coordinate submission of documentation.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) waste is not required to be profiled separately. If the NNS were to cease being eligible to receive CERCLA waste, any WP listing CERCLA would be suspended.

The WG **shall** provide the rationale for combining RACM with RCRA and/or PCB waste in the WP. [A.2.2](#)

4.2.2 Adding New Waste Streams to an Existing WP

The WG *shall* evaluate wastes to be added to an existing WP in accordance with the criteria specified in [Section 4.2.1](#). The WG *shall* identify waste streams added to an existing WP during the annual WP recertification as described in [Section 4.3](#).

WPs submitted by commercial TSDFs *shall* identify each source DOE/NNSA site. When adding a new DOE/NNSA generator to an existing WP, the commercial TSDF *shall* submit a revision and specify how the generator's waste was evaluated for inclusion on the WP.

4.2.3 NNSSWAC Deviations

Deviations may be submitted with a WP or submitted using the [Request for Stand-alone Deviation from NNSSWAC Requirements](#) form, example included in [Appendix D](#). Stand-alone deviation request forms are to be uploaded to SharePoint.

WP deviations from bolded *shall* statement requirements (AWAC and TWAC) may require additional stakeholder involvement and/or controlling document (permit, DSA) revisions.

4.2.4 WARP Evaluation

WARP consists of NNS technical, operations, and regulatory SMEs who review and advise DOE EM Nevada Program on PTNFs, WPs, and annual recertifications. WARP makes recommendations to the DOE EM Nevada Deputy Program Manager, Operations for approval or rejection of WPs and other documents. WARP also makes recommendations on reinstatements of suspended WPs or WCPs. The WG *shall* participate in WARP or provide information as requested by the WARP Chair.

4.2.5 Expedited Review

The WG *shall* complete the [Expedited Limited Profile Review Request](#) form, example included in [Appendix D](#), for any of the following:

- To increase the WP volume and/or number of packages
- To add a container type

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- To submit an overweight package and/or load
- To change the names of companies and/or named personnel (e.g., WCO, primary technical contact)

The WG *shall* upload the form to SharePoint for processing.

Expedited review requests other than those listed above *shall* be made directly to the DOE EM Nevada Deputy Program Manager, Operations via email to the address listed in [Appendix A](#). The WG *shall* provide the rationale for the request and *shall* copy the local DOE/NNSA site or project office, if applicable.

4.2.6 WP Approval

WP approvals are formally issued by the DOE EM Nevada Deputy Program Manager, Operations and will designate the disposal cell category (i.e., DOE O 435.1 cells, RCRA permitted cells, Solid Waste permitted cells). The WG *shall* comply with any provisions specified in the WP approval letter. The following subsections describe possible provisions.

4.2.6.1 Verification Requirements

WP approval letters may specify verification requirements including the method (i.e., visual verification, sampling, RTR) and frequency. Verification requirements for MLLW or classified hazardous waste may be specified in the PTNF. Further information on verifications is included in [Section 3.1.3](#).

4.2.6.2 Conditional WP Approval

WP approval letters issued as “Conditional Approval” notify the WG that the waste described on a WP is acceptable for burial, but administrative documentation (e.g., Transportation Plan, Lift Plan) is required to be submitted for review. The WG *shall* submit documentation to the RWAP Manager or SME as noted in the Conditional Approval letter, and will identify any conditions that must be satisfied prior to scheduling shipment.

4.2.6.3 Approval with Deviations, WP Limitations, or Special Instructions

WP approval letters may include approved deviations, specific WP limitations (e.g., total allowable curies), and/or special instructions. Special instructions may apply to the WG or the RWMC; the approval letter will clearly identify the responsible organization. The WG *shall* adhere to limitations or WG special instructions; failure to do so may result in a finding or WP suspension.

4.3 WP Annual Recertification

The WCO *shall* perform a documented annual review of WPs to ensure the characterization data, waste stream information, and referenced procedures are valid. The review date will be based on the DOE EM Nevada Deputy Program Manager, Operations WP approval letter date or most recent recertification letter.

The WCO *shall* document the review on the [Profile Annual Review Recertification Form](#), example included in [Appendix D](#), or equivalent. The WCO *shall* record any new waste streams added to the WP on the Profile Annual Review Recertification Form.

The WG *shall* upload WP recertification forms to SharePoint for MLLW, classified hazardous waste, and wastes requiring disposal in the Solid Waste Permitted SW 532 cell. MLLW, classified hazardous waste, and wastes requiring disposal in the SW 532 cell WP recertifications are reviewed by WARP. The DOE EM Nevada Deputy Program Manager, Operations will issue a recertification letter that will specify the required verifications.

LLW recertification forms for wastes not requiring disposal in an SW 532 cell are not required to be submitted to SharePoint but *shall* be available for review during FEs or upon request.

4.4 WP Cancellation or Suspension by WG

The WG may cancel or suspend a WP via email to RWAP@emnv.doe.gov. WGs are requested to cancel WPs when the site does not anticipate shipping any additional waste under the WP. WGs may choose to suspend a WP that may be used in the future but under which there is not current or near-term generation.

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WG-suspended WPs do not require an annual WP assessment. To lift a self-imposed suspension, the WG *shall* complete an annual assessment form confirming that the WP is still valid. The WG *shall* submit the annual assessment form to the RWAP Manager at RWAP@emnv.doe.gov. The annual assessment form and the WP will be reviewed by WARP and, upon resolution of any comments, the WP will be recommended for reinstatement and a recertification letter will be issued by the DOE EM Nevada Deputy Program Manager, Operations.

4.5 WP Suspensions by DOE EM Nevada Program

The DOE EM Nevada Deputy Program Manager, Operations may suspend a WP if there is evidence that the WP does not accurately describe the waste, or if the WG is not complying with the approval provisions (e.g., special instructions, limitations). A Priority I or II Finding will be issued in addition to the suspension.

WP suspensions will be issued by the DOE EM Nevada Program Manager to the local DOE/NNSA site personnel or to the commercial facility senior facility manager with the basis for suspension. The WG *shall* respond to the suspension and any associated findings in accordance with [Section 3.2](#). The WP and CAP will be reviewed by WARP in accordance with [Section 4.2.4](#).

5.0 Waste Characterization

The WG *shall* characterize waste with sufficient accuracy to determine correct regulatory categorization, segregation, treatment, storage, and disposal. [A.1.3](#) The WG *shall* ensure characterization methods and procedures employed identify the chemical, physical, and radiological characteristics of the waste during each phase of the waste management process starting at the point of generation. [A.1.3](#) The WG *shall* ensure characterization data sources for legacy waste meet the criteria specified under this NNSWAC or *shall* obtain supplemental data either through sampling, inspection, or other documented method. [A.1.3](#) The WG *shall* use documented characterization protocols (e.g., sampling technique, measurement method, process knowledge [PK] basis) to obtain data to complete the WP and each PSDR. [A.1.3](#) The WG *shall* ensure that chemical and radiological characterization data—including sampling records, laboratory reports, survey records, and field measurements—are traceable to the items or container sampled or measured. [A.1.4](#)

Characterization data will be considered “historical data” if greater than five (5) years old or if not generated contemporaneously to the waste to be profiled. The WG *shall* document their process for determining the representativeness of historical data. The WG *shall* sample wastes that are produced from engineered systems on a continuous basis and that are amenable to sampling (see [Section 5.1](#)). Sampling may be either on a defined batch basis or on a periodic basis not to exceed two (2) years.

The WG *shall* ensure that associated measurement and test equipment (M&TE) is traceable to associated calibration records. The WG *shall* have defined validation and verification criteria for software associated with waste characterization. The WGs *shall* also have work processes for performing independent verification and validation of spreadsheets and other data used to support waste characterization and profiling.

The WG *shall* identify waste components that equal or exceed one (1) percent of the volume of the overall waste stream for characterization. Secondary wastes, such as associated personal protective equipment or plastic sheeting disposed with the primary waste stream, are not required to be characterized separately.

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The WGs *shall* document how waste characterization data are used to complete the information on the WP and the PSDR. WGs are encouraged to include technical basis documents or similar documents for detailing chemical and radiological characterization when submitting a WP. The WGs *shall* provide the following information either in the WP or supporting documentation:

- Waste description and source
- Characterization data source
- Data validation (chemical and radiological)
- Derivation of information reported on the WP (e.g., determination of high activity values)
- Regulatory status discussion (e.g., how characterization data support a waste stream is LLW not MLLW)
- Discussion of demonstrating NNSWAC compliance (e.g., plutonium equivalent gram determination below allowable limits, fissile gram exceptions)
- Any other information pertinent to the characterization and categorization of the waste

5.1 Chemical Characterization

The WG *shall* prioritize empirical data over PK for chemical characterization of wastes amenable to sampling (e.g., granular waste such as soil, grit, or resins; filter media) when determining the following:

- Regulatory status under 40 CFR 261 Subpart C
- Compliance with LDR status under 40 CFR 268.40
- Regulatory status under 40 CFR 761

The following wastes are exempted from sampling for chemical characterization:

- Waste known to be subject to an LDR-specific technology-based treatment standard
- Waste, environmental media, and/or debris from the cleanup of a singular, contemporary spill; or release of a single substance, commercial product, or otherwise known material (e.g., material for which a Safety Data Sheet [SDS] can be provided)

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The WG *shall* document in the WP when material amenable to sampling is characterized by alternate means. Rationale may include the following:

- Elevated dose rates necessitating a specific ALARA plan for sampling
- Presence of asbestos, beryllium, or other chemical or physical hazards
- Sampleable material interspersed within a debris waste stream

Debris is not considered amenable to sampling. The WG *shall* have a documented basis for declaring debris as non-hazardous. The WG may declare the debris as hazardous without providing a documented basis.

To prepare for emerging regulation, the WG is requested to provide available PK and/or empirical data associated with per-and polyfluoroalkyl substances (PFASs) on the WP.

5.1.1 Data Requirements

The WG *shall* collect analytical characterization data in accordance with written sampling and analysis plans (SAPs), sample request forms, or similar documentation. The documentation *shall* specify the sampled items or bounded sample population, representative sampling method, measurement method, and applicable procedures. The planning documentation and characterization data *shall* be traceable to the waste profiled and shipped.

5.1.2 DQO Development

The WG *shall* develop a data quality objectives (DQOs) process as described in *Guidance on Systematic Planning Using the Data Quality Objectives Process*, EPA QA/G-4; or an equivalent process. [A.1.3](#) The WG *shall* provide results of the DQO process upon request. Analyses performed on single debris items in accordance with WG procedures are not required to have DQOs. Other sampling events exempt from documented DQOs include the following:

- Sampling applied dried paint on debris items for RCRA metals analysis
- Sampling debris to confirm PK
- Sampling PCB bulk product waste in accordance with protocols defined in Subpart R of 40 CFR 761 to determine leachability
- Sampling oil or other fluids from fluid-filled equipment for PCB article determination

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- Sampling oily residues on debris items for PCB contamination determination
- Asbestos sampling performed by certified asbestos personnel in accordance with standard industry methods

The WG *shall* document protocols for managing sampling uncertainty in procedures or specific project documentation (e.g., SAP or DQO statements). Management of uncertainty considerations include application of uncertainty from sampling when determining WP ranges, evaluating specific items or packages for WP compliance, and assigning shipping values.

5.1.3 Chemical Characterization Methods and Laboratory Requirements

The WG *shall* utilize SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*, for characterization of RCRA constituents and for demonstrating compliance with LDRs unless another method is specified in the RCRA regulations (e.g., ASTM for Flashpoint). The WG *shall* utilize SW-846 methods for PCB analysis.

The WG *shall* use a Nevada certified laboratory, DOECAP-accredited laboratory, or laboratory certified by a state authority that specifically certifies SW-846 methods.

There are no specific methods for PFASs in waste matrices. The WG is requested to note any data available regarding PFASs in the WP.

5.1.4 Chemical Data Validation

The WG *shall* use validated data for RCRA and PCB determinations. A minimum of ten (10) percent of data *shall* be validated in accordance with EPA guidelines applicable to the selected analytical method. Data validation *shall* be performed by technically qualified personnel who are independent of those performing the analyses. The WG *shall* provide data validation reports upon request.

5.1.5 Chemical Characterization Profile Reporting

The WG *shall* report analytical results on the WP RCRA table (Section 3C) included in Profiles A and B when data are available. The WG *shall* revise the WP RCRA table if subsequent analysis exceeds eighty (80) percent of the regulatory threshold. The WG *shall*

provide data reports for RCRA and PCB chemical characterization data when submitting a new or revised WP RCRA table. If analyses are conducted on wastes approved on the basis of PK, no revision to the WP is required if the analyses confirm the PK, regardless of the eighty (80) percent regulatory threshold.

5.1.6 Chemical Characterization Process Knowledge

Acceptable sources of information used to support the PK basis include, but are not limited to, the following:

- Material inputs, including SDSs
- Manufacturing specifications
- Mass balance documentation
- Laboratory notes and batch records
- Process procedures, logs, and batch records
- Process design information, including classified design information
- Historical analytical data
- Interviews with persons knowledgeable of the waste

The WG *shall* include a documented evaluation of compiled PK sources used for waste characterization in the WP that addresses uncertainties, inconsistencies, and limitations. The WG *shall* document how the PK is supported by other characterization data. The WG *shall* document living memory statements. Emails identifying the sender and recipient are acceptable, as are statements signed by the interviewer and interviewee.

5.2 Radiological Characterization

The WG *shall* determine the radioactivity (quantity of disintegrations per time) of the waste and the reportable radionuclides in accordance with the criteria defined in Section 3.1.4 of the TWAC. Radiological characterization methods include, but are not limited to, the following:

- PK
- Gross radiation measurement
- Scaling factors
- Nondestructive assay (NDA)
- Modeling
- Sampling and analysis

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These methods may be used singularly or in combination. The process will consider physical limitations such as waste matrices that cannot be representatively sampled due to radiation emission rates or inaccessibility to internal surfaces.

The WG *shall* use standard planning methodology such as the DQO process as described in *Guidance on Systematic Planning Using the Data Quality Objectives Process*, EPA QA/G-4; the *Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)*, DOE/EH-0624, Rev. 1; or other documented rationale when using statistical sampling for a population of waste.

[A.1.3](#) Gross radiation measurements performed in accordance with [Section 5.2.1](#), and NDA measurements performed on single items or containers in accordance [Section 5.2.3](#) are not required to have documented DQO determinations or equivalent. The WG *shall* design the radiological characterization plan considering the potential of the waste stream to exceed the waste concentration action levels (TWAC, Table 3-4). The WG *shall* identify radionuclides with a reasonable probability of exceeding one (1) percent of the waste concentration action level. [A.3.3](#) Waste streams or waste packages having activity concentration of radionuclides in the final waste form at one (1) percent or greater than the action levels (TWAC, Table 3-4) or have transuranic (TRU) waste radionuclides with concentrations that exceed one (1) nCi/g require rigorous characterization. Rigorous characterization is a combination of methods to adequately determine the activity of the waste that may include a combination of PK, sampling and analysis, and NDA.

The WG *shall* retain documentation regarding the basis of radiological characterization, actual data and the interpretation of data. The WG *shall* provide information upon request.

5.2.1 Gross Radiation Measurements

The WG *shall* plan and execute collection of gross radiation measurements in accordance with documented procedures. WGs *shall* document scaling factors developed that relate gross radiation measurements to waste stream activity concentrations. The WG *shall* collect direct survey readings or wipes in accordance with written survey plans, survey request forms, or similar documentation traceable to the waste to be profiled and/or shipped. The WG *shall* document the basis of radionuclide distributions. The WG *shall* verify distributions for ongoing processes a minimum of every five (5) years. The WG *shall* document factors considered when

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developing scaling factors including, but not limited to, waste package and detector geometry, shielding and attenuation effects, self-absorption, and the energy spectra and decay schemes of radionuclides in the waste. The WG *shall* provide documentation upon request.

The WG *shall* ensure that modeling used in conjunction with gross radiation measurements is conducted using accepted industry software (e.g., Microshield or Radman); is used by trained and qualified personnel; and its application for the specific waste is peer reviewed by another independent trained and qualified person.

5.2.2 Radiochemical Sampling and Analysis

The WG *shall* collect and analyze radiological samples in accordance with written SAPs, sample request forms, survey request forms (for the collection of wipes), or similar documentation. The documentation *shall* specify the sample items or bounded sample population, measurement method, and applicable documented procedures.

The WG *shall* ensure that radiochemical procedures used for laboratory analyses are peer reviewed and controlled if not conducted by a DOECAP-accredited laboratory. The WG *shall* ensure the procedures address propagation of error and management of uncertainty.

5.2.3 Nondestructive Assay

The WG *shall* plan and execute NDA in accordance with documented procedures. The WG *shall* document the basis for the selection of NDA detection systems for the waste items being measured. The WG *shall* ensure analysis of acquired data includes estimation of total measurement uncertainty and the use of statistical techniques for analysis, including quality control data. The WG *shall* have a documented protocol for reporting uncertainty for data used for NNSS shipments. The WG *shall* validate NDA data using written procedures by technically qualified personnel who are independent of those performing the analyses. The WG *shall* provide instructions, standards, manuals, operator aids, and reference data upon request.

WG NDA programs certified by the Carlsbad Field Office meet NNSS requirements.

5.2.4 Radiological Characterization Process Knowledge

Acceptable sources of information used to support the PK basis include, but are not limited to, the following:

- Material Control and Accountability information
- Existing waste analysis data
- Data from similar waste generating processes
- Plans and drawings
- Areas and/or buildings of waste origin
- Material inputs
- Manufacturing specifications
- Material manifests
- Mass balance documentation
- Literature searches
- Laboratory notes and batch records
- Process logs and batch records
- Procedures
- Living memory (documented interviews)

The WG *shall* conduct a documented evaluation of compiled PK sources used for waste characterization and submit with the WP. The WG *shall* identify and document uncertainties, inconsistencies, limitations, and usefulness. The WG *shall* document how the PK is supported by other characterization data.

The WG *shall* record living memory statements and obtain the signatures of both the interviewee and interviewer. If the interviewee is remote and unavailable for signature, the interviewer will note on the statement. The WG *shall* document living memory statements. Emails identifying the sender and recipient are acceptable, as are statements signed by the interviewer and interviewee.

5.2.5 Documenting Reportable Radionuclides

The WG *shall* ensure data generated in support of rigorous characterization undergoes a peer review that assesses all inputs as well as calculations in determining reportable radionuclides.

The WG *shall* identify reportable radionuclides in accordance with TWAC, Section 3.1.4. [A.1.2](#)
The WG *shall* record the activity concentrations representative of the waste stream on the WP.

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The WG *shall* record the activity for each individual container or item on the PSDR. [A.1.2](#) Any nuclide identified on the PSDR *shall* be on the WP, and the activity may not exceed the highest activity reported on the WP. [A.1.2](#)

The WG *shall* determine waste activity concentration based on the volume of the final waste form as offered for disposal. [A.3.3](#) Measurement or analysis of samples may be performed prior to final processing if the measured activity concentration can be related to the final activity concentration. The volume of the waste can be taken as the internal volume of the container if the radionuclides are homogeneously distributed throughout the waste and the waste fills at least ninety (90) percent of the waste container. When these conditions are not met (significant void space, or contains irregularly shaped equipment or components), the volume *shall* be taken as the volume occupied by the waste in the container. [A.3.3](#) The TRU activity concentration *shall* be based on the mass of the contents of a single waste disposal container, excluding the mass of the container and any shielding present. [A.3.3](#)

The WG *shall* calculate the activity concentration of TRU radionuclides in units of nCi/g and be based on the mass of the contents of a single waste disposal container, excluding the mass of the container and any shielding present. [A.3.3](#) The WG *shall* consider these radionuclides when making the TRU waste determination: ^{237}Np , ^{238}Pu , ^{239}Pu , ^{240}Pu , ^{242}Pu , ^{244}Pu , ^{241}Am , $^{242\text{m}}\text{Am}$, ^{243}Am , ^{243}Cm , ^{245}Cm , ^{246}Cm , ^{247}Cm , ^{248}Cm , ^{250}Cm , ^{247}Bk , ^{249}Cf , ^{251}Cf . [A.3.3](#)

The WG *shall* ensure isotopic distributions and corresponding activity concentrations are traceable to the individual package or item if characterization is being conducted at that level (e.g., individual sealed sources, individual items subjected to NDA or survey). [A.1.2](#)

6.0 Waste Packaging and Lifting Devices

The WG *shall* identify waste packaging to be used on the WP. A listing of standard packaging with the appropriate NNS Disposal Operations codes is in the PSDR instructions, example included in [Appendix D](#).

6.1 Minimum Package Design Criteria

The WG *shall* maintain documentation demonstrating that waste packages meet applicable DOE orders; and 10 CFR, 40 CFR, and 49 CFR requirements. The WG *shall* consider chemical compatibility, nuclear safety, radiation levels, activity limits, nuclear heating, and any other hazards associated with the waste to be packaged. The WG *shall* ensure packages can withstand the stresses associated with the loading, handling, stacking, and transporting during shipment to the NNS to avoid breaching or release of material.

The WG *shall* adhere to any additional requirements for specific types of waste—including particulates, asbestos, and beryllium—as specified in the TWAC.

6.2 Standard Industrial Packaging Criteria

The WG *shall* ensure that procured packages, including soft-sided packages, used for shipping, at a minimum, meet Industrial Package-1 (IP-1) requirements as specified in 49 CFR 173.410 and 173.411. Additional NNS requirements are detailed in the following subsections. If a container is not listed, there are no additional requirements above meeting IP-1. Activity limits for waste packages are included in the TWAC, Section 3.1.6. Limits for fissile packages are included in the TWAC, Section 3.1.5.

6.2.1 Steel Box

The WG *shall* ensure the package (steel box and contents) is capable of supporting a uniformly distributed load (compressive strength) of 16,477 kg/m² (3,375 lb/ft²). The WG *shall* have design engineering calculations or physical testing to demonstrate compliance. The WG *shall* ensure that the package is designed with forklift pockets. The WG *shall* ensure that fork pockets on lids do not extend beyond 4 inches from the lid.

6.2.2 Intermodal

The WG *shall* ensure that each intermodal is 6 ft × 8 ft × 20 ft. The WG *shall* record intermodals with alternate sizes as deviations on the WP. The WG *shall* ensure intermodal or roll-off containers meet the following criteria:

- Liners for scrap metals and debris are a minimum of 18 mil
- Liners for contaminated soil are a minimum of 12 mil
- Containers are constructed to allow off-loading through the rear doors without opening the top lid
- Containers have hardware to secure the rear doors in the open position during off-loading

If the intermodal is shipped with the intent to be buried as delivered, these requirements do not apply. Additional requirements for loading are included in [Sections 7.3](#) and [9.1.2](#).

6.3 COC Containers

The WG *shall* provide the container or cask identification on the WP. The WG *shall* ensure requirements and instructions regarding the receipt, inspection, loading, storage, handling, and shipment of the containers are incorporated into work instructions either directly or through reference.

6.3.1 DOE-Issued COC Containers

The WG *shall* list DOE-issued COC and Safety Analysis Report (SAR) references on the WP, and provide upon request. The WG *shall* notify the RWAP Manager of WP(s) impacted by revisions to a COC and/or SAR prior to subsequent shipments.

6.3.2 Casks

The WG *shall* identify any liner, inner container, or item to be removed from a cask or overpack for burial at the RWMC. The WG *shall* ensure the liner, inner container, or item meets the minimum requirements of a DOT IP-1 container. Type B casks liners/inner containers identified in the COC or SAR require no additional documentation other than as required below. If the

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liner, inner container, or item to be removed for burial exceeds 300 PE-g up to 12,000 PE-g, the WG *shall* provide documentation that it meets the minimum requirements of a DOT Type A container with the WP.

The WG *shall* provide the Type B COC with the WP. The WG *shall* provide Sections 1, 7, 8, and, if applicable, 9 of the SAR to the RWMC Waste Operations Supervisor at WMINFO@nv.doe.gov.

A list of Type B shipping containers/casks the RWMC can accept is available from the RWMC Waste Operations Supervisor. The WG *shall* notify the RWMC Waste Operations Supervisor a minimum of one hundred and eighty (180) days in advance if a Type B cask not on the list is to be used to allow adequate time for registration, and development of work instructions and lift plans. If disassembly and return of the cask is required, and the complexity of the cask warrants, the RWMC Waste Operations Supervisor may require a dry run or mock up with the cask prior to an actual waste shipment.

The WG *shall* obtain a U.S. DOT Competent Authority Certification (CAC) for casks that are certified in countries other than the United States. WP approval to ship will not be granted until the CAC is submitted to WARP.

6.4 Non-standard Packaging

The WG *shall* ensure that the following requirements are met for packages not procured as IP-1 packages or COC containers.

6.4.1 Unpackaged Equipment

The WG *shall* ensure that item lifting devices are designed to meet the criteria specified in [Section 6.5](#). The WG *shall* render any structural part of the package that cannot be demonstrated to meet the strength equivalent inoperable for lifting the package prior to transport.

6.4.2 Macroencapsulation System Packaging

The WG *shall* ensure that macroencapsulation systems satisfy the RCRA technology-based treatment standards (40 CFR 268.42) or treatment standards for hazardous debris (40 CFR

268.45). The WG *shall* identify the manufacturer and describe the package on the WP. The WG *shall* configure the package to ensure no damage can be inflicted on the polymer during normal handling, transport, or waste placement.

The WG *shall* ensure macroencapsulation systems are loaded and closed in accordance with manufacturer's instructions. Tape *shall* be used to secure zippers on flexible packages.

Macroencapsulation systems evaluated for acceptance at the NNS are listed on SharePoint.

WGs *shall* submit performance documentation for IP-1 determination and macroencapsulation performance for macroencapsulation systems not listed on SharePoint either prior to submission of a WP or as part of the WP.

6.4.3 Containerized Gas Packaging

The WG *shall* ensure LLW in a gaseous form is packaged such that the pressure does not exceed 1.5 atmospheres absolute or less at 20 degrees Celsius (°C). [A.1.2](#) The WG *shall* consider quantities of gases potentially generated when determining packaging. Gases cannot exceed the confinement capability of the container. The WG *shall* provide the design engineering calculations or physical testing with the WP.

6.5 Hoisting and Rigging Equipment

The WG *shall* ensure that lifting devices provided are designed and tested in accordance with DOE-STD-1090 (Current Revision), *Hoisting and Rigging*. The WG should contact the RWMC Waste Operations Supervisor early in the planning process to determine whether any additional NNS requirements are required to be met.

The WG *shall* evaluate and document lifting devices for the following (including slings, hardware, and lifting fixtures): [A.1.5](#)

- Load testing at a minimum of the two hundred (200) percent working load limit for slings and rigging hardware provided for use with the shipment container.
- Inspection verifying rigging is manufactured in the United States and is not counterfeit.

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- Receipt inspection verifying rigging is free from any signs of corrosion, kinking, bird caging, or other deterioration.
- Load testing for below-the-hook lifting devices between eighty (80) percent and one hundred and twenty-five (125) percent of rated capacity.

The WG *shall* verify all lifting points (e.g., eyes, lugs, rings, connection point) integral to the waste package do not extend greater than 0.1 m (4 inches) in the normal position.

No less than seven (7) days from shipment receipt, the WG *shall* provide traceable certificates attesting to lift capacity and a current load test based on DOE-STD-1090 requirements for supplied rigging.

For equipment with integrated lifting devices, the WG *shall* provide calculations from a qualified engineer verifying that lifting devices that are a structural part of the package are designed with a minimum safety factor of three (3) to one (1) against yielding when used to lift the package. [A.1.5](#)

The WG *shall* specify in the WP if any part of the waste stream requires the use of a crane to handle or off-load the waste/disposal package, shipping container, or cask.

The WG *shall* specify whether soft-sided containers are to be off-loaded/handled using the integrated straps, a separate lifting device, or a forklift (i.e., palletized).

7.0 Package Loading, Closure, and Marking/Labeling

Specific package loading requirements regarding the waste content are included in the TWAC. The TWAC includes requirements regarding void space, liquids, gases, and allowable radioactivity and fissile gram loading.

The WG *shall* ensure that containers are loaded in the most stable configuration.

The WG *shall* manage waste loading to minimize void space within containers and minimize disposal volume as practicable. LLW from different WPs may be packaged in a single container. Waste listed in [Section 4.2.1](#) is prohibited from commingling with the exception of formerly MLLW treated to remove a characteristic being shipped as LLW and combined PCB/RCRA/RACM.

7.1 Absorbent

The WG *shall*, considering the waste and environmental conditions, add non-biodegradable absorbent material during packaging as necessary to prevent any accumulation of free liquids inside the container, either from precipitation penetration or from condensation during handling, storage, and transport. [A.1.2](#), [A.3.1](#) The WG *shall* document the basis for the volume of absorbent added and provide upon request.

7.2 Package Weight Limits

The WG *shall* obtain shipping weights from calibrated scales. [A.1.1](#) The maximum weights for RWMC routine operations are listed on [Table 7-1](#). The WG *shall* ensure no package exceeds the manufacturer's design weight limit.

**Table 7-1
Maximum Weights without a Deviation**

Container Type	Maximum Weight (lb Gross)
Drums up to 110 gal	1,200
Steel Box (approximately 4 ft × 4 ft × 6 ft)	9,000 (closed van); 11,000 (Conestoga or flatbed trailer)
Cargo	80,000
Intermodal	40,000 if to be returned; 80,000 if to be disposed

The WG may submit a weight limit deviation request on the WP. There are no specified weight limits for soft-sided containers or equipment, but the estimated maximum weight is to be recorded on the WP. The RWMC Waste Operations Supervisor will notify the WG of estimated costs to be borne by the WG prior to the shipment of packages or equipment requiring specialized lifting and handling equipment.

7.3 Intermodal Loading Requirements

7.3.1 Intermodal Allowable Wastes

The WG may use intermodal containers for soil, gravel, concrete rubble, scrap metal, and building rubble. Sharps liners are recommended for waste streams that contain sharp-edged items or debris prone to damaging liners. The WG *shall* ensure allowable wastes are loaded to meet the following criteria:

- Weight is evenly distributed and not resting against the door.
- Liners are secured around the waste package and not attached to the inside of the intermodal container.
- Waste pieces within container are less than 3 ft in any dimension.
- Clearance of at least 18 inches between the top of the waste and the bottom of the top header brace located near the door end of the container such that waste can exit under the header and through the rear door with clearance to prevent jamming.
- Soils are free of scrap metals, debris, or rocks of a size that could damage the liner or impact clearance.

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- Waste is not wedged into any area of the container.
- Waste movement minimal during transportation.

The RWMC Waste Operations Supervisor reserves the right to bury any intermodal in its entirety that does not off-load successfully.

7.3.2 Intermodal Prohibited Wastes

The following wastes are prohibited from shipping in intermodals that are to be emptied and returned:

- RACM LLW
- MLLW
- PCB waste except for PCB bulk product waste meeting the definition of 40 CFR 761.62(b)(1)
- Fine particulates that could become airborne
- LLW beryllium waste (particulate)

7.4 Package Closure and TIDs

The WG *shall* ensure package closures are designed to withstand the effects of changing temperatures, weather, pressures, and/or vibrations without breaching under normal handling and transport conditions.

The WG *shall* ensure in-process containers

- are sealed to detect opening or are stored in a secure area to prevent unauthorized intrusion, and
- are protected from the environment to maintain package integrity (e.g., no water intrusion) and prevent deterioration of container until readied for shipment.

Prior to shipment, the WG *shall* ensure each package is closed in accordance with manufacturer's instructions using calibrated equipment, where applicable.

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The WG *shall* ensure containers have TIDs. LLW containers may be shipped in a closed container with locks and TIDs to satisfy this requirement. Clips, cold welding, banding, epoxy seals, or sealed bolts may be used in lieu of lead-free seals or wire closures to indicate that the package has remained sealed. The WG *shall* ensure TIDs are traceable by a unique number or other unique identification to MLLW and classified hazardous waste containers subject to verification by RWAP as described in [Sections 3.1.3.1](#) or [3.1.3.2](#). ^{A.2.1} The WG *shall* notify the RWMC Waste Operations Supervisor by email to WMINFO@nv.doe.gov in advance of shipment arrival when TID confirmation paperwork is required. The WG *shall* provide a listing of the TID identifications with the shipment paperwork. MLLW-verified containers with an RWAP verification label will be identified on the PSDR.

7.5 Package Marking and Labeling

The WG *shall* ensure markings and labels are in English, are durable and will remain attached, are intact, and are readable under expected handling and transport conditions. The WCO or package certifier *shall* ensure label entries, printed or hand-entered, are indelible and legible. The WCO or package certifier *shall* ensure markings and labels are not obscured. The WG *shall* remove or obliterate markings and/or labels that do not accurately represent the packaging or the contents (e.g., legacy transportation markings, former “pending measurement” labels).

7.5.1 DOT Marking/Labeling

As applicable, the WG *shall* mark and label packages in compliance with 49 CFR 172, “Subpart D, Marking” and “Subpart E, Labeling.”

7.5.2 Other Regulatory Labeling

The WG *shall* label packages as specified in the TWAC, Table 3-3, for non-DOT mandated regulatory labeling (e.g., EPA, USDA, and Occupational Safety and Health Administration [OSHA] labeling), as applicable.

7.5.3 NNSS Specific Marking/Labeling

For remote-handled containers or other items with rough surfaces impacting adhesion, it is acceptable for the WG to print and provide the labels with the driver's paperwork in lieu of affixing to the package. Labels may also be attached via laminating and zip-tying.

7.5.3.1 Package Certification Label

The WG *shall* affix a PCL signed by the WCO, AWCO, or package certifier to each package. If the waste is unpackaged bulk or affixing to the package presents ALARA concerns, the WG *shall* submit the required signed PCL(s) with the shipping papers.

An example PCL is included in [Appendix C](#).

7.5.3.2 Bar Code Labels

Bar code labels are required to be affixed to containers shipped to the NNSS originating for the WG site or approved off-site location. The WG *shall* submit a sample bar code to the RWMC Waste Operations Supervisor at WMINFO@nv.doe.gov prior to the WG's first shipment to ensure that RWMC equipment can be used to read the bar code. The WG *shall* also submit any revisions for approval prior to use.

The WG *shall* affix bar codes as follows:

- Boxes, Cargoes – two (2) bar code labels placed on each package in the middle or near the bottom, and on opposite sides
- Drums – two (2) bar code labels with one (1) on top of the drum lid and one (1) on the side near the top

Bar One Information *shall* be in the following sequence:

- Two (2) alpha character generator site-designator codes included in [Appendix C](#). New WGs *shall* contact the NNSS LWIS Administrator as identified in [Appendix A](#) to coordinate assignment of a new generator site-designator code.

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- One (1) alpha character for type of waste:
 - L for LLW
 - M for MLLW, including classified MLLW
 - C for non-radioactive classified waste
 - H for non-radioactive classified hazardous waste
- Two (2) numeric characters for current fiscal year
- Three (3) alpha-numeric characters for shipment sequence.

Bar Two is the package number displayed as up to six (6) characters (alpha, numeric, or combination) with no duplication within the shipment.

The WG *shall* verify the bar code against container tracking systems and shipment paperwork. An example bar code and detailed instructions are included in [Appendix C](#).

7.5.3.3 NNSS Marking

The WG *shall* clearly mark the package weight in both kilograms and pounds on the side of each waste package either through a label or bar code, or by writing the weight on the side of the waste package. The WG *shall* ensure that markings meet any regulatory requirements that are more restrictive than those specified, such as a larger font.

The WG *shall* mark waste packages having abnormal centers of gravity to clearly indicate the center of gravity.

8.0 Motor Carrier Selection and Driver Qualifications

8.1 Motor Carrier Selection

The WG *shall* select commercial motor carriers for waste shipment to the NNSW using the most-current DOE Motor Carrier Evaluation Program's (MCEP) Evaluated Carriers Performance List (ECPL).

The WG using company vehicles for shipment to the NNSW *shall* register with the Federal Motor Carrier Safety Administration (FMCSA) as a private motor carrier. Private motor carriers (DOE/NNSA contractors) are reviewed through the DOE Transportation Safety & Operations Compliance Assurance Program.

The WG *shall* document compliance with applicable regulatory requirements, including appropriate financial responsibility for private motor carriers at shipment. The WG *shall* ensure possession of required registrations, permits, and certificates necessary to transport the shipment.

8.1.1 Motor Carrier Performance Monitoring

The WG *shall* perform a motor carrier due diligence review as required by the MCEP on the day of shipment, prior to shipment release. The WG *shall*, at a minimum, document the data checks specified in the latest version of *Guidance for Administering Due Diligence Reviews of NNSW-Bound Truckload Motor Carriers*, available on SharePoint. The WG *shall* maintain a copy of the RWAP day-of-shipment motor carrier review and provide upon request.

When using a private motor carrier, the WG *shall* submit information to the RWAP Manager via email at RWAP@emnv.doe.gov the first week of each month or within two weeks of a scheduled shipment if a private motor carrier is infrequently used (i.e., less than three times per year).

Private motor carrier information to be provided includes Pipeline Hazardous Materials Safety Administration Hazmat Registration (per 49 CFR 107.601) and proof of financial responsibility (per 49 CFR 387.9). EPA Transporter Identification Number (per 40 CFR 263.11) and FMCSA Hazardous Material Safety Permit (per 49 CFR 385.403) *shall* be provided as applicable to the waste being transported by the private motor carrier.

8.1.2 Reporting of Nonconforming Motor Carrier Performance

The WG *shall* notify the RWAP Manager if they determine that a commercial or private motor carrier's performance has violated federal, state, or local transportation safety regulations. The RWAP Manager may request additional information from the WG regarding continued use of the carrier and/or corrective actions taken.

8.2 Driver Qualification

The WG *shall* ensure that drivers used for shipments to the NNSSS meet the requirements in this section.

The WG *shall* ensure the driver(s) of transport vehicles and escort/pilot car(s) (as applicable) possess the appropriate driver's license, HAZMAT/equipment endorsements, and DOE/NNSA security level to transport the waste and to access the NNSSS. The WG *shall* maintain confirmation documentation.

The WG *shall* verify and document that drivers are in possession of one (1) of the following forms of identification confirming U.S. citizenship:

- HSPD-12 badge indicating L or Q clearance
- U.S. Passport
- Certificate of Naturalization (DHS Forms N-550 or N-570)
- U.S. Birth Certificate
- Certificate of Birth Abroad

The WG *shall* verify these documents are original (stamped or embossed) and not reproduction copies, and ensure the driver is aware of the requirement to possess one (1) of these forms of identification when accessing the NNSSS. A list of [current acceptable documents](#) is available on SharePoint. REAL ID compliant credentials may not be used as proof of citizenship.

9.0 Shipment Requirements

The WG *shall* generate transportation plans in accordance with DOE Manual 460.2-1A, *Radioactive Material Transportation Practices Manual for Use with DOE O 460.2A*, as necessary. The DOE EM Nevada Program Manager reserves the right to request a transportation plan for shipments as a condition of a WP approval.

9.1 Radiological Contamination and Dose Control

The WG *shall* document that external contamination levels for waste packages, unpackaged bulk items, and transport vehicles meet the removable contamination release limits specified in 10 CFR 835, Appendix D per the site's nuclides.

9.1.1 Dose Limits for Intermodals To Be Emptied

The WG *shall* ensure that dose rates are <5 mrem/hr on contact of the loaded intermodal and <5 mrem/hr @ 30 cm from the waste.

9.1.2 Dose Limits for Packages Shipped for Direct Disposal

The WG *shall* determine the dose rate for each container on contact, at 30 cm and at 1 m, and report in mrem/hr on the PSDR.

9.1.3 Dose Control via Lead Shielding

WGs adding lead shielding (radioactively contaminated or uncontaminated) to a waste container *shall* maintain the following:

- Documentation demonstrating that standard packaging without lead shielding would not reduce the exposure rate to <0.005 rem/hr (5 mrem/hr) @ 30 cm, and the shielding is necessary for radiation protection.
- Documentation for each container including calculations or dose rate surveys demonstrating the amount of lead (thickness/quantity) is not excessive for each container. Justification for using the appropriate amount of lead shielding can be demonstrated by a detailed dose rate survey that shows the shielded dose rate >0.005 rem/hr (5 mrem/hr) @ 30 cm from the waste container/package.

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The [Use of Lead Shielding Review Request](#) form, example included in [Appendix D](#), or equivalent can be used to document compliance and is available on SharePoint. The WG *shall* provide documentation to the RWAP Manager at least fourteen (14) days in advance of shipment via email to RWAP@emnv.doe.gov. The RWAP Manager will issue a letter to the WCO and copy the RWMC Waste Operations Supervisor when the lead-shielding evaluation is completed.

The requirements of this section do not apply to containers that are manufactured with lead lining identified and approved in a WP.

9.1.4 Dose Control ALARA Planning

The WG *shall* complete an NNS ALARA Planning Form for any of the following:

- Shipments with one (1) or more containers with dose rates >100 mrem/hr @ 30 cm
- Shipments with intermodal containers to be emptied and returned
- Shipments with Type A or B shipping casks to be emptied and returned
- Shipment with any other container requiring the removal of an inner disposal container from an outer container regardless of dose rate
- Shipment with removable shielding used to meet DOT dose rates while in transit

The NNS ALARA Planning Form *shall* be completed with the information for the container with the highest dose rate and/or contamination levels for a given shipment. An example of the [NNS ALARA Planning Form for Elevated Dose Shipments](#) is included in [Appendix D](#). The WG *shall* return completed NNS ALARA planning forms and surveys to WMINFO@nv.doe.gov. In addition to the spreadsheet, the WG *shall* provide approved radiological surveys for all packages >100 mrem/hr @ 30 cm either in advance to WMINFO@nv.doe.gov or with shipment paperwork.

9.2 *Multiple Shipment Conveyances*

The WG *shall* notify the RWMC Waste Operations Supervisor via email to WMINFO@nv.doe.gov prior to release of the shipment of either of the following:

- Conveyance with different shipment numbers from a single generator
- Conveyance with different shipments from more than one (1) generator

The WG is requested to provide schematics or cartoon drawings depicting the packages associated with different shipment numbers and/or different shipments.

9.3 *Load Securement and Protection*

9.3.1 *Palletizing and Banding*

The WG *shall* palletize drums. Any group of two (2) or more drums are required to be banded with the exception of drums shipped within casks, which are not to be banded to other drums or the pallet. The banding *shall* securely hold the drums to the pallet; typical banding configurations include two (2) vertical and two (2) horizontal bands around the drums. The WG *shall* ensure the pallets are designed to support container weights during routine handling and transport. Drums should be oriented such that labeling and markings are visible when off-loaded. Drums being shipped solely within the NNSW boundaries (exclusively DOE/DoD-controlled roads) are not subject to the requirements of this section.

9.3.2 *Blocking and Bracing*

The WG *shall* ensure that cargo, including waste packages, is secured, blocked, and braced in compliance with the DOT requirements of 49 CFR 174.55 and applicable manufacturer's instructions so that they will not shift during normal transport conditions.

The WG *shall* identify any blocking and bracing items to be returned in accordance with [Section 10.2.5](#).

9.3.3 Cover Requirements

The WG *shall* ensure that drums on flatbeds are tarped or otherwise shielded from the weather during transport. Conestoga and curtain-side vans are considered closed vehicles and do not require tarping. Drums being shipped solely within the NNSS boundaries (exclusively DOE/DoD-controlled roads) are not subject to the requirements of this section.

9.4 Shipment Placarding

The WG *shall* placard conveyances in compliance with the DOT regulations of 49 CFR 172.500. Placards on intermodal containers *shall* be removed by the transporter after waste is unloaded at the NNSS and before the conveyance leaves the site.

9.5 Shipment Security

The WG *shall* attach TIDs (e.g., seals or non-lead wires) or locks to the trailer's door prior to shipment release. The WG *shall* provide keys with the driver. The WG *shall* include the applicable combination with the shipping papers or make other arrangements to transfer to the RWMC Waste Operations Supervisor. If keys or combinations are not provided, the locks will be cut off. The TIDs or locks *shall* be applied to the trailer doors, even if the packages inside the trailer have TIDs. If TIDs are used, the WG *shall* enter the trailer TID number(s) on the shipping papers or on an attachment to the shipping papers in a location that is readily identifiable for verification.

TIDs are not required for soft-sided trailers where the door cannot be sufficiently secured or for shipments made solely within the NNSS boundaries.

9.6 Shipments with Special Receipt Coordination

Certain shipments require extra coordination. Coordination may entail notification of stakeholders, use of specialty equipment, development of job-specific Radiological Work Plans (RWP), or other arrangements. The WG may incur additional costs for these shipments as noted in [Section 13.3](#).

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Shipments with special receipt requirements are identified with notification requirements detailed on [Table 9-1](#).

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Table 9-1
Shipments with Special Receipt Coordination

Description	Triggering Criteria	Advanced Paperwork Submission Requirements (days are in advance of shipment release to NNSS) ¹	Paperwork Recipient
Very High Dose Rate Shipments	One (1) or more inner containers with a dose rate ≥ 2.5 R/hr and < 5.0 R/hr @ 30 cm	WP – Ninety (90) days (if RWMC approved user for cask) ² WP – One hundred and eighty (180) days (if RWMC must apply for approval as cask user) ¹ Preliminary NNSS ALARA Planning Form based on conservative estimates or actuals – Sixty (60) days Final NNSS ALARA Planning Form based on actuals – Prior to release of shipment ³	RWAP@emnv.doe.gov (WP only) WMINFO@nv.doe.gov (NNSS ALARA Planning Form)
Very High Dose Rate Shipments Requiring Job-Specific RWP	One (1) or more inner containers with a dose rate ≥ 5.0 R/hr @ 30 cm	WP – Ninety (90) days (if RWMC approved user for cask) ² WP – One hundred and eighty (180) days (if RWMC must apply for approval as cask user) ¹ Preliminary NNSS ALARA Planning Form based on conservative estimates or actuals – Sixty (60) days Final NNSS ALARA Planning Form based on actuals – Prior to release of shipment ³	RWAP@emnv.doe.gov (WP only) WMINFO@nv.doe.gov (NNSS ALARA Planning Form)
Highway Route Controlled Quantity Shipments	Any shipment meeting the DOT definition of 49 CFR 173.403	WP – Ninety (90) days Security Plan per 49 CFR 172.800(b) – Ten (10) days Written Route Plan per 49 CFR 397.101(d) – Ten (10) days	RWAP@emnv.doe.gov (WP, Security Plan, Transportation Plan)
Overweight/ Over-Dimensional Shipments	Exceeds 80,000 lb or Height exceeds 14 ft or Length exceeds 70 ft or Width exceeds 8 ft 6 inches, or 10 ft of front or rear overhang	WP – Ninety (90) days Permit Requirements in Section 11.2.2 – Varies	RWAP@emnv.doe.gov (WP) NDOT (Permit applications)

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**Table 9-1
Shipments with Special Receipt Coordination**

Description	Triggering Criteria	Advanced Paperwork Submission Requirements (days are in advance of shipment release to NNS) ¹	Paperwork Recipient
Superload Shipments	Exceeds 500,000 lb or Height exceeds 18 ft, or Length exceeds 200 ft or Width exceeds 17 ft for two (2)-lane road Width exceeds 19 ft for four (4)-lane road	WP – Ninety (90) days Preliminary Transportation Plan – Thirty (30) days Final Transportation Plan – Ten (10) days Lift Plan – Forty-five (45) days Photos, other information that may aid in unloading – No later than day of shipment Permit Requirements in Section 11.2.2	RWAP@emnv.doe.gov (WP, Preliminary and Final Transportation Plans) WMINFO@nv.doe.gov (Lift Plan, Photos)
International Shipments or Shipments Crossing International Space	Any consignment originating outside the contiguous U.S.	WP – One hundred and eighty (180) days Transportation Plan – Ninety (90) days Copy of shipping documents – At shipment release	RWAP@emnv.doe.gov (WP, Transportation Plan) WMINFO@nv.doe.gov (Copy of Shipping Papers)
Transload Shipments	Any shipment that will be transferred from the original conveyance prior to delivery at the NNS (e.g., train to truck, air to truck)	WP – Ninety (90) days Transportation Plan – Thirty (30) days	RWAP@emnv.doe.gov (WP, Transportation Plan)
Low Ground Clearance Shipments	Double-drop decks or removable gooseneck trailers	Trailer length, deck height, ground clearance and other relevant information – Thirty (30) days	WMINFO@nv.doe.gov
Top-Heavy Loads	Equipment that must be loaded in a top-heavy configuration	Load Plan – Seven (7) days Photos, other information that may aid in unloading – No later than day of the shipment	WMINFO@nv.doe.gov

¹ A given shipment may meet more than one (1) criterion listed on the table.

² A list of RWMC-approved user casks is available from the RWMC Waste Operations Supervisor.

³ If the final form reflects dose rates increasing of ten (10) percent or more than the preliminary form, the RWMC Waste Operations Supervisor may delay shipment receipt and unloading. WG are requested to be conservative in completing the preliminary form.

10.0 Shipment Documentation Requirements

The WG *shall* promptly provide updates to shipping papers or other documentation described in this section to the RWMC Waste Operations Supervisor post-shipment via email to WMINFO@nv.doe.gov.

10.1 Required Shipping Papers

The WG *shall* submit completed shipping papers ([Table 10-1](#)) with shipper’s certification, as required by 49 CFR 172.200, “Subpart C, Shipping Papers – Applicability” for hazardous materials regulated by DOT. The WG *shall* provide shipping papers as described in [Table 10-1](#).

**Table 10-1
Shipping Papers**

Shipping Paper Name/Number	Waste Type
Bill of Lading	Non-regulated waste Low-level radioactive waste (LLW) LLW with RACM and/or PCB bulk product
NRC-540/541 Uniform Low-Level Radioactive Waste Manifest	LLW transferred from NRC-regulated sites (may be used in lieu of a Bill of Lading for LLW)
Uniform Hazardous Waste Manifest (UHWMM)	MLLW based on EPA Hazardous Waste Codes MLLW based on State Hazardous Waste Codes Non-radioactive classified hazardous waste PCB Remediation Waste PCB Bulk Product greater than 10 µg/L leachable

The WG *shall* enter the words “Dedicated Service” or language with similar meaning on the shipping papers in a clearly visible location; or one (1) basic entry denoting “Exclusive Use” or “Exclusive Use Shipment” when shipping under 49 CFR 172.203(d)(9)(i) or (ii).

The WG *shall* only use a UHWMM when required under federal or state regulations. The WG *shall* provide a signed LDR Certification Statement in accordance with the requirements in 40 CFR 268.7 for the following:

- MLLW
- Non-radioactive classified hazardous waste
- Whenever the WP has been revised, changing the LDR certification

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The WG *shall* provide the LDR Certification Statement with each shipment as required under 40 CFR 268.7. [Section 10.2.3](#) lists the requirement for a certification statement, and an example of the form is included in [Appendix D](#). It is suggested that a copy of the HAZTRAK Entry Confirmation for the shipment be included with the shipping papers.

10.1.1 Consignment Instructions for Area 5 RWMC

The WG *shall* consign shipments as follows (standard abbreviations are acceptable [e.g., NNSA]):

(Current NNS site contractor) on behalf of the National Nuclear Security
Administration
Waste Management
Nevada National Security Site – Area 5 RWMC
Mercury, NV 89023

10.1.2 Nevada Originating Waste Deliveries to Area 3 RWMS

The WG *shall* arrange delivery with the RWMC Waste Operations Supervisor a minimum of one hundred and eighty (180) days in advance for wastes originating in the State of Nevada to be disposed in Area 3.

10.2 Additional Required Paperwork

10.2.1 Package Shipment Disposal Request

The WG *shall* complete and submit a PSDR .txt file for each NNS shipment; directions can be obtained from the RWMC Waste Operations Supervisor. The WG may request a receipt confirmation in the email submitting the PSDR .txt file. The WG *shall* submit RACM shipment PSDRs no later than one (1) NNS working day in advance of the planned shipment arrival date.

The WG *shall* submit the original completed and signed PSDR, or equivalent original, with the shipping papers.

10.2.2 Shipment Certification Statements

For waste shipments (classified or non-classified), the WG *shall* complete and submit a [Shipment Waste Certification](#) form, example included in [Appendix D](#), with shipments.

10.2.3 NNS Advanced Shipment Notification

The WG *shall* complete and submit an [NNS Advance Shipment Notification](#) form, example included in [Appendix D](#), for each inbound shipment of classified waste requiring protection from visual observation.

10.2.4 Nuclear Material Transaction Reporting

The WG *shall* submit a “Nuclear Material Transaction Report” (DOE/NRC Form 741) electronically to the DOE Nuclear Materials Management and Safeguards System (NMMSS) prior to shipment arrival. The WG shall list the applicable NNS shipment numbers on Form 741 and provide a copy with the waste shipment. The WG *shall* provide Termination of Safeguards documentation for wastes with special nuclear material attractiveness Level D and above regardless of category based on quantity per DOE O 474.2, *Nuclear Material Control and Accountability*, with the waste shipment.

When shipping Category II or greater quantities of special nuclear material for disposal, the WG *shall* develop Termination of Safeguards documentation in accordance with DOE O 474.2. The WG *shall* ensure that a security analysis is completed and concurrence is obtained from the NNS Senior Security Specialist (see [Appendix A](#)) for WPs including Category II (or greater) quantities of special nuclear material.

10.2.5 Equipment List

The WG *shall* provide an inventory list of non-waste items such as blocking/bracing equipment or removable shielding components and their ultimate disposition to the RWMC Waste Operations Supervisor via email to WMINFO@nv.doe.gov upon release of the shipment from the WG’s site. The WG *shall* provide the inventory and shipping documents for any returned equipment/material with the shipment.

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Note: Equipment constructed of wood or other porous materials may not be releasable.

10.2.6 Return Container Instructions

The RWMC releases containers as “Empty Class 7” radioactive packaging in accordance with 49 CFR 173.428. The WG *shall* identify on the WP whether a more restrictive survey release criteria must be met.

11.0 Shipment Scheduling and Release

11.1 HAZTRAK

The WG *shall* enter proposed shipments into HAZTRAK up to thirty (30) days prior to the actual ship date. Required information can be found in the current version of the “[HAZTRAK Users Guide for Waste Generators](#).”

Note: The WG *shall not* enter classified information into HAZTRAK.

The WG *shall* enter pre-notification information no later than 1500 hrs NNS local time, one (1) NNS working day prior to the scheduled shipment arrival date at the NNS. If the WG is unable to enter or update information in HAZTRAK, a completed [NNS Advance Shipment Notification](#) form, example included in [Appendix D](#), *shall* be submitted by email to WMINFO@nv.doe.gov. For shipments arriving on a Monday, the WG *shall* contact the RWMC Waste Operations Supervisor before 1400 hours on the prior Thursday if the WG is unable to enter HAZTRAK information.

The WG *shall* notify the RWMC Waste Operations Supervisor via email to WMINFO@nv.doe.gov or by phone if a shipment’s scheduled arrival date changes. The WG *shall* enter the new arrival date in HAZTRAK at the earliest opportunity prior to arrival.

11.2 Shipment Routing

11.2.1 Inbound NNS Shipments

The WG *shall* review the route selected by the driver prior to shipment release to identify any concerns with documented agreements with corridor states and/or municipalities prior to release.

The WG is requested to advise the driver to use interstate or limited access divided highways, and to avoid high-density urban areas, especially where circumferential interstate highways are available. Information on accident rates, time in transit, population density, construction activities, and time of day *shall* be considered when determining radiological risk, as required by 49 CFR 397.101(a).

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The WG *shall* ensure that the route selected does not traverse the Hoover Dam Bypass Bridge (Mike O’Callaghan – Pat Tillman Memorial Bridge) or central Las Vegas, including the Las Vegas Beltway (I-215) and the Spaghetti Bowl (I-15/U.S.-95 Interchange). This restriction applies to all shipments, including non-DOT regulated and non-placarded waste/material originating outside the Las Vegas valley. Waste originating in North Las Vegas will require a deviation request.

The WG *shall* ensure that the route selected does not transport waste on California State Route 127 (CA-127) on California-established “blackout” dates, as posted on SharePoint.

The WG *shall* ensure that the driver is aware that if directed to deviate from the designated route by first responder/law enforcement personnel, they are to make a concerted effort to return to their designated route as soon as it is safe to do so. The WG *shall* ensure that the driver is briefed on the notification process (see [Table 12-1](#)) and to record any deviations on the Drivers Route/Shipment Information Questionnaire (also known as the “Driver’s Survey”), as found in [Appendix E](#).

11.2.2 Nevada Permitting

The WG *shall* ensure that the carrier, or the carrier’s permitting service, verifies overweight/over-dimension permits, following the current NNS routing protocols ([Section 11.2.1](#)). NNS consigned shipments >14 ft 6 inches in height cannot be routed through U.S. 95 Southbound Exit 136. The WG *shall* ensure that the carrier is notified that Nevada Department of Transportation (NDOT) Over-Dimensional Vehicle Permits (OVP) personnel are to be provided with the following language: “WASTE/MATERIAL DESTINED FOR DISPOSAL AT THE NNS RADIOACTIVE WASTE MANAGEMENT SITE” when requesting an over-dimensional permit. The required NNS language *shall* be recorded in the “Description of Load” field on the hard copy or electronic requests, or relayed verbally when requesting a permit via telephone. If an issued NDOT OVP route is suspected as prohibited by the NNSWAC, the WG *shall* contact the RWAP Manager or RWMC Waste Operations Supervisor via phone prior to the conveyance entering the state of Nevada.

11.2.3 Return Shipments

Shipments of empty packaging(s) leaving the NNS that are prepared and shipped under the definition of an “Empty Class 7 (radioactive) materials packaging” per 49 CFR 173.428 and that do not require a hazardous material shipping paper are not subject to waste routing restrictions when being returned to the WG.

11.3 Required Driver Supplemental Information

The WG *shall* provide to the driver—in addition to Exclusive Use Instructions, Driver’s Instructions, and/or Dedicated Service Instructions—the following information, at a minimum:

- U.S. Citizenship – Objective Evidence Listing
- NNS Prohibited Items List
- Routing Restrictions/CA-127 Blackout Calendar
- NNS Drivers Route/Shipment Information Questionnaire
- List of required NNS OCC notifications (to include whom to notify)

The WG *shall* notify the driver they are required under *Nevada Administrative Code* 459.9865 to notify the Nevada State Police for shipments of radioactive waste originating from sources other than DOE or approved DoD sites four (4) hours prior to entering Nevada.

11.4 Driver’s Responsibilities

The WG *shall* ensure that the driver is briefed on the following responsibilities:

- Following the commands/instructions of first responder/law enforcement, including requests to remove TIDs or locks on trailers
- Periodic waste inspection per DOT requirements, and any required by the WG
- Registering in accordance with [Section 11.5.2](#)
- Following specific instructions for behavior while at the NNS, including any special alert instructions, and following safety and technical instructions of RWMC personnel
- The requirement to complete the NNS Drivers Route/Shipment Information Questionnaire
- Making notifications as outlined on [Table 12-1](#) in the event of an in-transit event

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Driver actions or inactions may result in a finding issued to the WG, up to and including WCP suspension.

11.5 Driver Delivery

11.5.1 Standard Scheduling

The WG *shall* schedule shipments for delivery in accordance with [Table 11-1](#).

Table 11-1
NNSW RWMC Pacific Time Hours of Operations

Shipment Types	Monday–Thursday ¹	Friday–Sunday
Standard and Oversized Shipments	0700 – 1400 ^{2,3}	No acceptance
Shipments Containing Only H-3 (tritium)	0700 – 1200	No acceptance

¹ Except holidays.

² Tractor-trailers arriving between 0700 and 1400 will be allowed to remain at the RWMC until their delivery is complete.

³ Shipments may be off-loaded from 1400 to 1600 at the discretion of the RWMC Waste Operations Supervisor.

The RWMC Waste Operations Supervisor may impose schedule limitations.

Order of processing and unloading shipments will be at the discretion of the RWMC Waste Operations Supervisor based on the support (i.e., personnel and equipment) needed for each shipment. The WG *shall* notify the RWMC Waste Operations Supervisor in advance of shipment arrival via email to WMINFO@nv.doe.gov of any needed expedited processing.

The RWMC Waste Operations Supervisor may extend operating hours or days (e.g., Fridays) and will provide notifications of shipment types to be reviewed during these extensions. Requests for off-loading that require overtime will be at the WG's expense.

11.5.2 Arrival Registration

Waste shipments will be verified against HAZTRAK by a Security Police Officer (SPO) at the NNSW Main Gate. If the shipment tracking number is listed, the shipment will be authorized to enter the NNSW. If the shipment is not listed, the SPO will contact the RWMC Waste Operations Supervisor to determine authorization for entry.

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The WG or driver *shall* obtain approval from the RWMC Waste Operations Supervisor to stage loaded inbound trailers without power units outside Gate 100, at the Area 3 RWMS, or at the Area 5 RWMC, prior to delivery. No loaded trailers are to be dropped outside the NNSS boundary without first gaining approval. Shipments arriving at the NNSS during non-working hours or days may not be left unattended. Shipments may be placed within the Desert Rock drop yard if arrangements have been made with the RWMC Waste Operations Supervisor.

11.5.3 Shipment Acceptance

The driver *shall* wait in their vehicle or designated areas until notified that the shipment is accepted for unloading. If issues arise that delay unloading, the RWMC Waste Operations Supervisor will coordinate with the WG and the driver to determine a path forward.

The driver *shall* not remove trailers and/or other equipment until cleared for release. The RWMC Waste Operations Supervisor will notify the WG and the driver if equipment release is delayed.

The driver *shall* accurately complete the NNSS Drivers Route/Shipment Information Questionnaire, included in [Appendix E](#), prior to leaving the RWMC.

The driver *shall* obtain approval from the RWMC Waste Operations Supervisor prior to staging any empty trailers inside and/or outside the NNSS Main Gate.

11.5.4 Disposition of Discrepancies

The WG *shall* respond promptly to information requests regarding discrepancies noted upon shipment.

If questions arise during RTR performed at the RWMC, the WG *shall* respond to requests for information by completing the [NNS Real-Time Radiography \(RTR\) Verification Review](#) form, example included in [Appendix D](#).

The WG *shall* be responsible for dispositioning containers or items deemed to be noncompliant with the WP and ineligible for disposal. The WG *shall* coordinate transportation arrangements and complete necessary manifest and/or other shipping paperwork to allow compliant transport back to the WG site or an alternate facility designated by the WG. The WG *shall* schedule

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arrangements with the RWMC Waste Operations Supervisor to ensure support resources are available as required.

11.5.5 Certificates of Disposal

The RWMC Waste Operations Supervisor will provide a certificate of disposal as required by 40 CFR 761.218 for shipments of PCB remediation waste >50 ppm. The WG may request certificate(s) of disposal for other waste shipments if needed.

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12.0 Transit Notifications

The WG and/or motor carrier/driver *shall* make required notifications in accordance with [Table 12-1](#).

Notifications *shall* apply to shipments while in transit and while located at a transfer yard.

The WG *shall* obtain the signature of motor carrier/driver acknowledging understanding of the notification requirements. The WG *shall* determine who within their organization has the responsibility for providing notifications to the NNS OCC within the specified time frame.

In addition to the in-transit incident notifications listed in [Table 12-1](#), commercial TSDFs *shall* notify the originating DOE/NNSA site of any in-transit incidents involving their waste.

**Table 12-1
Transit Incident/Accident/Discrepancy Notifications ¹**

No.	Issue/Incident	Occurs	Provided By	Provided To	Via	Timeframe
1	An NNSWAC noncompliance is identified.	In transit	WCO	RWAP Manager	Phone or email	As soon as possible
2	An incident, transportation delay, or emergency situation that does not meet the criteria identified in 4 through 9 of this table.					
3	A noncompliance, regulatory violation, or inadequate performance by the motor carrier.	Anytime				
4	An anticipated delay in arrival time at the NNS Gate 100 after 1200 Pacific Time on scheduled day of arrival, or later. ²	In transit	WG or carrier	NNS OCC	Phone	Within one (1) hour of occurrence or determination
5	Shipment involved in an accident (DOT or non-DOT recordable). ²					
6	Moving violation issued by law enforcement. ²					

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**Table 12-1
Transit Incident/Accident/Discrepancy Notifications ¹**

No.	Issue/Incident	Occurs	Provided By	Provided To	Via	Timeframe
7	The detection of radioactive contamination on the package(s) or conveyance; or suspect detection during transit. ²	In transit	WG or carrier	NNS OCC	Phone	Within one (1) hour of occurrence or determination
8	A significant load shift. ²					
9	The shipment deviated from the agreed-upon route while traveling in Nevada. ³					
10	Discrepancies discovered during waste receipt, verification, and/or disposal. ⁴	At RWMC	RWMC Waste Operations Supervisor	Log Alert Distribution and WG	RWMC Discrepancy Log and Email and/or Phone Contact with WCO	No later than close of business on day of discovery

¹ Notifications listed are required for NNS shipments and are in addition to any required by DOE orders; regulations; or the WG's permits, authorizations, licenses or other contractual requirements.

² Minimum required information: description of the incident/event, shipment number, driver name, carrier name, location. Other information to be provided as applicable and/or available: status of driver, status of packages and transportation equipment; any interactions with public, first responders, or law enforcement.

³ Provide cause of deviation (e.g., directed by law enforcement/first responder, driver error) and route taken. If delivery anticipated to the NNS within two (2) hours, driver may report upon delivery in lieu of calling the NNS OCC.

⁴ Discrepancies pertaining to the shipments package(s), documentation, or conveyance are discussed in [Section 3.2.4](#).

13.0 Shipping Forecasting and Funding

13.1 Bi-monthly Shipment Schedule

The WG *shall* provide the NNSS WG Coordinator a “Bi-monthly Shipment Schedule” by the last Monday of each month with the following information for the next two (2) months:

- Estimated number of shipments and arrival dates
- WP number(s) to be shipped
- Type and quantity of containers/packaging
- Estimated waste volumes in cubic feet (ft³) rounded up to nearest whole value (e.g., 12.1 rounded to 13), by shipment and totals
- Identification of any shipments that have low-energy beta emitters (i.e., tritium) as the primary isotope
- Special handling requirements, if applicable

“Bi-monthly Shipment Schedules” *shall* be emailed to WMForecast@nv.doe.gov.

13.2 NNSS Requested Waste Forecasts

The WG *shall* provide the LLW/MLLW Fiscal Year Preliminary/Midyear Update Waste Forecast Request and any other waste forecast requests to WMForecast@nv.doe.gov unless otherwise instructed. The WG *shall* record volume in ft³ rounded up to the nearest whole number (e.g., 12.1 rounded to 13).

13.3 Funding

The WG *shall* ensure that their waste has funding prior to shipment. The WG *shall* record the funding source of the package on the PSDR. Funding sources are as follows:

- 1) DOE/NNSA funding offices
 - a. Defense Programs (DP)
 - b. Environmental Management (EM)
 - c. Naval Reactors (NR)
 - d. Office of Science (SC)

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- e. Nuclear Nonproliferation (NN)
 - f. Nuclear Energy (NE)
- 2) Strategic Partnership Program (SPP)
- a. Report as OTHER (OT) and in adjoining comment field:
 - i. Non-federal (e.g., Nuclear Fuel Services [NFS]) and agreement number in adjoining comment field OR
 - ii. Federal (e.g., Hill Air Force Base [HAFB]) and Military Interdepartmental Purchase Request (MIPR)
- 3) Packages received from either DOE/NNSA-funded or SPP projects that warrant Charges Above Baseline Services (e.g., recovery costs for crane rental, unique disposal cell)
- a. Report as OTHER (OT) and
 - b. Agreement number or MIPR designation, if applicable

The WG may contact the DOE EM Nevada Deputy Program Manager, Operations for more information regarding proper funding arrangements.

14.0 References

Note: References are current as of date of publication. WGs should refer to the most-current documents.

Code of Federal Regulations

- 10 CFR, “Energy.”
- 10 CFR 61, “Licensing Requirements for Land Disposal of Radioactive Waste.”
- 10 CFR 71, “Packaging and Transportation of Radioactive Material.”
- 10 CFR 830.122, “Quality Assurance Criteria.”
- 10 CFR 835, “Appendix D, Surface Contamination Values.”
- 40 CFR, “Protection of the Environment.”
- 40 CFR 191, “Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes.”
- 40 CFR 260.10, “Definitions.”
- 40 CFR 261, Subpart C, “Characteristics of Hazardous Waste.”
- 40 CFR 263.11, “Service of Papers.”
- 40 CFR 268.7, “Testing, Tracking, and Recordkeeping Requirements for Generators, Reverse Distributors, Treaters, and Disposal Facilities.”
- 40 CFR 268.40, “Applicability of Treatment Standards.”
- 40 CFR 268.42, “Treatment Standards Expressed as Specified Technologies.”
- 40 CFR 268.45, “Treatment Standards for Hazardous Debris.”
- 40 CFR 761, “Polychlorinated Biphenyls (PCBs).”
- 40 CFR 761.62, “Disposal of PCB Bulk Product Waste.”
- 40 CFR 761.218, “Certificate of Disposal.”
- 41 CFR 109-1.53, “Management of High Risk Personal Property.”

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- 49 CFR, “Transportation.”
- 49 CFR 107.601, “Applicability.”
- 49 CFR 171.15, “Immediate Notice of Certain Hazardous Materials Incidents.”
- 49 CFR 172, “Subpart D, Marking.”
- 49 CFR 172, “Subpart E, Labeling.”
- 49 CFR 172.200, “Subpart C, Shipping Papers – Applicability.”
- 49 CFR 172.203, Subpart C, “Shipping Papers – Additional Description Requirements.”
- 49 CFR 172.500, “Applicability of Placarding Requirements.”
- 49 CFR 172.800, “Subpart I, Safety and Security Plans – Purpose and Applicability.”
- 49 CFR 173.403, “Subpart I, Class 7 (Radioactive) Materials – Definitions.”
- 49 CFR 173.410, “Subpart I, Class 7 (Radioactive) Materials – General Design Requirements.”
- 49 CFR 173.411, “Subpart I, Class 7 (Radioactive) Materials – Industrial Packages.”
- 49 CFR 173.428, “Subpart I, Class 7 (Radioactive) Materials – Empty Class 7 (Radioactive) Materials Packaging.”
- 49 CFR 173.435, “Table of A₁ and A₂ Values for Radionuclides.”
- 49 CFR 174.55, “General Requirements.”
- 49 CFR 385.403, “Who Must Hold a Safety Permit?”
- 49 CFR 387.9, “Financial Responsibility, Minimum Levels.”
- 49 CFR 390.5, “Definitions.”
- 49 CFR 397.101, “Requirements for Motor Carriers and Drivers.”

DOE and NNSA Orders, Guides, Manuals, Policy Letters, Plans, and Standards

- *Guidance on Systematic Planning Using the Data Quality Objectives Process*, EPA QA/G-4, EPA/240/B-06/001. Washington, DC: Office of Environmental Information.

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- *Hazardous Materials Packaging and Transportation Safety*, DOE Order 460.1D. Washington, DC: Office of Environmental Management.
- *Hoisting and Rigging*, DOE-STD-1090. Washington, DC: Office of Environmental, Health, Safety, and Security.
- *Implementation of Department of Energy Oversight Policy*, DOE Order 226.1B. Washington DC: Office of Health, Safety, and Security.
- *Information Technology Management*, DOE Order 200.1A, Change 1. Washington, DC: Office of the Chief Information Officer.
- *Nuclear Material Control and Accountability*, DOE Order 474.2, Change 4. Washington, DC: Office of Environment, Health, Safety, and Security.
- *Quality Assurance*, DOE Order 414.1D, Change 2. Washington, DC: Office of Environmental, Health, Safety, and Security.
- *Personal Property*, DOE Guide 580.1-1A. Washington, DC: Office of Management.
- *Radioactive Waste Management*, DOE Order 435.1, Change 1. Washington, DC: Office of Environmental Management.
- *Radioactive Waste Management Manual*, DOE Manual 435.1-1, Change 3. Washington, DC: Office of Environmental Management.
- *Radioactive Material Transportation Practices Manual for Use with DOE O 460.2A*, DOE Manual 460.2-1A. Washington, DC: Office of Environmental Management.

Acts, Codes, and Permits

- *Nevada Administrative Code*. 2018. NAC 459.9865, “Provision of Notice before Transportation of Radioactive Waste.” Carson City, NV.
- Nevada Division of Environmental Protection. 2018. *Nevada Division of Environmental Protection RCRA Permit for a Hazardous Waste Management Facility*, Permit Number NEV HW0101, Rev. 6. 21 May. Carson City, NV.
- Nevada Division of Environmental Protection, Bureau of Federal Facilities. 2018. *Solid Waste Disposal Site Permit Class III, SW 532*, Rev. 4. 8 October. Las Vegas, NV.
- *United States Code*. 2018. Title 42 USC 2011 et seq., “Atomic Energy Act of 1954,” as amended. Washington, DC: U.S. Government Printing Office.

NNSSWAC Administrative Waste Acceptance Criteria

- *United States Code*. 2018. Title 42 USC 9601 et seq., “Comprehensive Environmental Response, Compensation, and Liability Act of 1980,” as amended. Washington, DC: U.S. Government Printing Office.
- *United States Code*. 2018. Title 42 USC 6901 et seq., “Resource Conservation and Recovery Act of 1976,” as amended. Washington, DC: U.S. Government Printing Office.
- *United States Statutes at Large*. 1988. “Price-Anderson Amendments Act of 1988,” Public Law 100-408. Statutes at Large 102: pp. 1069–1085. Washington, DC: U.S. Government Printing Office.

Other Resources and Documents

- American National Standards Institute. 1986. Truckload Quantities of Radioactive Materials – Carrier and Shipper Responsibilities and Emergency Response Procedures for Highway Transportation Accidents, ANSI N14.27. New York, NY: The Institute of Electrical and Electronics Engineers, Inc.
- Appenzeller-Wing, J.L., U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office, Environmental Management. 2008. Letter to A.C. Williams (DOE/HQ, NA-50) and F. Marcinowski (DOE/HQ, EM-10) titled “Radioactive Waste Acceptance Program (RWAP) Instruction – Eligibility Determination for Low-Level Waste (LLW) Disposal at the Nevada Test Site (NTS),” 7 August. Las Vegas, NV.
- Navarro. 2018. “Guidance for Administering Due Diligence Reviews of NNSS-Bound Truckload Motor Carriers,” Log No. 2018-034. Las Vegas, NV.
- Navarro. 2018. “HAZTRAK Users Guide for Waste Generators,” Log No. 2018-033. Las Vegas, NV.
- Navarro. 2021. Guidance for Planning and Performing Off-Site Waste Certification, N/0002653–086. Las Vegas, NV.
- Navarro. 2021. Radioactive Waste Acceptance Program Technical Basis: Technical Paper (E) Guidance for Setting the NNSSWAC Criteria for Scope of Waste Profiles, N/0002653--079. Las Vegas, NV.
- Shott, G.J., L.E. Barker, S.E. Rawlison, M.J. Sully, and B.A. Moore. 1998. *Performance Assessment for the Area 5 Radioactive Waste Management Site at the Nevada Test Site, Nye County, Nevada*, Rev. 2.1, DOE/NV/11718-176. Las Vegas, NV.
- U.S. Department of Defense, U.S. Department of Energy, U.S. Environmental Protection Agency, and U.S. Nuclear Regulatory Commission. 2000. *Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)*, NUREG-1575, Rev. 1; EPA 402-R-97-016, Rev. 1; DOE/EH-0624, Rev. 1. August.

NNSWAC Administrative Waste Acceptance Criteria

- U.S. Department of Energy and U.S. Nuclear Regulatory Commission. 2018. “Nuclear Material Transaction Report,” DOE/NRC Form 741. Washington, DC.
- U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office. 2005. *Position Paper on the Use of Lead Shielding for the Disposal of Low Level Waste at the Nevada Test Site*, Rev. 2, DOE/NV--1110. Las Vegas, NV.
- U.S. Environmental Protection Agency. 2021. *The SW-846 Compendium*. Available at <https://www.epa.gov/hw-sw846/sw-846-compendium>.

15.0 Requirement Documents

The following requirement documents are noted with superscripts within the text.

Text Superscripts	Requirement Documents
DOE Orders, Manuals, and Standards	
A.1.1	DOE O 414.1D
A.1.2	DOE M 435-1-1 IV.G
A.1.3	DOE M 435.1-1 IV. I
A.1.4	DOE M 435.1-1 IV. K
A.1.5	DOE Hoisting and Rigging Standard, SOE-STD-1090-Current Publication
NNSS Permits and Plans	
A.2.1	Hazardous Waste Permit Number: HW0101, Current Revision
A.2.2	State of Nevada Solid Waste Disposal Site Permit, SW 532, Current Revision
Other Requirements	
A.3.1	“Position Paper for High Moisture Content Waste,” Revision 1, March 2017
A.3.2	RWAP Technical Basis Paper E, “Guidance for Setting the NNSWAC Criteria for Scope of Waste Profile,” N/0002653--079
A.3.3	Addendum 2 to the “Performance Assessment for the Area 5 Radioactive Waste Management Site at the Nevada Test Site, Nye County, Nevada,” DOE/NV/11718-176-ADD2, 06/2006; table A5.2 second column, 6/27/2006

Appendix A

Phone Listings and Contact Details

NNSSWAC Administrative Waste Acceptance Criteria

**Table A-1
NNSSWAC Referenced Contact Information**

Title	Contact	Phone Number	Fax	Email Address
PROGRAM CONTACTS				
DOE EM Nevada Deputy Program Manager, Operations	Bill Wilborn	702-724-0823	--	Bill.Wilborn@emcbc.doe.gov
RWAP Manager	Marilew Bartling	702-724-0881	702-724-0981	marilew.bartling@emnv.doe.gov
RWAP Coordinator	Nicole Carson	702-724-0970	702-724-0981	RWAP@emnv.doe.gov
RWAP SharePoint Coordinator	Milinka Watson- Garrett	702-724-0887	702-724-0981	m.watsongarrett@emnv.doe.gov
LWIS Administrator	Rose Denton	702-295-4296	--	dentonrc@nv.doe.gov
RWMC SCHEDULING AND SUBMISSIONS				
RWMC Waste Operations Supervisor	Jon Tanaka	702-295-2870	--	WMINFO@nv.doe.gov
NNSS Waste Generator Coordinator	Katie Tanaka	702-295-9306	702-295-3084	wforecast@nv.doe.gov
NNSS Senior Security Specialist	Keith Davenport	702-295-3771	--	DAVENPKM@nv.doe.gov
NNSS Nuclear Materials Control and Accountability NMMSS Contact	Laura Harris	702-295-3760	--	HARRISLR@nv.doe.gov
EMERGENCY OR OFF-NORMAL TRANSPORTATION EVENTS				
NNSS Operations Command Center (OCC)	--	702-295-0311 702-295-4015	--	--

Appendix B

NSS Application of DOE Order 414.1D Criteria

NNSSWAC Administrative Waste Acceptance Criteria

Order and Regulatory Reference	NNS Specific Expectation to the QA Criteria	AWAC References
Criterion 1 – Management/Program		
DOE O 414.1D Attachment 2 (1)(a-b) 10 CFR 830.122(a)(1-2)	<ul style="list-style-type: none"> • Organizational structure identifying key WCP elements. • Clear WCO lines of reporting within the organization and to DOE/NNSA local site office when applicable. • WCO involvement in key management decisions impacting WCP elements. 	Section 2.0
Criterion 2 – Management/Personnel Training and Qualification		
DOE O 414.1D Attachment 2 (2)(a-b) 10 CFR 830.122(b)(1-2)	<ul style="list-style-type: none"> • Initial and continuing training for WCO, AWCO, and package certifier • Training for personnel involved in waste management commiserate responsibilities, including WGs. 	Section 2.0
Criterion 3 – Management/Quality Improvement		
DOE O 414.1D Attachment 2 (3)(a-d) 10 CFR 830.122(c)(1-4)	<ul style="list-style-type: none"> • Documented processes to detect quality problems related to key WCP elements with evidence of corrective action implementation and recurrence prevention. • Documented process controls for identifying (e.g., tagging, labeling) and segregating nonconforming items, components, and systems related to key WCP elements. • Involvement of WCO in the notification and disposition of nonconforming items. • Involvement of WCO in corrective action reviews related to waste management. 	Section 2.0
Criterion 4 – Management/Documents and Records		
DOE O 414.1D Attachment 2 (4)(a-b) 10 CFR 830.122(d)(1-2)	<ul style="list-style-type: none"> • Document control system for instructions, procedures, plans, and other relevant information applicable to waste management and waste certification activities. • Records related to the waste management cycle are maintained in accordance with a documented records management system. • Records are compiled into a records management system that includes provisions for transmittal, distribution, retention, handling, correction, disposition, and retrievability. 	Sections 2.0, 3.2, 5.0, 6.0, and 7.0
Criterion 5 – Performance/Work Processes		
DOE O 414.1D Attachment 2 (5)(a-d) 10 CFR 830.122(e)(1-4)	<ul style="list-style-type: none"> • Written procedures addressing waste management from the point of generation. • Written procedures directing the WCO work elements. • Identification of components and items used in waste management for traceability, proper use, and accountability and to prevent damage, loss, or deterioration. • Documented waste traceability from point of generation through shipment. • Documented waste characterization data traceability to waste packages. 	Sections 2.0, 5.0, and 7.0

NNSWAC Administrative Waste Acceptance Criteria

Order and Regulatory Reference	NNS Specific Expectation to the QA Criteria	AWAC References
Criterion 6 – Performance/Design		
DOE O 414.1D Attachment 2 (6)(a-e) 10 CFR 830.122(f)(1-5)	<ul style="list-style-type: none"> • Documented design basis referencing applicable standards, and/or engineering or scientific principles for waste management items and/or systems and processes including package design, characterization strategies, and treatment. • Documented design interfaces for adequate input. • Documentation of design adequacy by qualified personnel independent of the design. • Documented processes for control of design changes. 	Sections 5.1 , 5.2 , 6.2.1 , 6.4.1 , 6.4.3 , and 6.5
Criterion 7 – Performance/Procurement		
DOE O 414.1D Attachment 2 (7)(a-c) 10 CFR 830.122(g)(1-3)	<ul style="list-style-type: none"> • Procurement documentation identifying applicable technical requirements such as drawings, specifications, codes, standards, regulations, tests, inspection and acceptance criteria, and certification records for waste management items/services. • Documentation of approval of original and revised procurement documentation by qualified and authorized personnel. • Documented processes for changes or revisions to procurements. • Specified criteria for supplier selection for waste management items, components, and/or services (e.g., waste packaging, waste treatment services). • Documented evaluation methods (e.g., audit, surveillance, source inspection, receipt inspection, or third-party audits). • Documented evaluation criteria for accepting third-party audits. • Documented testing or verification criteria for off-the-shelf waste management items (e.g., sorbents) procured to manufacturer specifications. • Documented processes for continued evaluation of approved suppliers. 	Sections 5.0 and 6.0

NNSSWAC Administrative Waste Acceptance Criteria

Order and Regulatory Reference	NNSW Specific Expectation to the QA Criteria	AWAC References
Criterion 8 – Performance/Inspection and Acceptance Testing		
DOE O 414.1D Attachment 2 (8)(a-b) 10 CFR 830.122(h)(1-2)	<ul style="list-style-type: none"> • Documented processes specifying the acceptance criteria for the inspection and/or testing identifying the items, components, services or processes evaluated; the inspector; the results; and actions taken regarding identified nonconformances. • Documented receipt inspections using procurement or design criteria. • Documented in-process inspections, including waste container pre-use inspections and waste packaging activities. • Documented NNSSWAC compliance certification of waste package and waste shipment. • Documented processes for ensuring M&TE is uniquely identifiable and in calibration with markings of date of calibration and calibration due dates and any limitations includes all M&TE used for data collection (e.g., weights, dose), waste characterization, package inspection, package closure. • Documentation for inspection of rigging equipment and lifting devices. 	Sections 2.1.1, 6.0, and 6.5
Criterion 9 – Assessment/Management Assessment		
DOE O 414.1D Attachment 2 (9) 10 CFR 830.122(i)(1)	<ul style="list-style-type: none"> • Documented management assessments, including WCO involvement. 	Section 2.2.2
Criterion 10 – Assessment/Independent Assessment		
DOE O 414.1D Attachment 2 (10)(a-c) 10 CFR 830.122(j)(1-3)	<ul style="list-style-type: none"> • Documented independent assessment of the WCP. 	Section 2.2.3
Criterion 11 – Suspect/Counterfeit Items (S/CI) Prevention		
DOE O 414.1D, Attachment 3 (1)	<ul style="list-style-type: none"> • Documented program with identified resources that includes S/CI oversight and prevention of items, components, and services entering the WG's supply chain. • Documented system for initiating internal nonconformance report process; evaluating the suspect item(s) or component(s); and notifying the local site DOE/NNSA representative, RWAP Manager and Inspector General contact and retaining item. 	Section 6.0

NNSWAC Administrative Waste Acceptance Criteria

Order and Regulatory Reference	NNS Specific Expectation to the QA Criteria	AWAC References
Criterion 12 – Safety Software Quality Assurance Requirements for Nuclear Facilities		
DOE O 414.1D, Attachment 4 (as applicable to the NNSWAC)	<ul style="list-style-type: none"> • Documented processes for commercial/government off-the-shelf acquisition or internal generated customized safety significant and non-safety significant software that is applicable to waste management activities specifying criteria for testing and acceptance. • Documented processes for change control, configuration management, and retirement of software. • Documented processes for verification and validation, control, and maintenance of spreadsheets or programs developed externally or internally that generate data used in waste management and waste certification. 	Sections 2.0 , 5.0 , 5.2.1 , and 5.2.3

Appendix C

Bar Code and Package Certification Labels

Bar Code Example:



GROSS WEIGHT:
6,358.1 LBS
(2,884.0 KG)

Bar Code Specifications:

- Code 39
- Low to medium density, low density preferred
- 1-inch high bar code not to exceed 6 inches wide
- Human readable interpretation (HRI) 1/2 inch high, printed below the bar code
- Spacing between bar code and HRI will be 1/10 inch
- Minimum left and right margin (quiet zones) will be at least 1/25 inch
- Bar codes and HRI will be stacked with a minimum separation of 1/2 inch and in the following order: shipment number, container number

NNSWAC Administrative Waste Acceptance Criteria

Approved Container Types

Container Code	Container Description
100	MISCELLANEOUS
101	30-GALLON DRUM
102	55-GALLON DRUM
110	MISCELLANEOUS DRUM
120	MISCELLANEOUS BOX
124	85-GALLON DRUM
125	110-GALLON DRUM
130	MISCELLANEOUS SOFT-SIDED
200	METAL HALF BOX (B-12)
201	WOODEN HALF BOX (B-12)
210	METAL FULL BOX (B-25)
211	WOODEN FULL BOX (B-25)
220	CARGO CONTAINER
230	SUPERSACK (ALL SIZES)
240	BURRITO WRAP
250	CONCRETE MONOLITH
300	TN-RAM
301	3-60B
302	10-160B
303	14-210
304	14-215
305	8-120B
307	18-450
308	8-120A
309	MANON
310	TN-MTR
311	435 B
312	21-300
400	RADIOISOTOPE THERMOELECTRIC GENERATORS

NNSWAC Administrative Waste Acceptance Criteria

Generator Waste Designators

Note: If generator site is not listed, contact the LWIS Administrator

Generator	RWMC Designator	Site Designator
Aberdeen Proving Ground	USAA	AP
Advanced MW Treatment Project	AMWP	AM
Argonne National Lab	ANLE	AE
Brookhaven National Lab	BNLX	BR
Y-12	BWXT	BW
EnergySolutions	DRTK	DR
DUF6 Conversion Project (Portsmouth & Paducah)	DUF6	DU
Idaho National Lab	NEID	NE
Idaho Cleanup Project	INEL	IN
LANL/NNSA	LANL	LA
LLNL	BCLA	LL
Nevada National Security Site/NNSA	LRY5	DP
Nuclear Fuel Services	NFSI	NF
Oak Ridge Reservation	ORTN	OR
Paducah	PGDP	PD
Pantex	AMHP	PX
PermaFix	PERM	PF
Portsmouth	PORT	PO
Sandia	ASLA	SA
Savannah River	SVRS	SR
NNS/Environmental Management	LITN	IT
TRU Waste Processing Center	FWOR	FW
Oak Ridge National Lab	ORNL	OL
West Valley	WVDP	WV

NNSWAC Administrative Waste Acceptance Criteria

NNSS PACKAGE CERTIFICATION LABEL

This label asserts that this container and its contents meet the requirements of DOT (49 CFR), EPA (40 CFR), and NNSWAC for transportation and disposal.

PACKAGE NUMBER: _____

DATE: _____

CERTIFIED BY (print): _____

CERTIFIED BY (signature): _____

Waste Certification Official

Alternate Waste Certification Official

Package Certifier

RWMC DESIGNATOR (e.g., ORNL, PORT): _____

Appendix D

Forms

NNSSWAC Administrative Waste Acceptance Criteria

The following forms are included in this appendix:

1. RWAP-FR-001: Profile A: Low-Level Waste, Classified Non-hazardous Waste, or Solid Waste Cell Waste (13 pages)
2. RWAP-FR-002: Profile B: Mixed Low-Level Waste or Classified Hazardous Waste (13 pages)
3. RWAP-FR-003: RESERVED (1 page)
4. RWAP-FR-004: Pre-Treatment Notification Form (3 pages)
5. RWAP-FR-005: Request for Stand-alone Deviation from NNSSWAC Requirements (2 pages)
6. RWAP-FR-006: Expedited Limited Profile Revision Review Request (2 pages)
7. RWAP-FR-007: Profile Annual Recertification Form (1 page)
8. RWAP-FR-008: Use of Lead Shielding Review Request (2 pages)
9. RWAP-FR-009: NNSS ALARA Planning Form for Elevated Dose Shipments (1 page)
10. RWAP-FR-010: PSDR and Instructions (10 pages)
11. RWAP-FR-011: Shipment Waste Certification (1 page)
12. RWAP-FR-012: RESERVED (1 page)
13. RWAP-FR-013: NNSS Advance Shipment Notification (4 pages)
14. RWAP-FR-014: NNSS Real-Time Radiography (RTR) Verification Review (2 pages)
15. RWAP-FR-015: RESERVED (1 page)

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
 PROFILE A: LOW-LEVEL WASTE, CLASSIFIED NON-HAZARDOUS WASTE, OR SOLID WASTE CELL WASTE**

SECTION 1: PROFILE AND GENERATOR GENERAL INFORMATION			
1A	Profile Number:	Profile Revision:	Profile Date:
1B	Profile Name:		
1C	Company Name and Address:	EPA ID Number:	
1D	Site(s) of Generation (if different):		
1E	Generating Site Description (check one) <input type="checkbox"/> DOE/NNSA Site <input type="checkbox"/> DoD Site <input type="checkbox"/> Commercial TSDf <input type="checkbox"/> Other _____		
1F	Waste Cert. Official (WCO) Name:	Phone:	Email:
1G	Technical Contact Name:	Phone:	Email:
1H	DOE/NNSA Contact Name:	Phone:	Email:
1I	PROFILE REVISION HISTORY		
	Rev. #	Date	Description of Revision

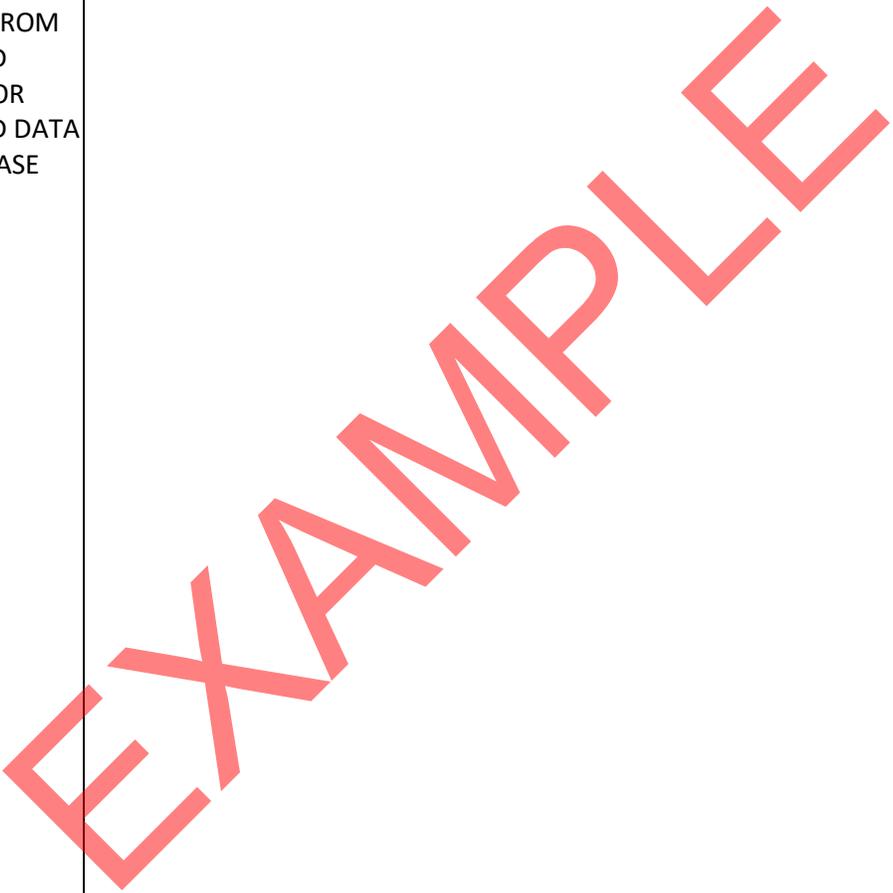
NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM

PROFILE A: LOW-LEVEL WASTE, CLASSIFIED NON-HAZARDOUS WASTE, OR SOLID WASTE CELL WASTE

SECTION 2: WASTE GENERATION, REGULATORY, AND TREATMENT INFORMATION					
2A	Profile Type (check one)	<input type="checkbox"/> Ongoing Process Profile	<input type="checkbox"/> Project Profile Estimated start date: Estimated end date:	<input type="checkbox"/> Single-Use Profile	
2B	Est. Volume (m ³)				
2C	Est. Number of Containers				
2D	Est. Shipment Frequency	<input type="checkbox"/> Monthly <input type="checkbox"/> Quarterly <input type="checkbox"/> Annually	<input type="checkbox"/> Monthly <input type="checkbox"/> Quarterly <input type="checkbox"/> Annually	Total Estimated Number of Shipments:	
2E	Classification Status	Classified? <input type="checkbox"/> Yes <input type="checkbox"/> No	Visual Observation Restricted? <input type="checkbox"/> Yes <input type="checkbox"/> No	Security Authorization Attached? <input type="checkbox"/> Yes <input type="checkbox"/> No	
2F	NMC&A Container Status	Accountable <input type="checkbox"/> Yes <input type="checkbox"/> No		Category II or Higher? <input type="checkbox"/> Yes <input type="checkbox"/> No	
2G	Regulatory Status	<input type="checkbox"/> Yes <input type="checkbox"/> No Radioactive?			
		<input type="checkbox"/> Yes <input type="checkbox"/> No Contains regulated asbestos (e.g., friable, asbestiform)			
		<input type="checkbox"/> Yes <input type="checkbox"/> No This waste was generated as part of a CERCLA Sanctioned Activity. If yes, provide CERCLA documentation as attachment or reference in Sections 6C and/or 6D.			
		<input type="checkbox"/> Yes <input type="checkbox"/> No This waste has never been managed as hazardous under 40 CFR 261 or applicable state regulations. If marked "no," confirm the following:			
		<input type="checkbox"/> This waste formerly carried a characteristically hazardous waste code, and has been treated to meet 40 CFR 268 and does not require disposal in a RCRA Subtitle C landfill.			
List all applicable federal RCRA waste codes that applied at the point of generation, and complete Section 2H:					
List all Underlying Hazardous Constituents, or state "none":					
2H	Treatment History (check all that apply), and Describe in 2I	Non-debris	<input type="checkbox"/> Stabilization	<input type="checkbox"/> Adsorption	<input type="checkbox"/> Amalgamation
			<input type="checkbox"/> Other (List 40 CFR 268.42 Technology Code)		
		Debris	<input type="checkbox"/> Other (List 40 CFR 268.45 Technology Code)		

NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM

PROFILE A: LOW-LEVEL WASTE, CLASSIFIED NON-HAZARDOUS WASTE, OR SOLID WASTE CELL WASTE

21	Description of Waste Population, including the source of generation, source of population, and treatment (if applicable). NOTE: IF DERIVED FROM CLASSIFIED SYSTEMS OR CLASSIFIED DATA USED, PLEASE DESCRIBE.	Describe, or check here if reference provided in 6D <input type="checkbox"/> 
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NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM

PROFILE A: LOW-LEVEL WASTE, CLASSIFIED NON-HAZARDOUS WASTE, OR SOLID WASTE CELL WASTE

SECTION 3: PHYSICAL AND CHEMICAL CHARACTERISTICS						
SECTION 3A: PHYSICAL CHARACTERISTICS						
3A-1	Physical State/ Description (check all that apply)	<input type="checkbox"/> Soil	<input type="checkbox"/> Sludge	<input type="checkbox"/> Building Debris	<input type="checkbox"/> Sealed Sources	
		<input type="checkbox"/> Powder/Dust	<input type="checkbox"/> Absorbed Liquids ¹	<input type="checkbox"/> Dry Active Waste	<input type="checkbox"/> Deactivated Neutron Generator	
		<input type="checkbox"/> Resins	<input type="checkbox"/> Vegetation	<input type="checkbox"/> Equipment	<input type="checkbox"/> Deactivated Squib or Other Explosive Device	
		<input type="checkbox"/> Other Granular Particulate	<input type="checkbox"/> Formaldehyde-Free Animal Carcasses	<input type="checkbox"/> Filters	<input type="checkbox"/> Containerized Gases <1.5 atm at 20° C	
		<input type="checkbox"/> Fine Metals or Shavings	<input type="checkbox"/> Graphite	<input type="checkbox"/> Punctured or Emptied Aerosol Cans	<input type="checkbox"/> Alkaline Batteries	
	List Percentage in 3A-2	<input type="checkbox"/> Yes <input type="checkbox"/> No Free Liquids? If yes, describe:				
		¹ Reference High Moisture Content Waste Evaluation in Section 6D, and Provide with Profile.				
		OTHER - LIST BELOW ON COMPOSITION TABLE				
3A-2	Composition/Component				<input type="checkbox"/> Est. Weight Percent	
					<input type="checkbox"/> Est. Volume Percent	

NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM

PROFILE A: LOW-LEVEL WASTE, CLASSIFIED NON-HAZARDOUS WASTE, OR SOLID WASTE CELL WASTE

SECTION 3B: CHEMICAL CHARACTERISTICS					
3B-1	Chemical Characteristics that Applied Upon Generation (check all that apply)	<input type="checkbox"/> Yes <input type="checkbox"/> No Beryllium	<input type="checkbox"/> Yes <input type="checkbox"/> No Chelating Agents Check as Applicable <input type="checkbox"/> <1% or <input type="checkbox"/> Stabilized	<input type="checkbox"/> Yes <input type="checkbox"/> No Pyrophoric or Explosive Check as Applicable <input type="checkbox"/> Item Expended <input type="checkbox"/> Substance Treated to Render Non-flammable or Non-explosive	
		<input type="checkbox"/> Gas-Generating Waste Check as Applicable: <input type="checkbox"/> Compliance Calculations <input type="checkbox"/> Vents <input type="checkbox"/> Headspace Sampling	<input type="checkbox"/> Yes <input type="checkbox"/> No PCB If checked "yes," mark all applicable PCB forms below. <input type="checkbox"/> PCB Remediation Waste <50 ppm PCB <input type="checkbox"/> PCB Bulk Product (plastic, rubber parts, paint/similar coatings, building demolition debris leaching <10 µg/L PCB) <input type="checkbox"/> Other PCB Bulk Product Demonstrated to Leach <10 µg/L PCB <input type="checkbox"/> PCB Light Ballast with PCBs in Potting Compound <input type="checkbox"/> PCB Light Ballast with Non-leaking Capacitor <input type="checkbox"/> PCB Small Capacitor <input type="checkbox"/> Drained Hydraulic Machines <1,000 ppm PCB <input type="checkbox"/> Flushed Hydraulic Machines >1,000 ppm PCB <input type="checkbox"/> PCB-Contaminated Electrical Equipment >50 ppm <500 ppm <input type="checkbox"/> Other Intact PCB Article <500 ppm <input type="checkbox"/> Other Non-intact PCB Article <input type="checkbox"/> Empty PCB container <500 ppm PCB		
3B-2	Chemical Characterization Data Sources (check all that apply)	Physical/Chemical Analysis		Process Knowledge	
		<input type="checkbox"/> Current Validated Laboratory Analysis (complete Section 3A as applicable) <input type="checkbox"/> Historical Data or Non-validated Data	<input type="checkbox"/> Field Screening <input type="checkbox"/> Combined Analysis/Screening	<input type="checkbox"/> Materials of Construction Information <input type="checkbox"/> Drawings <input type="checkbox"/> Mass Balance <input type="checkbox"/> Spill from a Single Known Substance	<input type="checkbox"/> Effluent Monitoring <input type="checkbox"/> Safety Data Sheets <input type="checkbox"/> Other

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
PROFILE A: LOW-LEVEL WASTE, CLASSIFIED NON-HAZARDOUS WASTE, OR SOLID WASTE CELL WASTE**

3B-3	Characterization Basis Inclusive of QA Evaluation	Describe, or check here if reference provided in 6D <input type="checkbox"/>
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EXAMPLE

NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM

PROFILE A: LOW-LEVEL WASTE, CLASSIFIED NON-HAZARDOUS WASTE, OR SOLID WASTE CELL WASTE

SECTION 3C: TABLE OF RCRA ANALYTICAL RESULTS								
3C-1	Chemical Analytical Reference(s) or check if listed in Section 6D <input type="checkbox"/>	If Profile Revision, check one of the following:						
		<input type="checkbox"/> No sampling from last revision <i>Skip 3C-2 through 3C-4.</i>		<input type="checkbox"/> Samples collected and results did not vary by greater than 10% and remained under 80% of action level <i>Complete 3C-2, and skip 3C-3 through 3C-4.</i>			<input type="checkbox"/> Values on table have been revised <i>Complete 3C-2 through 3C-4.</i>	
3C-2	Analyte (complete as applicable)	Units (mg/L or mg/kg)	Statistical Mean <input type="checkbox"/> N/A	UCI 90% <input type="checkbox"/> N/A	Analyte	Units (mg/L or mg/kg)	Statistical Mean <input type="checkbox"/> N/A	UCI 90% <input type="checkbox"/> N/A
	Arsenic				o-Cresol			
	Barium				p-Cresol			
	Cadmium				m-Cresol			
	Chromium				Cresol			
	Lead				2,4 Dinitrotoluene			
	Mercury				Hexachlorobenzene			
	Selenium				Hexachlorobutadiene			
	Silver				Nitrobenzene			
	Benzene				Pentachlorophenol			
	Carbon Tetrachloride				2,4,5-Trichlorophenol			
	Chlorobenzene				2,4,6-Trichlorophenol			
	Chloroform				Hexachloroethane			
	1,4-Dichlorobenzene				Chlordane			
	1,4-Dichloroethane				2,4-D			
	Methyl Ethyl Ketone				Endrin			
	Pyridine				Heptachlor and Epoxide			
	Tetrachloroethylene				Lindane			
Trichloroethylene				Methoxychlor				
Vinyl Chloride				Toxaphene				
1,2-Dichloroethylene				2,4,5-TP (Silvex)				
3C-3	<input type="checkbox"/> Check if any other additional data tables are provided (e.g., LDR compliance, PCB analysis, soil pH), and list in Section 6D							
3C-4	<input type="checkbox"/> Data Validation Summary Attached							

NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM

PROFILE A: LOW-LEVEL WASTE, CLASSIFIED NON-HAZARDOUS WASTE, OR SOLID WASTE CELL WASTE

SECTION 4: RADIOLOGICAL		
SECTION 4A: RADIOLOGICAL CHARACTERIZATION		
Characterization Basis (check all that apply)		Description or Reference Radiological Technical Basis as Applicable
4A-1	<input type="checkbox"/> Laboratory Analysis <input type="checkbox"/> Data Validation Summary Attached	
4A-2	<input type="checkbox"/> Nondestructive Assay	
4A-3	<input type="checkbox"/> Field Survey Measurements	
4A-4	<input type="checkbox"/> Scaling Factors	
4A-5	<input type="checkbox"/> Nuclear Material Accountability	
4A-6	<input type="checkbox"/> Computer Modeling	
4A-7	<input type="checkbox"/> Other	
4A-8	<input type="checkbox"/> Multiple (describe how each basis is used for overall characterization)	

EXAMPLE

NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM

PROFILE A: LOW-LEVEL WASTE, CLASSIFIED NON-HAZARDOUS WASTE, OR SOLID WASTE CELL WASTE

SECTION 4B: RADIOLOGICAL CHARACTERISTICS

4B-1	<input type="checkbox"/> Contains Fissile Material (If yes, mark all boxes that apply) <input type="checkbox"/> ²³⁵ U Fissile Gram Equivalent Checklist Attached	<input type="checkbox"/> Waste package(s) meet 49 CFR 173.453, Fissile Material – Exceptions; list specific DOT exception(s): <input type="checkbox"/> Waste packages that do not qualify for a 49 CFR 173.453, Fissile Material – Exceptions, are packaged in a Fissile Material Package as defined in 10 CFR 71, Subpart E. <input type="checkbox"/> Waste package(s) do not exceed 350 g of ²³⁵ U FGE per package and gram loading does not exceed 2 g of ²³⁵ U FGE per kilogram of waste (mass of the package is not included in the mass of the waste) and waste is packaged in 55-gallon metal drum or larger metal container. <input type="checkbox"/> Waste package(s) comply with the limits and conditions as specified in TWAC Table 3-7. <input type="checkbox"/> Waste package(s) complies with the Criticality Safety Restrictions as specified in TWAC Tables 3-8 and 3-9. <input type="checkbox"/> Waste package(s) adhere to the attached Nuclear Criticality Safety Evaluation (NCSE), which demonstrates that each package covered by this profile demonstrates that an infinite array of such packages would be subcritical under “as-packaged” conditions if the array were to be flooded with water to any credible degree. <input type="checkbox"/> Graphite and beryllium exceed 1% of the mass of the waste.
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4B-2	<input type="checkbox"/> Waste contains sealed source(s) <input type="checkbox"/> Waste contains sealed source(s) >100 µCi If sealed sources >100 µCi >100 present, list the expected and maximum activity (Bq) for each radionuclide listed in TWAC, Table 3-4.
------	--

4B-3	REPORTABLE RADIONUCLIDES IN Bq/m ³					
	Radionuclide	High Activity Concentration	Activity Representative of Final Waste Form	Radionuclide	High Activity Concentration	Activity Representative of Final Waste Form

NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM

PROFILE A: LOW-LEVEL WASTE, CLASSIFIED NON-HAZARDOUS WASTE, OR SOLID WASTE CELL WASTE

SECTION 4C: ALPHA-EMITTING TRANSURANIC NUCLIDE ACTIVITY

4C-1	<input type="checkbox"/> Waste contains alpha-emitting transuranic radionuclides with a half-life greater than 20 years; if checked, complete table below in nCi/g.					
	Transuranic Radionuclide	High Activity Concentration	Activity Concentration of Final Waste Form	Transuranic Radionuclide	High Activity Concentration	Activity Concentration of Final Waste Form
4C-2	<input type="checkbox"/> High activity TRU concentration is ≥ 100 nCi/g; If checked, provide justification as non-TRU waste classification, and list segregation / list controlling documents in Section 6D.					

SECTION 4D: CALCULATING PLUTONIUM EQUIVALENT GRAMS

4D-1	PLUTONIUM EQUIVALENT GRAM (PE-g) LIMITS				
	Radionuclide	High Activity Concentration from Table 4B-3 (Bq/m ³)	PE-g Conversion Factors (PE-g/Bq)	PE-g/m ³	
4D-2	TOTAL PE-g/m ³				
	PACKAGE TOTALS			TOTAL PE-g	
	Package Type		Package Volume		
	Package Type		Package Volume		
4D-3	<input type="checkbox"/> Any package type calculated to exceed 300 PE-g, check one of the boxes below: <input type="checkbox"/> Type B package to be used as disposal package <input type="checkbox"/> The following controls will be used to prevent exceeding 300 PE-g in a container:				

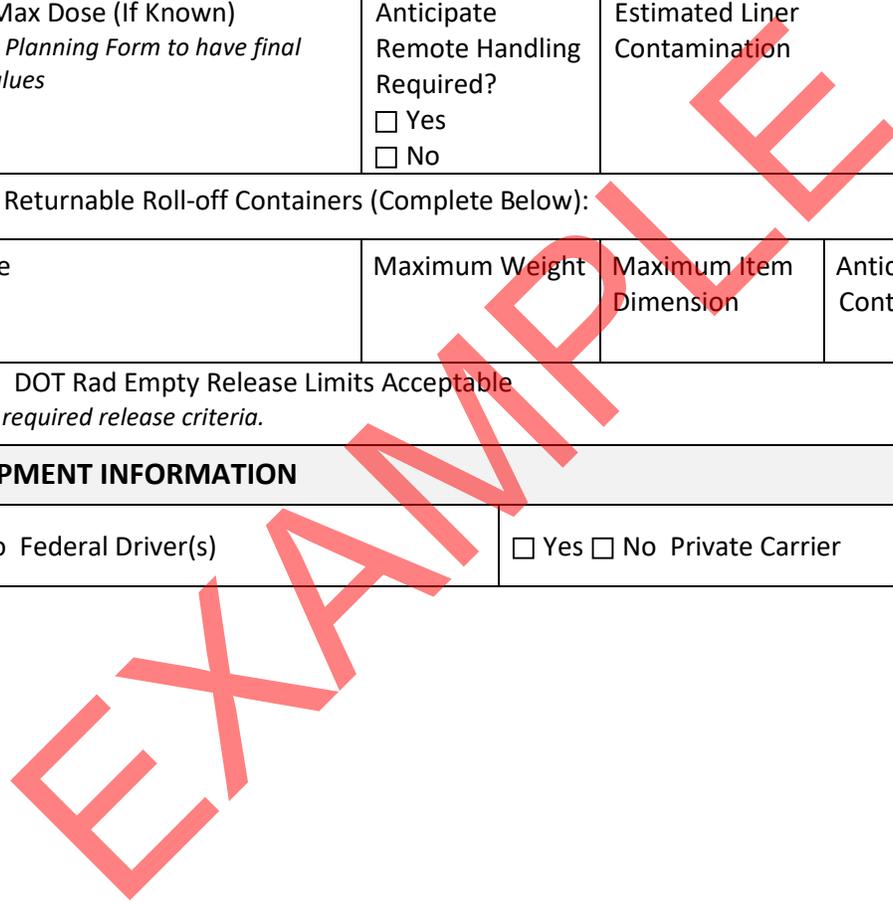
NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM

PROFILE A: LOW-LEVEL WASTE, CLASSIFIED NON-HAZARDOUS WASTE, OR SOLID WASTE CELL WASTE

SECTION 5: PACKAGING						
<input type="checkbox"/> Packages to be directly buried; go to Section 5A. <input type="checkbox"/> Containers to be emptied and returned (e.g., Type B cask, roll-off); go to Section 5B.						
SECTION 5A: PACKAGED OR UNPACKAGED SCO/LSA						
5A-1	<input type="checkbox"/> Y <input type="checkbox"/> N Manufactured Container(s) Listed on SharePoint PSDR Instructions <i>If no, complete Section 5A-3.</i>		<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A Boxes Meet Strength Requirement <i>If no, complete Section 6A.</i>		Max. Container Gross Weight (Pounds)	Max. Container Dimensions (Feet)
5A-2	<input type="checkbox"/> Certificate of Compliance (COC) Container		Container Code(s)			
			COC Number			
5A-3	New Container Name and Description		DOT Type	Dimensions	Rated Weight	Maximum Gross Weight
5A-4	Unpackaged SCO/LSA Items			Maximum Weight	Dimensions	
5A-5	Package or Item Estimated Dose Rates	Surface (mRem/hr)	@30 cm (mRem/hr)	@ 1 meter (mRem/hr)		
5A-6	<input type="checkbox"/> Shielded Package <i>Provide lead shielding calculations to RWAP@emnv.doe.gov 14 days in advance of shipment.</i>		<input type="checkbox"/> Radon Generation		<input type="checkbox"/> Transportation Permit Anticipated due to Dimensions	
5A-7	<input type="checkbox"/> Integrated Equipment Lifting Devices <i>Provide engineering evaluation prior to scheduling shipment.</i>			<input type="checkbox"/> Lifting Equipment to be Provided and Buried <input type="checkbox"/> Lifting Equipment to be Provided and Returned		

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
 PROFILE A: LOW-LEVEL WASTE, CLASSIFIED NON-HAZARDOUS WASTE, OR SOLID WASTE CELL WASTE**

SECTION 5B: CONTAINERS TO BE EMPTIED AND RETURNED (CHECK ALL THAT APPLY)					
5B-1	<input type="checkbox"/> Cask	<input type="checkbox"/> Anticipate Highway Route Controlled Quantity			
5B-2	Cask Name and Description <input type="checkbox"/> Yes <input type="checkbox"/> No First Use?	COC Number	Dimensions	Cast Payload Weight	Maximum Gross Weight
5B-3	Estimated Max Dose (If Known) <i>NNSS ALARA Planning Form to have final estimated values</i>	Anticipate Remote Handling Required? <input type="checkbox"/> Yes <input type="checkbox"/> No	Estimated Liner Contamination		Anticipated Gross Weight
5B-4	<input type="checkbox"/> Waste in Returnable Roll-off Containers (Complete Below):				
	Roll-off Type	Maximum Weight	Maximum Item Dimension	Anticipated Contamination Levels	
	<input type="checkbox"/> Yes <input type="checkbox"/> No DOT Rad Empty Release Limits Acceptable <i>If no, provide required release criteria.</i>				
SECTION 5C: SHIPMENT INFORMATION					
5C-1	<input type="checkbox"/> Yes <input type="checkbox"/> No Federal Driver(s)		<input type="checkbox"/> Yes <input type="checkbox"/> No Private Carrier		



**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
 PROFILE A: LOW-LEVEL WASTE, CLASSIFIED NON-HAZARDOUS WASTE, OR SOLID WASTE CELL WASTE**

SECTION 6: ADDITIONAL INFORMATION		
6A	<input type="checkbox"/> Deviation(s) Request	
	NNSWAC Reference	Description of Requirement
6B	Rationale for Deviation Request and Description of Any Compensatory Measures to Be Taken	
6C	<input type="checkbox"/> Attachments (<i>List all attachments provided with this profile.</i>)	
6D	<input type="checkbox"/> References (<i>List references noted in this profile.</i>)	
SECTION 7: SIGNATURES		
7A	WCO Signature and Date:	
7B	Technical Specialist Signature and Date:	
7C	DC/RO Declaration, Signature, and Date:	

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
 PROFILE B: MIXED LOW-LEVEL WASTE OR CLASSIFIED HAZARDOUS WASTE**

SECTION 1: PROFILE AND GENERATOR GENERAL INFORMATION			
1A	Profile Number:	Profile Revision:	Profile Date:
1B	Profile Name:		
1C	Company Name and Address:	EPA ID Number:	
1D	Site(s) of Generation (if different):		
1E	Generating Site Description (check one) <input type="checkbox"/> DOE/NNSA Site <input type="checkbox"/> DoD Site <input type="checkbox"/> Commercial TSDF <input type="checkbox"/> Other _____		
1F	Waste Cert. Official (WCO) Name:	Phone:	Email:
1G	Technical Contact Name:	Phone:	Email:
1H	DOE/NNSA Contact Name:	Phone:	Email:
1I	PROFILE REVISION HISTORY		
	Rev. #	Date	Description of Revision

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
PROFILE B: MIXED LOW-LEVEL WASTE OR CLASSIFIED HAZARDOUS WASTE**

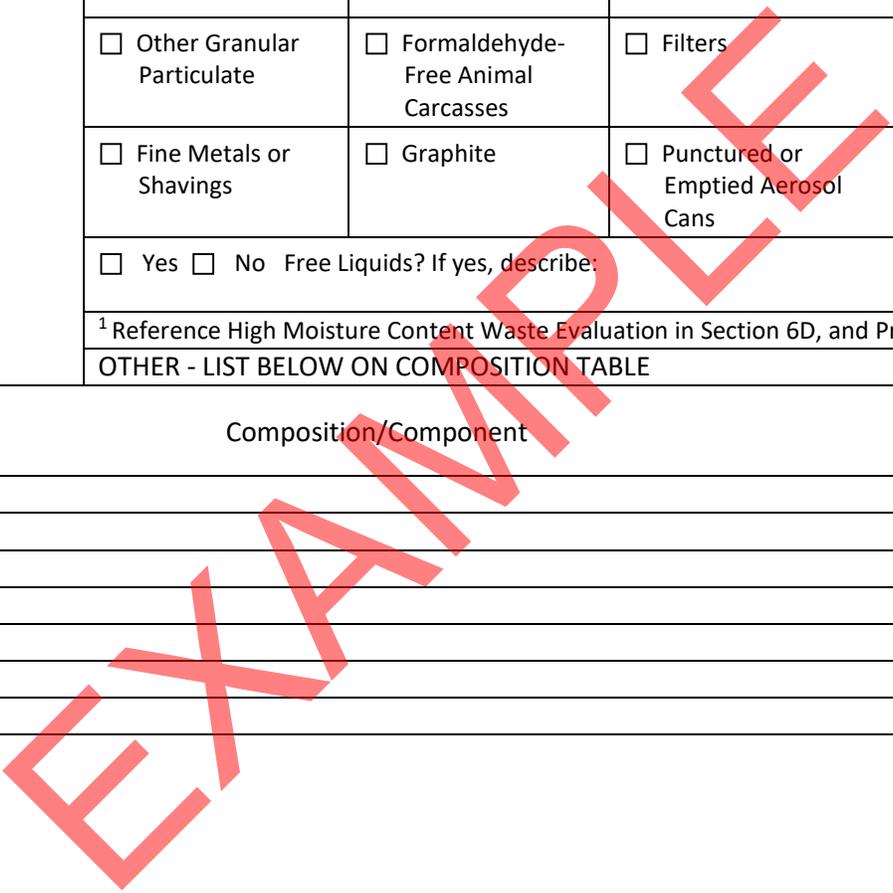
SECTION 2: WASTE GENERATION, REGULATORY, AND TREATMENT INFORMATION				
2A	Profile Type (check one)	<input type="checkbox"/> Ongoing Process Profile	<input type="checkbox"/> Project Profile Estimated start date: Estimated end date:	<input type="checkbox"/> Single-Use Profile
2B	Est. Volume (m ³)			
2C	Est. Number of Containers			
2D	Est. Shipment Frequency	<input type="checkbox"/> Monthly <input type="checkbox"/> Quarterly <input type="checkbox"/> Annually	<input type="checkbox"/> Monthly <input type="checkbox"/> Quarterly <input type="checkbox"/> Annually	Total Estimated Number of Shipments:
2E	Classification Status	Classified? <input type="checkbox"/> Yes <input type="checkbox"/> No	Visual Observation Restricted? <input type="checkbox"/> Yes <input type="checkbox"/> No	Security Authorization Attached? <input type="checkbox"/> Yes <input type="checkbox"/> No
2F	NMC&A Container Status	Accountable? <input type="checkbox"/> Yes <input type="checkbox"/> No		Category II or Higher? <input type="checkbox"/> Yes <input type="checkbox"/> No
2G	Regulatory Status	<input type="checkbox"/> Yes <input type="checkbox"/> No Radioactive?		
		<input type="checkbox"/> Yes <input type="checkbox"/> No This waste was generated as part of a CERCLA Sanctioned Activity. If yes, provide CERCLA documentation as attachment or reference in Sections 6C and/or 6D.		
		List all applicable federal RCRA hazardous waste codes and EPA form codes that will apply at this point in disposal.		
		List all Underlying Hazardous Constituents, or state "none":		
		Check one of the following:		
		<input type="checkbox"/> This waste meets the 40 CFR 268 Concentration-Based Treatment Standards including those for applicable Underlying Hazardous Constituents.		
		<input type="checkbox"/> This waste was treated to a Technology-Based Treatment Standard (40 CFR 268.42).		
		<input type="checkbox"/> This waste was treated to meet the Alternative Treatment Standards for Hazardous Debris (40 CFR 268.45).		
		<input type="checkbox"/> This waste was treated to meet the Alternative LDR Treatment standards for contaminated soil (40 CFR 268.49).		
		<input type="checkbox"/> This waste is subject to a Treatability Variance (provide as attachment or reference).		
		<input type="checkbox"/> Yes <input type="checkbox"/> No This waste will be classified as hazardous waste at the point of disposal based on state of generation codes.		
		List all applicable state hazardous waste codes:		

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
PROFILE B: MIXED LOW-LEVEL WASTE OR CLASSIFIED HAZARDOUS WASTE**

		<input type="checkbox"/> Yes <input type="checkbox"/> No This waste is classified as PCB remediation waste ≥ 50 ppm. <i>All other acceptable PCB categories that may be associated with a RCRA hazardous waste are listed under Chemical Characteristics.</i>			
2H	Treatment History (check all that apply), and Describe in 2I	Non-debris	<input type="checkbox"/> Stabilization	<input type="checkbox"/> Adsorption	<input type="checkbox"/> Amalgamation
			<input type="checkbox"/> None; waste met LDR upon generation		
			<input type="checkbox"/> Other (List 40 CFR 268.45 Technology Code)		
		Debris	<input type="checkbox"/> Macro-encapsulation	<input type="checkbox"/> Sealing	<input type="checkbox"/> Micro-encapsulation
			<input type="checkbox"/> None; waste met LDR upon generation		
			<input type="checkbox"/> Other (List 40 CFR 268.45 Technology Code)		
2I	Description of Waste Population, including the source of generation, source of population, and treatment; or why no treatment was required. NOTE: IF DERIVED FROM CLASSIFIED SYSTEMS OR CLASSIFIED DATA USED, PLEASE DESCRIBE.	Describe, or check here if reference provided in 6D <input type="checkbox"/>			

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
PROFILE B: MIXED LOW-LEVEL WASTE OR CLASSIFIED HAZARDOUS WASTE**

SECTION 3: PHYSICAL AND CHEMICAL CHARACTERISTICS					
SECTION 3A: PHYSICAL CHARACTERISTICS					
3A-1	Physical State/ Description (check all that apply)	<input type="checkbox"/> Soil	<input type="checkbox"/> Sludge	<input type="checkbox"/> Building Debris	<input type="checkbox"/> Sealed Sources
		<input type="checkbox"/> Powder/Dust	<input type="checkbox"/> Absorbed Liquids ¹	<input type="checkbox"/> Dry Active Waste	<input type="checkbox"/> Deactivated Neutron Generator
		<input type="checkbox"/> Resins	<input type="checkbox"/> Vegetation	<input type="checkbox"/> Equipment	<input type="checkbox"/> Deactivated Squib or Other Explosive Device
		<input type="checkbox"/> Other Granular Particulate	<input type="checkbox"/> Formaldehyde-Free Animal Carcasses	<input type="checkbox"/> Filters	<input type="checkbox"/> Containerized Gases <1.5 atm at 20° C
		<input type="checkbox"/> Fine Metals or Shavings	<input type="checkbox"/> Graphite	<input type="checkbox"/> Punctured or Emptied Aerosol Cans	<input type="checkbox"/> Alkaline Batteries
	<input type="checkbox"/> Yes <input type="checkbox"/> No Free Liquids? If yes, describe:				
	¹ Reference High Moisture Content Waste Evaluation in Section 6D, and Provide with Profile.				
OTHER - LIST BELOW ON COMPOSITION TABLE					
3A-2	Composition/Component				<input type="checkbox"/> Est. Weight Percent
					<input type="checkbox"/> Est. Volume Percent



**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
PROFILE B: MIXED LOW-LEVEL WASTE OR CLASSIFIED HAZARDOUS WASTE**

SECTION 3B: CHEMICAL CHARACTERISTICS					
3B-1	Chemical Characteristics That Applied <i>Upon Generation</i> (check all that apply)	<input type="checkbox"/> Yes <input type="checkbox"/> No Beryllium	<input type="checkbox"/> Yes <input type="checkbox"/> No Chelating Agents Check as Applicable <input type="checkbox"/> <1% <i>or</i> <input type="checkbox"/> Stabilized	<input type="checkbox"/> Yes <input type="checkbox"/> No Pyrophoric or Explosive Check as Applicable <input type="checkbox"/> Item Expended <input type="checkbox"/> Substance Treated to Render Non-flammable or Non-explosive	
		<input type="checkbox"/> Gas-Generating Waste Check as Applicable <input type="checkbox"/> Compliance Calculations <input type="checkbox"/> Vents <input type="checkbox"/> Headspace Sampling	<input type="checkbox"/> Yes <input type="checkbox"/> No PCB If checked yes, mark applicable PCB forms below. <input type="checkbox"/> PCB Remediation Waste >50 ppm PCB <input type="checkbox"/> PCB Remediation Waste <50 ppm PCB <input type="checkbox"/> PCB Bulk Product (plastic, rubber parts, paint/similar coatings, building demolition debris leaching <10 µg/L PCB) <input type="checkbox"/> Other PCB Bulk Product Demonstrated to Leach <10 µg/L PCB <input type="checkbox"/> Other PCB Bulk Product that Leaches ≥10 µg/L PCB or cannot be tested <input checked="" type="checkbox"/> PCB Light Ballast with PCBs in Potting Compound <input type="checkbox"/> PCB Light Ballast with Non-leaking Capacitor <input checked="" type="checkbox"/> PCB Small Capacitor <input type="checkbox"/> Drained Hydraulic Machines <1,000 ppm PCB <input type="checkbox"/> Flushed Hydraulic Machines >1,000 ppm PCB <input type="checkbox"/> PCB Contaminated Electrical Equipment >50 ppm <500 ppm <input type="checkbox"/> Other Intact PCB Article <500 ppm <input type="checkbox"/> Other Non-intact PCB Article <input type="checkbox"/> Empty PCB Container <500 ppm PCB		
3B-2	Chemical Characterization Data Sources (check all that apply)	Physical/Chemical Analysis		Process Knowledge	
		<input type="checkbox"/> Current Validated Laboratory Analysis (complete Section 3A as applicable) <input type="checkbox"/> Historical or Non-validated Data	<input type="checkbox"/> Field Screening <input type="checkbox"/> Combined Analysis/Screening	<input type="checkbox"/> Drawings and/or Materials of Construction Data <input type="checkbox"/> Mass Balance <input type="checkbox"/> Spill from a Single Known Substance	<input type="checkbox"/> Effluent Monitoring <input type="checkbox"/> Safety Data Sheets <input type="checkbox"/> Other

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
PROFILE B: MIXED LOW-LEVEL WASTE OR CLASSIFIED HAZARDOUS WASTE**

SECTION 3C: TABLE OF RCRA ANALYTICAL RESULTS								
3C-1	Chemical Analytical Reference(s) or check if listed in Section 6D <input type="checkbox"/>	If Profile Revision, check one of the following:						
		<input type="checkbox"/> No sampling from last revision <i>Skip 3C-2 through 3C-4.</i>		<input type="checkbox"/> Samples collected and results did not vary by greater than 10% and remained under 80% of action level <i>Complete 3C-2, and skip 3C-3 through 3C-4.</i>			<input type="checkbox"/> Values on table have been revised <i>Complete 3C-2 through 3C-4.</i>	
3C-2	Analyte (complete as applicable)	Units (mg/L or mg/kg)	Statistical Mean <input type="checkbox"/> N/A	UCI 90% <input type="checkbox"/> N/A	Analyte	Units (mg/L or mg/kg)	Statistical Mean <input type="checkbox"/> N/A	UCI 90% <input type="checkbox"/> N/A
	Arsenic				o-Cresol			
	Barium				p-Cresol			
	Cadmium				m-Cresol			
	Chromium				Cresol			
	Lead				2,4 Dinitrotoluene			
	Mercury				Hexachlorobenzene			
	Selenium				Hexachlorobutadiene			
	Silver				Nitrobenzene			
	Benzene				Pentachlorophenol			
	Carbon Tetrachloride				2,4,5-Trichlorophenol			
	Chlorobenzene				2,4,6-Trichlorophenol			
	Chloroform				Hexachloroethane			
	1,4-Dichlorobenzene				Chlordane			
	1,4-Dichloroethane				2,4-D			
	Methyl Ethyl Ketone				Endrin			
	Pyridine				Heptachlor and Epoxide			
	Tetrachloroethylene				Lindane			
	Trichloroethylene				Methoxychlor			
	Vinyl Chloride				Toxaphene			
1,2-Dichloroethylene				2,4,5-TP (Silvex)				
3C-3	<input type="checkbox"/> Check if any other additional data tables are provided (e.g., LDR compliance, PCB analysis, soil pH), and list in Section 6D							
3C-4	<input type="checkbox"/> Data Validation Summary Attached							

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
 PROFILE B: MIXED LOW-LEVEL WASTE OR CLASSIFIED HAZARDOUS WASTE**

SECTION 4: RADIOLOGICAL		
SECTION 4A: RADIOLOGICAL CHARACTERIZATION		
Characterization Basis (check all that apply)		Description or Reference Radiological Technical Basis as Applicable
4A-1	<input type="checkbox"/> Laboratory Analysis <input type="checkbox"/> Data Validation Summary Attached	
4A-2	<input type="checkbox"/> Nondestructive Assay	
4A-3	<input type="checkbox"/> Field Survey Measurements	
4A-4	<input type="checkbox"/> Scaling Factors	
4A-5	<input type="checkbox"/> Nuclear Material Accountability	
4A-6	<input type="checkbox"/> Computer Modeling	
4A-7	<input type="checkbox"/> Other	
4A-8	<input type="checkbox"/> Multiple (describe how each basis is used for overall characterization)	

EXAMPLE

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
PROFILE B: MIXED LOW-LEVEL WASTE OR CLASSIFIED HAZARDOUS WASTE**

SECTION 4B: RADIOLOGICAL CHARACTERISTICS

4B-1	<input type="checkbox"/> Contains Fissile Material (If yes, mark all boxes that apply) <input type="checkbox"/> ²³⁵ U Fissile Gram Equivalent Checklist Attached	<input type="checkbox"/> Waste package(s) meet 49 CFR 173.453, Fissile Material – Exceptions; list specific DOT exception(s): <input type="checkbox"/> Waste packages that do not qualify for a 49 CFR 173.453, Fissile Material – Exceptions are packaged in a Fissile Material Package as defined in 10 CFR 71, Subpart E. <input type="checkbox"/> Waste package(s) do not exceed 350 g of ²³⁵ U FGE per package and gram loading does not exceed 2 g of ²³⁵ U FGE per kilogram of waste (mass of the package is not included in the mass of the waste) and waste is packaged in 55-gallon metal drum or larger metal container. <input type="checkbox"/> Waste package(s) comply with the limits and conditions as specified in TWAC Table 3-7. <input type="checkbox"/> Waste package(s) complies with the Criticality Safety Restrictions as specified in TWAC Tables 3-8 and 3-9. <input type="checkbox"/> Waste package(s) adhere to the attached Nuclear Criticality Safety Evaluation (NCSE), which demonstrates that each package covered by this profile demonstrates that an infinite array of such packages would be subcritical under “as-packaged” conditions if the array were to be flooded with water to any credible degree. <input type="checkbox"/> Graphite and beryllium exceed 1% of the mass of the waste.
------	--	--

4B-2	<input type="checkbox"/> Waste contains sealed source(s) <input type="checkbox"/> Waste contains sealed source(s) >100 µCi If sealed sources >100 µCi >100 present, list the expected and maximum activity (Bq) for each radionuclide listed in TWAC, Table 3-4.
------	--

4B-3 REPORTABLE RADIONUCLIDES IN Bq/m ³					
Radionuclide	High Activity Concentration	Activity Representative of Final Waste Form	Radionuclide	High Activity Concentration	Activity Representative of Final Waste Form

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
PROFILE B: MIXED LOW-LEVEL WASTE OR CLASSIFIED HAZARDOUS WASTE**

SECTION 4C: ALPHA-EMITTING TRANSURANIC NUCLIDE ACTIVITY						
4C-1	<input type="checkbox"/> Waste contains alpha-emitting transuranic radionuclides with a half-life greater than 20 years; if checked, complete table below in nCi/g.					
	Transuranic Radionuclide	High Activity Concentration	Activity Concentration of Final Waste Form	Transuranic Radionuclide	High Activity Concentration	Activity Concentration of Final Waste Form
4C-2	<input type="checkbox"/> High activity concentration is ≥ 100 nCi/g; If checked, provide justification as non-TRU waste classification, and list segregation / list controlling documents in Section 6D.					
SECTION 4D: CALCULATING PLUTONIUM EQUIVALENT GRAMS						
4D-1	PLUTONIUM EQUIVALENT GRAM (PE-g) LIMITS					
	Radionuclide	High Activity Concentration from Table 4A-B (Bq/m ³)	PE-g Conversion Factors (PE-g/Bq)	PE-g/m ³		
4D-2	TOTAL PE-g/m ³					
	PACKAGE TOTALS					TOTAL PE-g
	Package Type		Package Volume			
	Package Type		Package Volume			
4D-3	<input type="checkbox"/> Any package type calculated to exceed 300 PE-g, check one of the boxes below: <input type="checkbox"/> Type B package to be used as disposal package <input type="checkbox"/> The following controls will be used to prevent exceeding 300 PE-g in a container:					

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
PROFILE B: MIXED LOW-LEVEL WASTE OR CLASSIFIED HAZARDOUS WASTE**

SECTION 5: PACKAGING					
<input type="checkbox"/> Packages to be directly buried; go to Section 5A. <input type="checkbox"/> Containers to be emptied and returned (e.g., Type B cask, roll-off); go to Section 5B.					
SECTION 5A: PACKAGED OR UNPACKAGED SCO/LSA					
5A-1	<input type="checkbox"/> Y <input type="checkbox"/> N Manufactured Container(s) Listed on SharePoint PSDR Instructions <i>If no, complete Section 5A-3.</i>	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A Boxes Meet Strength Requirement <i>If no, complete Section 6A.</i>	Max. Container Gross Weight (Pounds)	Max. Container Dimensions (Feet)	
5A-2	<input type="checkbox"/> Certificate of Compliance (COC) Container	Container Code(s)			
		COC Number			
5A-3	New Container Name and Description	DOT Type	Dimensions	Rated Weight	Maximum Gross Weight
5A-4	Unpackaged SCO/LSA Items		Maximum Weight	Dimensions	
5A-5	Package or Item Estimated Dose Rates	Surface (mRem/hr)	@30 cm (mRem/hr)	@ 1 meter (mRem/hr)	
5A-6	<input type="checkbox"/> Shielded Package <i>Provide lead shielding calculations to RWAP@emnv.doe.gov 14 days in advance of shipment.</i>	<input type="checkbox"/> Radon Generation		<input type="checkbox"/> Transportation Permit Anticipated due to Dimensions	
5A-7	<input type="checkbox"/> Integrated Equipment Lifting Devices <i>Provide engineering evaluation prior to scheduling shipment.</i>		<input type="checkbox"/> Lifting Equipment to be Provided and Buried <input type="checkbox"/> Lifting Equipment to be Provided and Returned		

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
PROFILE B: MIXED LOW-LEVEL WASTE OR CLASSIFIED HAZARDOUS WASTE**

SECTION 5B: CONTAINERS TO BE EMPTIED AND RETURNED (CHECK ALL THAT APPLY)					
5B-1	<input type="checkbox"/> Cask	<input type="checkbox"/> Anticipate Highway Route Controlled Quantity			
5B-2	Cask Name and Description <input type="checkbox"/> Yes <input type="checkbox"/> No First Use?	COC Number	Dimensions	Cask Payload Weight	Maximum Gross Weight
5B-3	Estimated Max Dose (If Known) <i>NNSS ALARA Planning Form to have final estimated values</i>	Anticipate Remote Handling Required? <input type="checkbox"/> Yes <input type="checkbox"/> No	Estimated Liner Contamination	Anticipated Gross Weight	
5B-4	<input type="checkbox"/> Waste in Returnable Roll-off Containers (Complete Below):				
	Roll-off Type	Maximum Weight	Maximum Item Dimension	Anticipated Contamination Levels	
	<input type="checkbox"/> Yes <input type="checkbox"/> No DOT Rad Empty Release Limits Acceptable <i>If no, provide required release criteria.</i>				
SECTION 5C: SHIPMENT INFORMATION					
5C-1	<input type="checkbox"/> Yes <input type="checkbox"/> No Federal Driver(s)		<input type="checkbox"/> Yes <input type="checkbox"/> No Private Carrier		
SECTION 6: ADDITIONAL INFORMATION					
6A	<input type="checkbox"/> Deviation(s) Request				
	NNSSWAC Reference	Description of Requirement		Duration of Request	
6B	Rationale for Deviation Request and Description of Any Compensatory Measures to be Taken				

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
PROFILE B: MIXED LOW-LEVEL WASTE OR CLASSIFIED HAZARDOUS WASTE**

6C	<input type="checkbox"/> Attachments (<i>List all attachments provided with this profile.</i>)
6D	<input type="checkbox"/> References (<i>List references noted in this profile.</i>)
SECTION 7: SIGNATURES	
7A	WCO Signature and Date:
7B	Technical Specialist Signature and Date:
7C	DC/RO Declaration, Signature, and Date:

EXAMPLE

RESERVED

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
PRE-TREATMENT NOTIFICATION FORM FOR MIXED LOW-LEVEL WASTE
AND NON-RADIOACTIVE HAZARDOUS CLASSIFIED WASTE/MATTER**

A. Generator Information				
1. Company Name:				
2. Facility Address:				
3. Generator Facility:				
4. Primary Technical Contact Name:	Email:	Phone:	Fax:	
5. Waste Certification Official Name:	Email:	Phone:	Fax:	
B. General Waste Stream Information				
1. Waste Stream Name:				
2. Waste Stream Identification Number:				
3. Waste Generating Process Description:				
4. Estimated Volume after Treatment:				<input type="checkbox"/> Inventory attached
a. Estimated disposal container counts, container size, and weight:				
b. Estimated container dose rates 30 centimeters (mR/hr @ 30 cm):				
Container Type	Container Count	Container Size	Weight (lbs.)	Dose Rate (mR/hr @ 30 cm)
5. Regulator Status: Check all boxes below that describe the regulatory status of the waste stream as generated.				
<input type="checkbox"/> Federally regulated (RCRA) hazardous waste (40 CFR 261). List all EPA hazardous waste numbers and applicable regulatory subcategories.				
 <input type="checkbox"/> State regulated hazardous waste codes:				

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
PRE-TREATMENT NOTIFICATION FORM FOR MIXED LOW-LEVEL WASTE
AND NON-RADIOACTIVE HAZARDOUS CLASSIFIED WASTE/MATTER**

6. Waste Composition: Describe the gross composition/component of the waste stream, and all hazardous constituents that contribute to any waste codes or LDR treatment standards.

CAS Number	Chemical Constituent	Waste Component

7. Reportable Radionuclides: List the radionuclides that could be reportable in the waste stream:

Isotope	Activity (Bq/m ³)

C. Proposed Treatment Information

1. Applicable LDR Treatment Standards:

2. Treatment Standards: Concentration Based Technology Based

3. Proposed Treatment Facility:

- On-site
- Commercial

Generator Procedures:
Facility Name:
Address:
EPA Identification Number:
Permit Number:

4. DOEAP Audit Number and Date Completed of the Treatment Facility:

5. Treatment Process(es) or Technology(ies):

6. Proposed Final Waste Form:

- Solidified/Stabilized Debris Microencapsulated
- Incinerator Ash Soil Other, describe:

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
PRE-TREATMENT NOTIFICATION FORM FOR MIXED LOW-LEVEL WASTE
AND NON-RADIOACTIVE HAZARDOUS CLASSIFIED WASTE/MATTER**

7. <input type="checkbox"/> Waste Will Contain Sorbent: <i>Sorbents used shall meet 40 CFR 264.314(e) (1) or (2)</i> What kind?		
8. Schedule for Treatment:		
9. Training or PPE Necessary for Visual Inspection of Treatment/Waste:		
Technical Contact		
Name:	Signature:	Date:
Waste Certification Official		
Name:	Signature:	Date:

EXAMPLE

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
REQUEST FOR STAND-ALONE DEVIATION FROM NNSSWAC REQUIREMENTS**

For use in requesting NNSSWAC requirements deviations only; profile deviations must be submitted as a profile revision

1. Generator Site				
2. Waste Profile Number(s)		Rev.	Revision Date	Waste Profile Name
Attachment <input type="checkbox"/>				
3. NNSSWAC Citation & Requirement(s) that cannot be satisfied				
Attachment <input type="checkbox"/>				
4. Description of Deviation including item(s) and/or process(es) affected				
Attachment <input type="checkbox"/>				
5. Justification for not meeting the requirement(s)				
Attachment <input type="checkbox"/>				
6. If applicable, planned action(s) to alleviate the future need for the deviation				
Attachment <input type="checkbox"/>				
<input type="checkbox"/> See additional information provided by the generator				
7. Requested duration of deviation		8. This request has been reviewed by the generator's assigned DC/RO and has been found to be:		
Waste Certification Official/Alternate Waste Certification Official Date & Signature				

EXAMPLE

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
REQUEST FOR STAND-ALONE DEVIATION FROM NNSSWAC REQUIREMENTS**

For use in requesting NNSSWAC requirements deviations only; profile deviations must be submitted as a profile revision

Waste Profile Number(s)		Rev.	Revision Date	Waste Profile Name
Attachment <input type="checkbox"/>				
FOR RWAP USE				
RWAP Review Lead			RWAP Assigned Deviation Number	
			DR- - -	
9. In addition to the WARP process reviewers (RWAP, NDEP, NFO, OPS, CS, PA), the following personnel/organization(s) have been identified as additional reviewers for this deviation request:				
10. Conditions of Approval				
Attachment <input type="checkbox"/>				
To Be Completed after Waste Acceptance Review Panel (WARP) Meeting				
11. WARP Meeting Concurrence & Notes				
Recommendation for Approval				
RWAP Review Lead				
RWAP Criticality Safety				
M&O Performance Assessment				
M&O Permit Specialist				
M&O Area 3 & 5 Nuclear Facility Management				
Concurrence				
NNSA/NFO Representative				
EMNV Program Representative				
WARP Notes MUST be attached				
WARP Date	WARP Recommendation	Recommended Duration	RWAP Manager Recommendation	
For EMNV Program Use				
12. EMNV Concurrence & Comments				
Attachment <input type="checkbox"/>				
EMNV Approving Official Signature & Date				

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
EXPEDITED LIMITED PROFILE REVISION REVIEW REQUEST**

1. Generator Site			2. Change Request Type		
			Select Change Request Type Here		
3. Waste Profile Number(s)		New Rev.	New Revision Date	Waste Profile Name	
Attachment	<input type="checkbox"/>				
Enter information for one or more of the following actions in blocks 4-7:					
4. Change to Volume and/or Number of Containers					
Attachment	Change Item	Current	Revised	Comments	
<input type="checkbox"/>	Volume	(ft ³)	(ft ³)		
	Containers				
5. Add New Container Types [list type, package code, size, maximum weight, and volume]					
Attachment	<input type="checkbox"/>				
6. Identify Overweight Package(s) [list container type, quantity, maximum weight, and justification]					
Attachment	<input type="checkbox"/>				
7. Update Contractor Name/Personnel [provide profile section affected, with current and revised information]					
Attachment	<input type="checkbox"/>				
8. This request has been reviewed by the generator's assigned DC/RO and has been found to be:				Enter Classification before submitting	
<i>Declaration: Signature below certifies that the changes to volumes and/or number of containers are due to revised waste population approved on the current approved profile and are NOT due to the addition of new sources of waste.</i>					
Waste Certification Official/Alternate Waste Certification Official Date & Signature					

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
EXPEDITED LIMITED PROFILE REVISION REVIEW REQUEST**

FOR RWAP USE				
Waste Profile Number(s)	Rev.	Revision Date	Waste Profile Name	
Attachment <input type="checkbox"/>				
9. Verification Requirements [If applicable, verification requirements reviewed & updated below]				
<input type="checkbox"/> Review not required <input type="checkbox"/> Verifications not required for this material				
Verification Type	Current Rate/Packages	Updated Rate/Packages	Comments	
Visual			Attachment <input type="checkbox"/>	
Chemical				
Other				
10. Conditions of Approval				
Attachment <input type="checkbox"/>				
Recommendation for Approval				
RWAP Review Lead				
M&O Performance Assessment				
M&O Area 3&5 Nuclear Facility Management				
For EMNV Use				
11. EMNV Concurrence & Comments				
Attachment <input type="checkbox"/>				
EMNV Approving Official - Signature & Date				

#2 Pulldown

Select Change Request Type Here
 Change to Volume or Number of Containers
 Add Container **New** Types
Identify Overweight Package(s)
 Update contractor information

#8 Pulldown

Enter Classification before submitting
 Unclassified
 Official Use Only
 Unclassified Controlled Nuclear Information

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
PROFILE ANNUAL RECERTIFICATION FORM**

Profile Number:	Rev.:	Approval or Revision Date or Last Recertification Date:	Recertification Date:
<p><i>For Mixed or Hazardous Profiles:</i></p> <p>Waste Profile (WP) Container Estimate: Number of Container Verifications Remaining: Number of Containers Verified to Date: Volume Remaining:</p>			
<p>Waste generators (include name, title, date of contact): Specify rationale if engaging with a sampling of generators. <i>Attach additional pages or information as needed.</i></p>			
Documentation reviewed:			
<p>Have any new waste populations been added to this WP? <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, provide a list of new waste populations.</p>			
<p>Check and complete required information for the appropriate box:</p> <p><input type="checkbox"/> Revision ____ is a current, complete, and accurate description of the waste stream; and there have been no changes to the generator or management process(es) that would impact the characterization.</p> <p><input type="checkbox"/> No waste was generated under this profile since the date of approval or last recertification.</p> <p><input type="checkbox"/> The WP is no longer needed.</p> <p><input type="checkbox"/> The WP requires revision. If checked, complete boxes below, and provide description of changes, including estimated revision date and rationale if waste shipments will continue prior to approval of revision.</p>			
<p><input type="checkbox"/> No <input type="checkbox"/> Yes Changes in the generating process or waste management processes.</p> <p><input type="checkbox"/> No <input type="checkbox"/> Yes Changes in the characterization methods (radiological or chemical).</p> <p><input type="checkbox"/> No <input type="checkbox"/> Yes New waste analysis data have been generated changing profile information.</p> <p><input type="checkbox"/> No <input type="checkbox"/> Yes Other changes (attach description).</p>			
<p>To the best of my knowledge, the recertification information provided is complete and accurate:</p> <p>Waste Certification Official Signature and Date:</p>			

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
USE OF LEAD SHIELDING REVIEW REQUEST**

Waste Profile Number	Rev.	Rev. Date	Waste Profile Title	
Submitted By & Date		Container ID	Shipment Number (if known)	
1. Dose rate of loaded waste package without lead shielding is				mrem/hr@ 30 cm
NOTE: If dose rate is <5 mrem/hr at 30 cm from the non-shielded waste package, use of lead shielding is unacceptable.				
1.a. Calculations				
See Attachment <input type="checkbox"/>				
2. Describe lead shielding used				
See Attachment <input type="checkbox"/>				
3. Provide the basis for demonstrating lead shielding is not excessive (e.g., calculation, Microshield analysis, dose rate survey)				
See Attachment <input type="checkbox"/>				
4. Maximum lead shielded dose rate of loaded waste package is				mrem/hr@ 30 cm
4.a. Dose rate survey has been attached <input checked="" type="checkbox"/>				
5. <input checked="" type="checkbox"/> Use of lead shielding is not excessive and meets the current NNSSWAC, Section 9.1.3, <i>Dose Control via Lead Shielding</i>				
5.a. Analysis Performed by/date:				
5.b. Analysis Reviewed by/date:				
Email the completed form to rwap@emnv.doe.gov at least 14 days in advance of scheduled shipment date.				
NOTE: All attachments become part of the official record.				

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
USE OF LEAD SHIELDING REVIEW REQUEST**

FOR RWAP USE ONLY	
RWAP Control Number	RWAP Lead Assigned
Chronological Summary of RWAP Review Actions	
See Attachment <input type="checkbox"/>	
RWAP Review Comments Received & Resolutions	
See Attachment <input type="checkbox"/>	None
Request Related RWAP Generator Correspondence Attached <input checked="" type="checkbox"/>	
RWAP Recommendation Rationale	
RWAP Recommendation	
Conditions of Approval	
NOTE: All attachments become part of the official record.	
RWAP Lead Recommendation Concurrence	
RWAP Manager Recommendation Concurrence	
DC/RO Review/Date	

EXAMPLE

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
ALARA PLANNING FORM FOR ELEVATED DOSE SHIPMENTS**

Generator:	
Waste Profile # :	
Shipment # :	
Type of Shipping Container (i.e., Overpacks/Intermodal/Sealand/Boxes/Cask Type):	
Type of Packages Inside for Removal (i.e., Liner/Drums/Boxes):	
Primary Nuclide of Concern (not required if levels < App D of 10 CFR 835):	
Expected Date of Arrival to NNSS:	
Disposal Container Weight (max container):	lbs.

	Contact (R/hr)	1 ft (R/hr)	3 ft (R/hr)	10 ft (R/hr)	25 ft (R/hr)	50 ft (R/hr)	125 ft (R/hr)	100 mR/hr line (ft)	5 mR/hr line (ft)
Outside of Cask (max)									
*Unshielded Disposal Pkg (max)									
Dose Rate @ Opening or Access Point of Container/Cask									
	Alpha (Removable) dpm/100 cm ²			Beta (Removable) dpm/100 cm ²			Tritium dpm/100 cm ²		
*Unshielded Disposal Pkg									
Outside of Cask									
Inside of Cask									
Remote Handling Package #									
Dose Rates: Contact/1 ft									

***Unshielded Disposal Package/Content:** The waste package that will be lifted out of the cask and disposed of in the RWMC disposal cell.

Does the cask have fixed contamination that may "leach out" during transport? No Yes

If **yes**, please list removable contamination levels expected on the spreadsheet above in the appropriate blocks.

For questions about filing out this form, contact the NNSS Radioactive Waste Management Complex:

wminfo@nv.doe.gov

FAX: (702) 295-6852

Please complete & sign for submittal

Prepared by: _____
Name/Signature Date

PSDR Instructions

FIELD NAME	DATA CHECK	
SHIPMENT NUMBER	Must be 8 characters in length	
	Digit	Check
	1-2	Must be a valid Shipment code assigned by EM Nevada Program
	3	L: LLW M: MLLW † C: non-radioactive classified waste/matter * H: non-radioactive hazardous classified waste/matter *
	† If shipment is (M) MLLW; system will check i. Manifest Number ii. MW Package Limit is not exceeded for the specific Profile/Rev/Date iii. Required EPA Codes iv. Only one Profile/Rev/Date per package * If shipment is (C) Non-radioactive classified waste/matter or (H) Non-radioactive hazardous classified waste/matter system checks to ensure Nuclide is "NON-RAD" and Activity is "0.000+00".	
	4-5	The last two digits of the current fiscal year (FY), October 1– September 30
	6-8	Typically, a sequential number; the consecutive number of shipments from the generating facility for the FY
PREPARED BY	The person who prepared the PSDR Electronic signatures are accepted.	
PREPARATION DATE	The date the PSDR was prepared	
MANIFEST NUMBER	Twelve alphanumeric characters required for shipments of LLW containing PCB waste that meets the requirements for disposal in a permitted hazardous waste landfill or for MLLW shipments or hazardous classified waste. NOTE: Manifest requirements for hazardous classified material is under review.	
PACKAGE NUMBER	Package Number must be 6 characters in length; Cannot already be used for that specific shipment See comment field for required information for previously rejected packages.	
CONTACT	Maximum radiation reading at surface contact in mrem/hr: Written in scientific notation X.XXXE±XX	
COMPLETED DATE	The date, in DDMMYYYY format (e.g., 28Feb2022), that the last waste material was placed in the package; Cannot be future date (<> greater than today)	
CONTAINER CODE	Three-digit number that identifies the type of container. If your container is not listed, contact the Area 5 RWMC Operations; Must be a valid container code	

PSDR Instructions

FIELD NAME			DATA CHECK			
Code	Package Description	External Dimensions Dimensions should be within ranges specified below (Minimum/Maximum)			*External Volumes Volume should be within ranges specified below	
		Length (inches)	Width (inches)	Height (inches)	Cubic Feet (Minimum/Maximum)	Cubic Meters (Minimum/Maximum)
100	Miscellaneous	N/A	N/A	N/A	0.000 / 7,416.080	0.000 / 10.000
101	30-Gallon Drum	N/A	N/A	N/A	4.485 / 6.989	0.127 / 0.198
102	55-Gallon Drum	N/A	N/A	N/A	7.981 / 9.994	0.226 / 0.283
110	Miscellaneous Drum	N/A	N/A	N/A	0.000 / 70.629	0.000 / 2.000
120	Miscellaneous Box	N/A	N/A	N/A	0.000 / 229.545	0.000 / 6.500
124	85-Gallon Drum	N/A	N/A	N/A	12.996 / 14.973	0.368 / 0.424
125	110-Gallon Drum	N/A	N/A	N/A	18.964 / 20.977	0.537 / 0.594
130	Miscellaneous Soft-Sided	N/A	N/A	N/A	0.000 / 1,481.097	0.000 / 41.940
131	High Modulus Polymeric Packaging System	N/A	N/A	N/A		
200	Metal Half Box (B-12)	78 / 90	42 / 56	18 / 30	34.125 / 87.474	.966 / 2.477
201	Wooden Half Box(B-12)	78 / 90	42 / 56	18 / 30	34.125 / 87.474	.966 / 2.477
210	Metal Full Box (B-25)	78 / 90	42 / 56	42 / 56	79.635 / 163.330	2.255 / 4.625
211	Wooden Full Box (B-25)	78 / 90	42 / 56	42 / 56	79.635 / 163.330	2.255 / 4.625
220	Cargo Container	234 / 246	90 / 102	90 / 102	1,096.874 / 1,481.097	31.060 / 41.940
221	Intermodal Container					
230	Supersack (All Sizes)	N/A	N/A	N/A	0.000 / 5,297.200	0.000 / 150.000
240	Burrito Wrap	N/A	N/A	N/A	0.000 / 5,297.200	0.000 / 150.000
250	Concrete Monolith	N/A	N/A	N/A	149.734 / 199.987	4.240 / 5.663
300	TN-RAM Type B	N/A	N/A	N/A	0.000 / 63.566	0.000 / 1.800
301	3-60B Type B	N/A	N/A	N/A	0.000 / 63.566	0.000 / 1.800
302	10-160B Type B	N/A	N/A	N/A	0.000 / 162.447	0.000 / 4.600
303	14-210 Type B	N/A	N/A	N/A	0.000 / 201.294	0.000 / 5.700
304	14-215 Type B	N/A	N/A	N/A	0.000 / 201.294	0.000 / 5.700
305	8-120B Type B	N/A	N/A	N/A	0.000 / 130.664	0.000 / 3.700
307	18-450 Type B	N/A	N/A	N/A	0.000 / 180.105	0.000 / 5.100
308	8-120A Type B	N/A	N/A	N/A	0.000 / 130.664	0.000 / 3.700
309	NAC-LWT Type B MANON					

PSDR Instructions

FIELD NAME		DATA CHECK			
310	ES-3100 Type B TN-MTR				
	ES-3100 Type B				
311	9516 Type B 435-B				
312	9975 Type B 21-300				
313	9978 Type B				
314	435-B Type B				
130 315	Miscellaneous Type B DOE Certificate				
131 316	Miscellaneous Type B NRC Certificate				
132 317	Miscellaneous Type B DOT-IAEA Certificate				
318	Manon				
319	TN MTR *See 310 above				
350	9979 Type AF				
351	9980 Type AF				
351	9981 Type AF				
400	RADIOISOTOPE THERMOELECTRIC GENERATORS			0.000 / 7,416.08	0.000 / 200.00
*External volumes reported for any container shall be based on the containers' external dimensions.					

FIELD NAME	DATA CHECK
ONE METER	Maximum radiation reading at 1 meter in mrem/hr: Written in scientific notation X.XXXE±XX
TOTAL ACTIVITY	Total becquerels; shall equal the sum of becquerels for each nuclide reported. Written in scientific notation X.XXXE±XX.
EXTERNAL VOLUME	Total volume displaced by the container in cubic feet (whole numbers). Refer to CONTAINER CODE. Written in scientific notation X.XXXE±XX Must be within the container code volume range Must be => Waste Volume
GROSS WEIGHT	Total weight of container including waste and solidification or absorbent media in kilograms. Written in scientific notation X.XXXE±XX. Must be >= Net Weight

PSDR Instructions

FIELD NAME	DATA CHECK																
ACTIVITY DATE	The date in DDMMYYYY format (e.g., 01Jan2011) that the activity of the package was determined; Cannot be future date (<> greater than today)																
WASTE VOLUME	Actual volume of waste material in package in cubic feet (whole numbers). Written in scientific notation X.XXXE±XX Must be =< External Volume Used in bq/m ³ calculation																
NET WEIGHT	Total weight of waste and solidification or absorbent media, excluding container, in kilograms. Written in scientific notation X.XXXE±XX. Must be <= Gross Weight Used in nCi/g calculation																
COMMENT	A one hundred (100) alphanumeric character field. This field is required when unique and critical information is necessary for NNSS M&O contractor personnel. If the package was rejected from the NNSS and returned to the generator, the WG shall record the original rejected package number (parent) in parentheses. All packages generated from the repackaging of rejected waste (progeny) shall have the original rejected package number (parent) entered in parentheses in the comment section. Note: Do not include special characters (e.g., quotes, ampersand)																
Package Funding	The next set of fields are specific to funding/billing purposes																
Source	Lists the funding source of the waste. Allocations: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Funding Source</th> <th style="width: 50%;">Description</th> </tr> </thead> <tbody> <tr> <td>BASE</td> <td>BASE</td> </tr> <tr> <td>XFER</td> <td>TRANSER</td> </tr> </tbody> </table>	Funding Source	Description	BASE	BASE	XFER	TRANSER										
Funding Source	Description																
BASE	BASE																
XFER	TRANSER																
Program	Lists the DOE Funding Offices or Programs. See section 13.0 of the NNSSWAC Administrative Waste Acceptance Criteria. DOE Funding Offices: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Funding Program</th> <th style="width: 50%;">Description</th> </tr> </thead> <tbody> <tr> <td>DP</td> <td>DEFENSE PROGRAM</td> </tr> <tr> <td>EM</td> <td>ENVIRONMENTAL MANAGEMENT</td> </tr> <tr> <td>NE</td> <td>NUCLEAR ENERGY</td> </tr> <tr> <td>NN</td> <td>NUCLIDE PROLIFERATION</td> </tr> <tr> <td>NR</td> <td>NAVAL REACTORS</td> </tr> <tr> <td>OT</td> <td>OTHER</td> </tr> <tr> <td>SC</td> <td>OFFICE OF SCIENCE</td> </tr> </tbody> </table>	Funding Program	Description	DP	DEFENSE PROGRAM	EM	ENVIRONMENTAL MANAGEMENT	NE	NUCLEAR ENERGY	NN	NUCLIDE PROLIFERATION	NR	NAVAL REACTORS	OT	OTHER	SC	OFFICE OF SCIENCE
Funding Program	Description																
DP	DEFENSE PROGRAM																
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PSDR Instructions

FIELD NAME	DATA CHECK
Other Program Description	<p>A one hundred (100) alphanumeric character field.</p> <p>This is a REQUIRED field if the selected Package Funding Program is "OT".</p> <p>Example entry: MIPR 12345</p>
Does the Package contain?	<p>The next set of Check boxes are specific to Disposal Cell Type.</p> <p>Hazardous Waste Permitted items are in blue.</p>
Regulated Asbestos	<p>Check this box indicating the package contains regulated asbestos;</p> <p>Disposal Cell Type: Solid Waste Permitted</p> <p>Waste Profile/Rev must be flagged as Regulated Asbestos.</p>
Manifested RCRA Waste	<p>Check this box if the package contains manifested Resource Conservation and Recovery Act waste;</p> <p>Disposal Cell Type: Hazardous Waste Permitted</p> <p>Waste Profile/Rev must be flagged as Manifested RCRA Waste.</p>
None of the Above	<p>Check this box if the package is not a Solid Waste or Hazardous Waste Permitted Cell;</p> <p>Disposal Cell Type: DOE O 435.1 Managed</p> <p>Waste Profile/Rev must not be flagged as Regulated Asbestos or Manifested RCRA Waste.</p>
Other Considerations	<p>The next set of Check Boxes are specific to a Package.</p>
USDA Regulated Soil	<p>Check this box indicating the package contains USDA Regulated Soil.</p> <p>Waste Profile/Rev must be flagged as USDA Regulated Soil.</p>
Lead Shielding	<p>Check this box indicating the package contains lead shielding.</p> <p>Lead Shielding is specific to a Package, therefore, the Waste Profile/Rev will not be part of the PSDR quality check.</p>
Classified	<p>Check this box indicating the package is classified.</p> <p>Waste Profile/Rev must be flagged as Classified.</p>
Returnable Package	<p>Check this box indicating the package has a returnable package.</p> <p>Waste Profile/Rev must be flagged as Returnable Package.</p>
Depleted Uranium	<p>Check box indicating the package contains depleted uranium.</p> <p>Depleted Uranium is specific to a Package, therefore, the Waste Profile/Rev will not be part of the PSDR quality check</p>
Waste	<p>Check this box indicating the package is waste, not matter.</p> <p>Waste Profile/Rev must be flagged as Waste</p>
9979	<p>Check box indicating the package is a 9979 container.</p> <p>Waste Profile/Rev must be flagged as 9979</p>

PSDR Instructions

FIELD NAME	DATA CHECK
CERCLA	Check this box indicating the package is CERCLA. Waste Profile/Rev must be flagged as CERCLA
RWAP Verification Label	Check box indicating the package was submitted by RWAP to contain a Tamper Indicating Device and the package has a label as an identifier. RWAP Verification Label is specific to a Package, therefore, the Waste Profile/Rev will not be part of the PSDR quality check.
Matter	Check this box indicating the package is matter, not waste. Waste Profile/Rev must be flagged as Matter
Polychlorinated Biphenyl (PCB) Section	The next set of Check Boxes are specific to packages containing PCBs Hazardous Waste Permitted items are in blue.
Remediation Waste > 50 ppm	PCB remediation Waste > 50 ppm PCB Waste Profile/Rev must be flagged as PCB Remediation Waste > 50 ppm. Hazardous Waste Permitted.
Remediation Waste < 50 ppm	PCB Remediation Waste < 50 ppm PCB Waste Profile/Rev must be flagged as PCB Remediation
Bulk Product (plastic, rubber parts, paint/similar coatings, building demolition debris leaching < 10 µg/L)	PCB Bulk Product (plastic, rubber parts, paint/similar coatings, building demolition debris leaching < 10 µg/L PCB) Waste Profile/Rev must be flagged as PCB Bulk Product.
Other Bulk Product Demonstrated to Leach < 10 µg/L	Other PCB Bulk Product Demonstrated to Leach < 10 µg/L PCB Waste Profile/Rev must be flagged as Other PCB Bulk Product Demonstrated to Leach < 10 µg/L.
Light Ballast with PCBs in Potting Compound	PCB Light Ballast with PCBs in Potting Compound Waste Profile/Rev must be flagged as PCB Light Ballast with PCBs in Potting Compound
Light Ballast with Non-Leaking Capacitor	PCB Light Ballast with Non-Leaking Capacitor Waste Profile/Rev must be flagged as PCB Light Ballast with Non-Leaking Capacitor
Small Capacitor	PCB Small Capacitor Waste Profile/Rev must be flagged as PCB Small Capacitor
Drained Hydraulic Machines < 1,000 ppm	Drained Hydraulic Machines < 1,000 ppm PCB Waste Profile/Rev must be flagged as PCB Drained Hydraulic Machines < 1,000 ppm
Flushed Hydraulic Machines > 1,000 ppm	Flushed Hydraulic Machines > 1,000 ppm PCB Waste Profile/Rev must be flagged as PCB Flushed Hydraulic Machines > 1,000 ppm
Other Intact Articles < 500 ppm	Other Intact PCB Article < 500 ppm Waste Profile/Rev must be flagged as PCB Other Intact Articles < 500 ppm
Contaminated Electrical Equipment > 50, < 500 ppm	PCB Contaminated Electrical Equipment > 50 ppm < 500 ppm Waste Profile/Rev must be flagged as PCB Contaminated

PSDR Instructions

FIELD NAME	DATA CHECK
	Electrical Equipment > 50, < 500 ppm
Other Non-Intact Article	Other Non-intact PCB Article Waste Profile/Rev must be flagged as PCB Other Non-Intact Article
Empty Container < 500 ppm	Empty PCB Container < 500 ppm PCB Waste Profile/Rev must be flagged as PCB Empty Container < 500 ppm
Bulk Product Demonstrated or assumed to Leach $\geq 10 \mu\text{g/L}$	PCB Bulk Product Demonstrated or assumed to Leach $\geq 10 \mu\text{g/L}$ PCB. Waste Profile/Rev must be flagged as PCB Bulk Product Demonstrated or assumed to Leach $\geq 10 \mu\text{g/L}$ Hazardous Waste Permitted.
FIELD NAME	DATA CHECK
WASTE PROFILE	Waste Stream Identification or profile number. Thirteen alphanumeric characters. First four characters will be the RWMC designation. Next nine alphanumeric characters will be assigned by the generator. Must be Active (status of Y or W) for a PSDR to load. Y = Yes, W = Active with Condition
WASTE PROFILE REVISION	Two-digit Waste Profile Revision of the approved profile.
WASTE PROFILE DATE	Waste Profile Date of the approved profile in DDMMYYYY format (e.g., 01Jan2011).
NUCLIDE	Valid nuclide description will be reported in the following format: Elemental symbol as shown on the periodic table followed by a dash (-) and then atomic mass units (e.g., Cs-137, Pu-239). Attach additional sheet(s), as needed; Each nuclide: <ul style="list-style-type: none"> • Must exist in the Reportable or Transuranic Nuclide section of the specific Profile/Rev/Date; • Nuclides with limits must be identified as a Reportable or Transuranic Nuclide. Calculations: <ul style="list-style-type: none"> • PSDR nCi/g cannot exceed the Transuranic "High" limit; • PSDR bq/m³ cannot exceed the Reportable "High" limit • Nuclide Limits cannot exceed the bq limit (if applicable)

PSDR Instructions

FIELD NAME	DATA CHECK
QUANTITY	<p>The quantity of the nuclide present in the container in becquerels;</p> <p>Written in scientific notation X.XXXE±00;</p> <p>Used in the Transuranic check;</p> <p>Used in Nuclide Activity Limits;</p> <p>Used in Plutonium Equivalent-grams calculation.</p>
ACCOUNTABLE MATERIAL	<p>Answers whether or not the package's Waste Profile/Revision contains accountable material.</p> <p>Waste Profile/Rev must be flagged as Accountable Material</p>
EPA CODE	<p>Packages with the following contents shall have the applicable four-digit EPA Hazardous Waste Number (EPA Code) and/or a four-digit state-of-generation waste number (State Number) and/or character Waste Tracking Code (PCBS or STHW) entered for MLLW, LLW containing PCB waste that meets the requirements for disposal in a permitted hazardous waste landfill.</p> <p>The WG shall enter the NNSS Waste Tracking Code "STHW" if the waste carries a state hazardous waste code.</p> <p>Note: 0181 and 0151 are currently listed as State Numbers in LWIS.</p>
REVIEWED BY (PRINT/SIGNATURE)	<p>Printed Name and Signature of the person who Reviewed the PSDR. Electronic Signatures are accepted.</p>

Package Shipment and Disposal Request

Shipment Number: **DPM20001**

Prepared By: _____ (Print/Signature)

Preparation Date: 23-Feb-2022

Manifest Number:

Package No: 000001	Contact (mrem/h): 1.000E+00	Completed Date: 05-Jun-2020
Container Code: 100	One Meter (mrem/h): 1.000E+00	Total Activity (bq): 4.670E+01
External Volume (ft ³): 3.450E+00	Gross Weight (kg): 1.200E+00	Activity Date: 01-Jun-2020
Waste Volume (ft ³): 2.600E+00	Net Weight (kg): 1.200E+00	

Comment: **The Comment field can now hold up to one hundred characters.**

Package Funding: Source: **XFER** Program: **OT** Other Program Description: **The "Other" Program Description is entered here.**

<u>Does the Package contain?</u>	<u>Disposal Cell Type</u>	<u>Other Considerations</u>	
<i>(RCRA Designations are in blue)</i>			
<input type="checkbox"/> Regulated Asbestos	=> Solid Waste Permitted	<input type="checkbox"/> USDA Regulated Soil	<input type="checkbox"/> Lead Shielding
<input checked="" type="checkbox"/> Manifested RCRA	=> Hazardous Waste Permitted	<input type="checkbox"/> Returnable Package	<input type="checkbox"/> Depleted Uranium
<input type="checkbox"/> None of the Above	=> DOE O 435.1 Managed	<input type="checkbox"/> 9979	<input checked="" type="checkbox"/> CERCLA
		<input type="checkbox"/> RWAP Verification Label	<input type="checkbox"/> Classified
			<input checked="" type="checkbox"/> Waste
			<input type="checkbox"/> Matter

Polychlorinated Biphenyl Section: *(RCRA Designation are in blue)*

- | | | | |
|---|--|--|---|
| <input type="checkbox"/> Remediation Waste >50 ppm | <input type="checkbox"/> Other Bulk Prod to Leach <10 µg/L | <input type="checkbox"/> Drained Hydraulic <1000 ppm | <input type="checkbox"/> Empty Cntr <500 ppm |
| <input type="checkbox"/> Remediation Waste <50 ppm | <input type="checkbox"/> Light Ballast in Potting Compound | <input type="checkbox"/> Flushed Hydraulic >1000 ppm | <input type="checkbox"/> Bulk Prod Leach ≥10 µg/L |
| <input type="checkbox"/> Bulk Product (plastic, rubber parts, paint, etc. <10 µg/L) | <input type="checkbox"/> Light Ballast w/Non-leaking Capacitor | <input type="checkbox"/> Other Intact Articles <500 ppm | <input type="checkbox"/> Other Non-Intact Article |
| | <input type="checkbox"/> Small Capacitor | <input type="checkbox"/> Contaminated Electrical >50, <500 ppm | |

Waste Stream /Profile	Rev. No.	Revision Date	Nuclide	Qty (Bq)	Accountable Material
LR500000TEST	00	01-Jun-2020	AC-224	1.500E+00	Y
LR500000TEST	00	01-Jun-2020	AC-227	3.000E+00	Y
LR500000TEST	00	01-Jun-2020	CO-57	2.000E+00	Y
LR500NOTACCT	01	23-Apr-2019	AM-241	3.700E+01	N
LR500NOTACCT	01	23-Apr-2019	SR-90	3.200E+00	N

Waste Stream /Profile	Rev. No.	Revision Date	EPA Code
LR500000TEST	00	01-Jun-2020	U151
LR500000TEST	00	01-Jun-2020	U045

Reviewed By: _____ (Print/Signature)

Package Shipment and Disposal Request

Shipment Number: **DPM20001**

Prepared By: _____ (Print/Signature)

Preparation Date: 23-Feb-2022

Manifest Number:

Package No: 000002	Contact (mrem/h): 1.000E+00	Completed Date: 05-Jun-2020
Container Code: 100	One Meter (mrem/h): 1.000E+00	Total Activity (bq): 2.300E+00
External Volume (ft^3): 3.450E+00	Gross Weight (kg): 1.200E+00	Activity Date: 01-Jun-2020
Waste Volume (ft^3): 2.600E+00	Net Weight (kg): 1.200E+00	

Comment: **The Comment field can now hold up to one hundred characters.**

Package Funding: Source: **XFER** Program: **OT** Other Program Description: **The "Other" Program Description is entered here.**

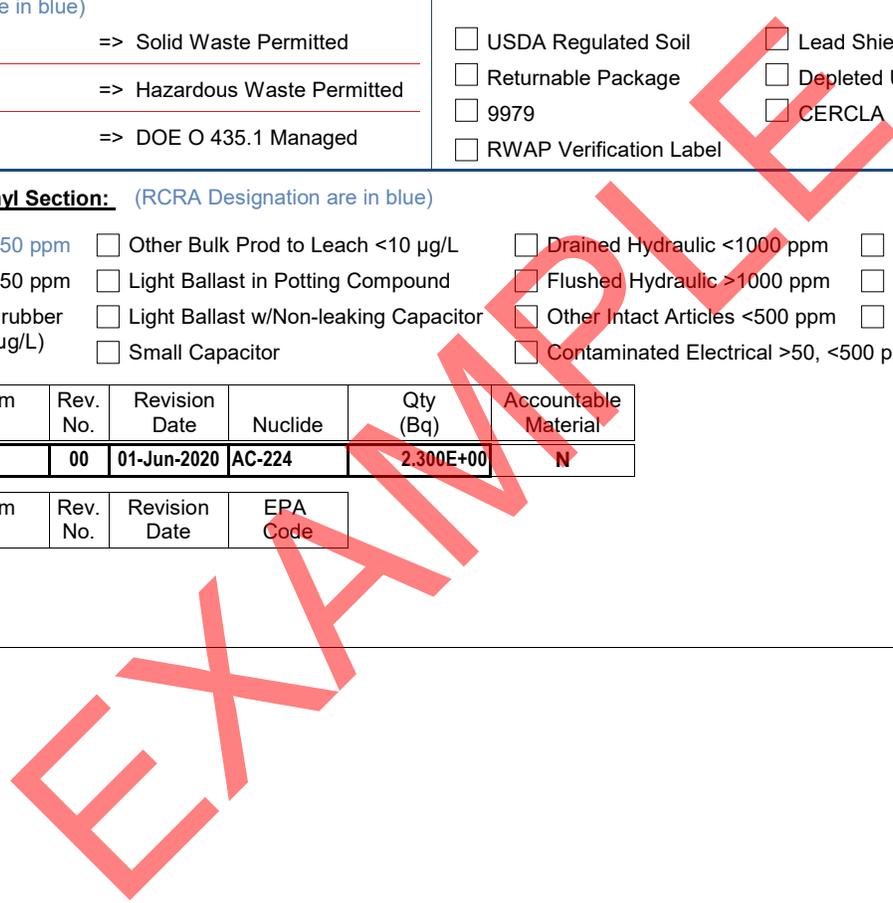
<u>Does the Package contain?</u>	<u>Disposal Cell Type</u>	<u>Other Considerations</u>
<i>(RCRA Designations are in blue)</i>		
<input type="checkbox"/> Regulated Asbestos	=> Solid Waste Permitted	<input type="checkbox"/> USDA Regulated Soil <input checked="" type="checkbox"/> Lead Shielding <input type="checkbox"/> Classified <input type="checkbox"/> Returnable Package <input type="checkbox"/> Depleted Uranium <input checked="" type="checkbox"/> Waste <input type="checkbox"/> 9979 <input type="checkbox"/> CERCLA <input type="checkbox"/> Matter <input type="checkbox"/> RWAP Verification Label
<input checked="" type="checkbox"/> Manifested RCRA	=> Hazardous Waste Permitted	
<input type="checkbox"/> None of the Above	=> DOE O 435.1 Managed	

Polychlorinated Biphenyl Section: *(RCRA Designation are in blue)*

- | | | | |
|---|--|--|---|
| <input type="checkbox"/> Remediation Waste >50 ppm | <input type="checkbox"/> Other Bulk Prod to Leach <10 µg/L | <input type="checkbox"/> Drained Hydraulic <1000 ppm | <input type="checkbox"/> Empty Cntr <500 ppm |
| <input type="checkbox"/> Remediation Waste <50 ppm | <input type="checkbox"/> Light Ballast in Potting Compound | <input type="checkbox"/> Flushed Hydraulic >1000 ppm | <input type="checkbox"/> Bulk Prod Leach ≥10 µg/L |
| <input type="checkbox"/> Bulk Product (plastic, rubber parts, paint, etc. <10 µg/L) | <input type="checkbox"/> Light Ballast w/Non-leaking Capacitor | <input type="checkbox"/> Other Intact Articles <500 ppm | <input type="checkbox"/> Other Non-Intact Article |
| | <input type="checkbox"/> Small Capacitor | <input type="checkbox"/> Contaminated Electrical >50, <500 ppm | |

Waste Stream /Profile	Rev. No.	Revision Date	Nuclide	Qty (Bq)	Accountable Material
LRV500000TEST	00	01-Jun-2020	AC-224	2.300E+00	N

Waste Stream /Profile	Rev. No.	Revision Date	EPA Code



Reviewed By: _____ (Print/Signature)

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
SHIPMENT WASTE CERTIFICATION**

Shipment Waste Certification Statement – Check Applicable Box:

- A. LLW or Radioactive Classified Non-Hazardous
- B. LLW Formerly Classified as Characteristic Waste under RCRA
- C. MLLW or Radioactive or Non-Radioactive Classified Hazardous

Container ID Number(s):

- A. I certify the following:
 - The identified container(s) do not contain hazardous waste as defined in 40 CFR 261 or as defined by the _____ (state of generation) regulations.
 - The identified container(s) *if containing PCBs* are authorized for disposal in a municipal or non-municipal non-hazardous landfill.
 - The identified container(s) comply with the applicable requirements of DOE Order 435.1.

- B. I certify the following:
 - The identified container(s) formerly classified as characteristic waste under RCRA meet applicable Land Disposal Restrictions as specified in 40 CFR 268.
 - The identified container(s) *if containing PCBs* are authorized for disposal in a municipal or non-municipal non-hazardous landfill.
 - The identified container(s) comply with the applicable requirements of DOE Order 435.1.

- C. I certify the following:
 - The identified container(s) meet applicable Land Disposal Restrictions as specified in 40 CFR 268.
 - The identified container(s) *if containing PCBs* are authorized for disposal in a municipal or non-municipal non-hazardous landfill OR a hazardous waste landfill permitted by a state authority under section 3006 of RCRA.
 - The identified container(s) comply with the applicable requirements of DOE Order 435.1.

This certification is based on the most current accepted and validated results or documented process knowledge, and is to the best of my knowledge is true, accurate, and complete.

Generator Waste Certification Official

Name:	Signature:	Date:
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RESERVED

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
ADVANCE SHIPMENT NOTIFICATION**

<input type="checkbox"/> 7-Day Advance Notification			<input type="checkbox"/> HAZTRAK Entry			<input type="checkbox"/> HAZTRAK Update		
Contact Name: _____								
Phone/Cell: _____								
Shipment Number(s): _____					Waste Stream Number(s): _____			
Origin City: _____					Origin State: _____			
Departure Date: _____					Estimated NNSS Arrival Date: _____			
Route Taken: _____								
Shipper: _____								
Shipper's Address: _____								
Shipper's Name: _____					Phone/Cell: _____			
Delivering Motor Carrier: _____					Power Until Plate No: _____			State: _____
Due Diligence Was/Will Be Performed on This Carrier Prior to Shipment <input type="checkbox"/>								
NV Permits Required: <input type="checkbox"/> OW <input type="checkbox"/> OL <input type="checkbox"/> OH <input type="checkbox"/> OH > 14'6"								
Trailer ID No:	Trailer Length:		Trailer Description:					
Seal 1:	Seal 2:		Seal 3:					
Driver's Full Name: _____								
Security Clearance: <input type="checkbox"/> UNC <input type="checkbox"/> DOD <input type="checkbox"/> L <input type="checkbox"/> Q					Verified U.S. Citizen? <input type="checkbox"/>			
Driver's Full Name: _____								
Security Clearance: <input type="checkbox"/> UNC <input type="checkbox"/> DOD <input type="checkbox"/> L <input type="checkbox"/> Q					Verified U.S. Citizen? <input type="checkbox"/>			

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
ADVANCE SHIPMENT NOTIFICATION**

Does this shipment utilize the provisions of 49 CFR 173.443(b) [weeping packages], 173.427(b)(4) [use of excepted packages for LSA or SCO], or 173.427(c) [unpacked LSA or SCO]? <input type="checkbox"/> Yes <input type="checkbox"/> No			
RQ:	UN/ID:	Radionuclides/NOS Description:	
FE?:	Activity/UM:	Physical/Chemical:	
Label(s):	TI:	# Packages:	
Package Type:	Weight:	U/M:	N/G:
RQ:	UN/ID:	Radionuclides/NOS Description:	
FE?:	Activity/UM:	Physical/Chemical:	
Label(s):	TI:	# Packages:	
Package Type:	Weight:	U/M:	N/G:
RQ:	UN/ID:	Radionuclides/NOS Description:	
FE?:	Activity/UM:	Physical/Chemical:	
Label(s):	TI:	# Packages:	
Package Type:	Weight:	U/M:	N/G:
RQ:	UN/ID:	Radionuclides/NOS Description:	
FE?:	Activity/UM:	Physical/Chemical:	
Label(s):	TI:	# Packages:	
Package Type:	Weight:	U/M:	N/G:
RQ:	UN/ID:	Radionuclides/NOS Description:	
FE?:	Activity/UM:	Physical/Chemical:	
Label(s):	TI:	# Packages:	
Package Type:	Weight:	U/M:	N/G:

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
ADVANCE SHIPMENT NOTIFICATION**

Bulk Packaging: <input type="checkbox"/> Cargo Containers <input type="checkbox"/> Unpackaged <input type="checkbox"/> Equipment <input type="checkbox"/> Burrito Wraps <input type="checkbox"/> Other: _____
Special Handling: <input type="checkbox"/> Classified Waste/Matter <input type="checkbox"/> Accountable Material <input type="checkbox"/> Other: _____ <small>Requires 7-day advance notice Requires 7-day advance notice, NRC-741& TOS</small>
Attachments: <input type="checkbox"/> PSDR <input type="checkbox"/> Shipping Document <input type="checkbox"/> Return Shipping Document <input type="checkbox"/> TOS Approval <input type="checkbox"/> Other: _____

Privacy Act Statement: The information on this form is protected by the Privacy Act of 1974. The purpose of requesting this information is to comply with the terms and conditions under which the Nevada National Security Site (NNSS) will accept waste for disposal. This information will be used by the U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office and its contractors. Failure to provide this information will result in either a delay in waste receipt or waste refusal at the NNSS.

PRIVACY ACT INFORMATION

EXAMPLE

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
ADVANCE SHIPMENT NOTIFICATION**

Instructions for the Completion of the NNSS Advance Shipment Notification Form	
Field Name	Required Data
<input type="checkbox"/> 7-Day Advanced Notification	Check if being used as the 7-day notification.
† <input type="checkbox"/> HAZTRAK Entry <input type="checkbox"/> HAZTRAK Update	Check if being used to request HAZTRAK entry or an update. Must be received before 3:00 PM (Pacific Time) at least one working day prior to scheduled delivery date.
Page of	Enter page number and number of pages.
Contact Name / Work Phone / Cell Phone	Enter information about the person submitting form to Area 5 (in case there are questions concerning this submission).
Shipment Number(s)	Enter number(s) with generator's prefix letters (Example: AEL18001).
Waste Stream Number(s)	List all waste stream numbers associated with this line item/shipment.
Origin City/ Origin State	Enter city and state from which shipment is originating.
Departure Date	Enter scheduled departure date.
Estimated NNSS Arrival Date	Enter estimated delivery date at NNSS (if this changes, send update).
† Route Taken	Enter the entry route to be taken as discussed with the driver.
Shipper / Shipper's Address / City / State / Zip	Enter generator company name and address.
† Shippers Name / Work Phone / Cell Phone	Enter contact information for this shipment.
† Delivering Motor Carrier Name	Enter name of the carrier who will deliver to the NNSS; add route if OTHER.
† Power Unit Plate No. / State	Enter license plate and state of tractor.
† Due Diligence was/will be performed on this carrier prior to shipment <input type="checkbox"/>	Check if due diligence is/has been performed for the carrier above.
† NV Permits Required	OW: Overweight OL: Overlength OH: Overheight SH: OH > 14'6".
† Trailer ID No. (1 & 2)	Enter carrier identification number for trailer 1 (and 2, if applicable).
† Trailer Length (1 & 2)	Enter length of trailer 1 (and 2, if applicable).
† Trailer Description (1 & 2)	Enter description of trailer 1 (and 2, if applicable).
† Seal 1 (1 & 2) / Seal 2 (1 & 2) / Seal 3 (1 & 2)	Enter up to 3 seal numbers for trailer 1 (and 2, if applicable).
† Driver's Full Name (1 & 2)	Enter driver 1 name (and 2, if applicable).
† Security Clearance (1 & 2)	Check the security clearance level for driver 1 (and 2, if applicable).
† Verified U.S. Citizen? (1 & 2)	Check if driver 1 citizenship verified (and 2, if applicable).
† Does this shipment utilize the provisions of 49 CFR 173.443(b) [weeping packages], 173.427(b)(4) [use of excepted packages for LSA or SCO], or 173.427(c) [unpackaged LSA or SCO]? <input type="checkbox"/> Yes <input type="checkbox"/> No	Check the appropriate box for the shipment.
† RQ	Is the line item a Reportable Quantity?
† UN/ID	Provide the UN or ID number for the material. (Proper Shipping Name will be determined based on the number provided.)
† Radionuclides / NOS Description	Enter the radionuclides, or if a chemical hazard, the NOS description.
† FE?	Is the material Fissile Excepted?
† Activity / UM	Enter the activity and unit of measure (no scientific notation).
† Physical / Chemical	Enter the physical/chemical form of the material.
† Label(s)	Enter any labels, or excepted if excepted from labeling.
† TI	Enter the transport index of the package, if applicable.
† # Packages	Enter the number of packages for this entry.
† Package Type	Enter the package type for this entry.
† Weight / U / M / N / G	Enter the weight, unit of measure, and if the weight is gross or net.
Bulk Packaging	Select as applicable, or enter if not listed.
Special Handling	Select as applicable, or enter if not listed.
Attachments	

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
REAL-TIME RADIOGRAPHY (RTR) VERIFICATION REVIEW**

SECTION A: TO BE COMPLETED BY RTR PERSONNEL			
Verification Representative Name	Shipment Number	Date of Verification	
Generator Name	Waste Profile Number	Revision	
Container Identification Number	Container Type & Size	Waste Type	Number of Attached RTR Images
		<input type="checkbox"/> LLW <input type="checkbox"/> MLLW	
		<input type="checkbox"/> LLW <input type="checkbox"/> MLLW	
		<input type="checkbox"/> LLW <input type="checkbox"/> MLLW	
		<input type="checkbox"/> LLW <input type="checkbox"/> MLLW	
		<input type="checkbox"/> LLW <input type="checkbox"/> MLLW	
Description of the Indeterminate Item(s)			
SECTION B: TO BE COMPLETED BY WASTE GENERATING SITE PERSONNEL			
1. Explanation of the indeterminate item – include as necessary a description of the item in question, the characteristics and characteristics of the waste stream, and controls in place to ensure that no prohibited items are included in waste certified for disposal at the NNSS.			
<input type="checkbox"/> See attachment for additional details			
2. List Attachments (waste inventory sheets, training records, photographs, etc.)			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM
REAL-TIME RADIOGRAPHY (RTR) VERIFICATION REVIEW**

I certify that based on the information reviewed that the indeterminate item(s) identified by RTR are not prohibited items and the container is compliant with the requirements of the NNSSWAC.

Waste Certification Official (Print Name)	Signature	Date

SECTION C: TO BE COMPLETED BY NNSS PERSONNEL AS IDENTIFIED

Confirmation has been received from the waste generating site for the above referenced shipment; the generator has confirmed that no prohibited items are present, and the shipment can be dispositioned by RWMC personnel.

Contractor RWAP Manager (Print Name)	Signature	Date
NNSS M&O Contractor Designee (Print Name)	Signature	Date

INSTRUCTIONS FOR COMPLETING THIS FORM

SECTION A will be completed by RTR personnel. This information will come from the Container Verification Record (CVR) for the container that contains the indeterminate item.

Item	Instructions
Verification Representative (VR) Name	Add the name(s) of VR(s).
Shipment Number	Add the shipment number as it appears on the package bar code label.
Date of Verification	Add the date of the verification.
Generator Name	Add name of generator name.
Waste Profile/Revision	Add the profile number and the most recently approved revision number.
Container Identification Number	Add the applicable container identification number. NOTE: A separate CVR should be prepared for each container being verified.
Container Type & Size	Add the container type and size.
Waste Type	Check the box of the appropriate waste type being verified in the container.
Number of Attached RTR Images	Add the number of images attached to the form for each container listed.
Description of the Indeterminate Item(s)	Describe the indeterminate items in detail. NOTE: If additional room is needed for the description, check the checkbox at the bottom of the block and include as addendum.

SECTION B will be completed by waste generating site personnel. RWAP will provide the generator with images of the indeterminate item identified during RTR.

Item	Instructions
1. Explanation of the Indeterminate Item	Add a description of the indeterminate in question. NOTE: If additional room is needed, check the checkbox at the bottom of the block and include as addendum.
2. Attachments	Add a list of any attachments provided as objective evidence.
Declaration of Compliance	Add Shipment Number, WCO Name, Signature, and Date.

SECTION C will be completed by the contractor RWAP Manager and NNSS M&O contractor designee.

Item	Instructions
Contractor RWAP Manager	Add Name, Signature, and Date.
NNSS M&O Contractor Designee	Add Name, Signature, and Date.

RESERVED

Appendix E

NNS Driver Route/Shipment Information Questionnaire

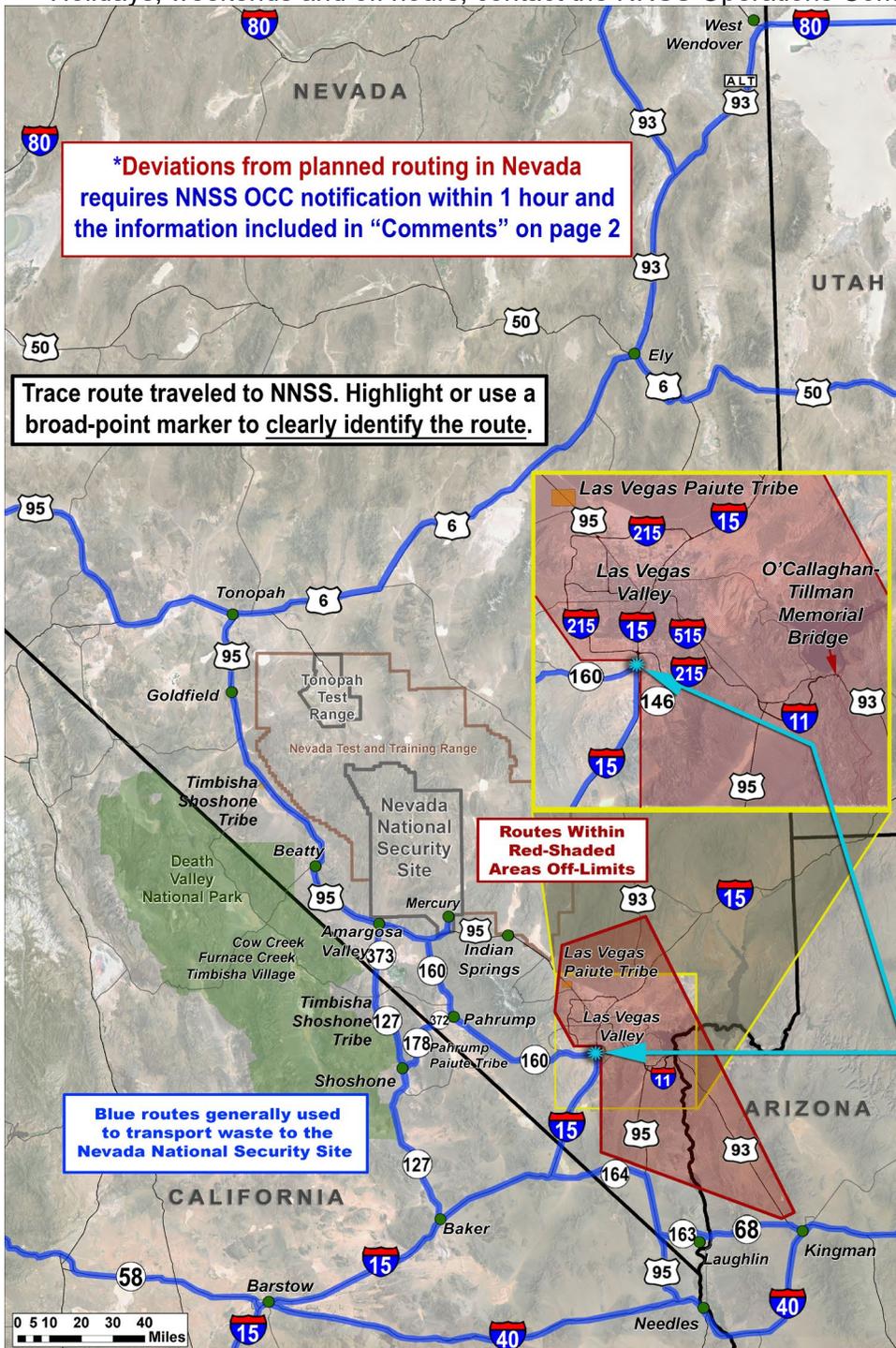
NEVADA NATIONAL SECURITY SITE (NNS) DRIVERS ROUTE/SHIPMENT INFORMATION

(April 23, 2021 EMRP Log No. 2021-034)

NOTE: THIS FORM IS TWO (2) PAGES – YOU MUST COMPLETE BOTH PAGES

NNS Shipment Number: (3 letters followed by 5 numbers)	Carrier Name:	Tractor Number:	Trailer Number:
AT ORIGIN	AT NNS MAIN GATE	NNS OFFICE USE ONLY	
DEPARTURE DATE: (mm/dd/yyyy)	ARRIVAL DATE: (mm/dd/yyyy)	DESTINATION AREA: Area 5 OR Area 3	
LOCATION:	ARRIVAL TIME*:	NNS DEPARTURE TIME:	
<input type="checkbox"/> ONSITE SHIPMENT (MAP NOT APPLICABLE)	<input type="checkbox"/> A.M. <input type="checkbox"/> P.M.	HELD OVER? No Yes	
<input type="checkbox"/> DROP YARD; LEAVE THIS COMPLETED FORM WITH SHIPPING PAPERWORK	<i>* Enter time in Pacific time zone and check box for A.M. or P.M.</i>	REASON:	
		ROUTE INFORMATION REVIEWED BY:	

Routing Questions and/or Assistance? Mon-Thurs (7a.m. – 4p.m. PST) call Area 5 RWMC at **702-295-6811**. Holidays, weekends and off hours, contact the NNS Operations Command Center (OCC) at **702-295-4015**.



NEVADA ENTRY ROUTE OPTIONS (circle intended route*)

Southern Routes:

- > **I40, US93, AZ68, NV163 (LAUGHLIN, NV), US95, NV164...**
- (L1) I15, NV160, US95
- (L2) I15, CA127, CA178, NV372, NV160, US95
- (L3) I15, CA127, NV373, US95
- > **I40 (NEEDLES, CA), US95, NV164...**
- (N1) I15, NV160, US95
- (N2) I15, CA127, CA178, NV372, NV160, US95
- (N3) I15, CA127, NV373, US95
- > **I40 or I15 (BARSTOW, CA)...**
- (B1) I15, NV160, US95
- (B2) I15, CA127, CA178, NV372, NV160, US95
- (B3) I15, CA127, NV373, US95

Northern Routes:

- > **SHIPMENT ENTERS NEVADA FROM...**
- (NO) OREGON on US95 (McDermitt, NV), US95
- (NI) IDAHO on US93 (Jackpot, NV), US93, US6, US95
- (NU) UTAH on I80 (Wendover, NV), US93ALT, US6, US95
- (NC) CALIFORNIA on I80 (near Reno, NV), US50ALT, US95

Miscellaneous Routes:

- (CN) ENTERS NEVADA FROM UTAH on US6/50, US6, US95
- (IN) SHIPMENT MADE WHOLLY WITHIN THE STATE OF NEVADA

For **Southern routes L1, N1 & B1**, enter the **TIME (Pacific Time)** you traversed the **I-15 & NV-160 interchange (I-15 Exit 33)**:

A.M. P.M.
(check a box)

COMPLETE & SIGN on PAGE 2!

The Nevada entry route used for this shipment was:

1. An off-limits route* - as identified on the map **Yes** **No**
2. Different than the intended route discussed with the shipper (circled on page 1) **Yes** **No**

*Deviations from planned routing in Nevada requires OCC notification within 1 hour (702-295-4015)

If either statement is answered **“Yes,”** then add in “Comments” below pertinent information that supports use of the route such as road conditions/construction, weather, accidents/delays, first responder/law enforcement required detours/delays, etc. Include the date/time and name of person that provided routing assistance. See page 1 for NNSS phone numbers to obtain routing assistance.

For ALL Stops in Nevada, List Location Print business name and/or highway name and mile marker	Arrival Date/Time Enter in Pacific time zone and check box for A.M. or P.M.	Departure Date/Time Enter in Pacific time zone and check box for A.M. or P.M.	Reason for Stop (e.g., refueling, dinner, rest, etc.) Enter reason. Use Comments field if additional space is needed.
	<input type="checkbox"/> A.M. <input type="checkbox"/> P.M.	<input type="checkbox"/> A.M. <input type="checkbox"/> P.M.	
	<input type="checkbox"/> A.M. <input type="checkbox"/> P.M.	<input type="checkbox"/> A.M. <input type="checkbox"/> P.M.	
	<input type="checkbox"/> A.M. <input type="checkbox"/> P.M.	<input type="checkbox"/> A.M. <input type="checkbox"/> P.M.	

Comments: _____

I CERTIFY THAT THE ROUTING INFORMATION PROVIDED IS CORRECT AND ACCURATE.

(Note: Routes may be verified through electronic shipment transportation logging device data.)

Driver's Printed Name _____

Driver's Signature _____

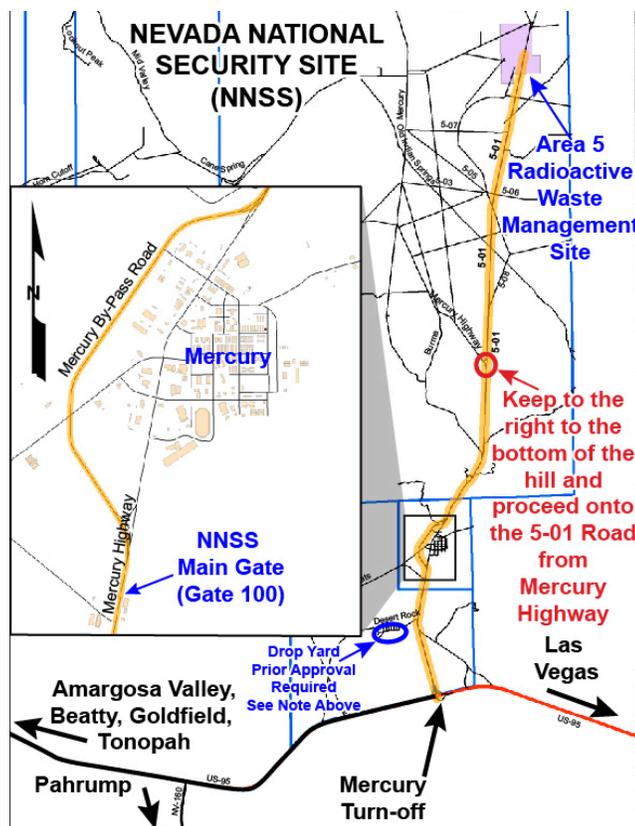
Date _____

ADDITIONAL INFORMATION

DROP YARD: Mark box at the top of page 1 if you use the DROP YARD for shipment delivery. You MUST leave this completed form with shipping paperwork. To use the Drop Yard adjacent to the Desert Rock Airstrip Staging Area, you MUST have approval from the Area 5 RWMC Nuclear Facility Manager PRIOR to arriving on site. Contact the Area 5 RWMC at 702-295-6811 Mon-Thurs (7am-4pm). Holidays, weekends and off hours, contact the NNSS OCC at 702-295-4015.

DORM ROOMS: Drivers may overnight in Mercury for \$40/night (debit/credit or check ONLY). 24-hour advance notice is preferred by calling 702-295-7373, 702-295-6942 or 702-506-7646 Mon-Weds 7am-7pm and Thurs 7am-5pm. After-hours and weekends, call 702-295-4015.

Directions to Area 5 RWMC from Gate 100 (15 miles total): Proceed through Gate 100 and take the Mercury by-pass which veers left. After by-passing Mercury and through the mountain pass, keep right at the fork in the road onto the 5-01 Road (6 miles from Gate 100) to reach the Area 5 RWMC.



Glossary of Terms

Note: This glossary contains terms that appear in the AWAC and/or the TWAC.

Accident: An occurrence involving a commercial motor vehicle operating on a highway in interstate or intrastate commerce that results in a fatality; bodily injury to a person who, as a result of the injury, immediately receives medical treatment away from the scene of the accident; or one or more motor vehicles incurring disabling damage as a result of the accident, requiring the motor vehicle(s) to be transported away from the scene by a tow truck or other motor vehicle (49 CFR 390.5[1]).

Bulk Waste: Waste packaged in a soft-sided container (e.g., supersacks, burrito wraps), metal cage/pallet combinations or unpackaged waste items, surface contaminated object, low specific activity equipment, large machinery storage tanks, and similar items.

Causal Factor Analysis: Analysis of a finding to determine the cause(s) of why it occurred and to identify specific actions in preventing recurrence. There are no requirements to use an industry recognized root cause analysis method.

Certificate of Compliance: Certificate issued to certify that a package (packaging and contents) meets the applicable safety standards in 10 CFR 71, “Packaging and Transportation of Radioactive Material.”

Certified Waste: Waste that has been certified as compliant with the NNSSWAC under an approved certification program.

Chelating Agents: Chemical compounds that react with metal ions to form a stable, water-soluble complex, such as amine polycarboxylic acids (e.g., EDTA, DPTA), hydroxy-carboxylic acids, and polycarboxylic acids (e.g., citric acid, carboic acid, gluconic acid).

Chemical Screening: Process in which waste is tested for characteristics such as ignitability, corrosivity, and reactivity.

Classified Waste: High-Risk Personal Property managed under 41 CFR 109-1.53 that the generator and the Officially Designated Federal Security Authority have declared waste for disposal.

Closed Transport Vehicle: Transport vehicle or conveyance equipped with a securely attached exterior enclosure that during normal transportation restricts the access of unauthorized persons to the cargo space. The enclosure may be either temporary or permanent, and in the case of packaged materials may be of the “see-through” type, but must limit access from the top, sides, and bottom; and must provide protection from unfavorable weather conditions during transit.

NNSSWAC Administrative Waste Acceptance Criteria

Controlling Documentation: The plans, procedures, work instructions, checklists, and other instruction documents used to direct work.

Corrective Action: Measures taken to rectify conditions adverse to quality and, where necessary, to preclude repetition.

Dedicated Service: A transport vehicle dedicated to waste cargo destined for the NNSS.

Demilitarization: The act of eliminating the functional capabilities and inherent design features from an item, to prevent the item from being used for its originally intended purpose and to prevent the release of inherent design information that could be used against the United States. (Modified from DOE G.580.1-1A).

Direct Disposal: Disposal of the entire container being shipped, such as an intermodal, where the entire intermodal is removed from the truck and placed in the disposal cell (i.e., no emptying or return of the intermodal container).

DOT Specification 7A, Type A Equivalence: Design specifications, testing data, analyses, or other documentation on the containers demonstrating that the evaluated container or item meets the requirements of DOT specification 7A, Type A, packaging.

Engineered System: A designed and constructed system of components that processes inputs and has waste outputs operated either continuously or on a batch basis; it may be portable or fixed.

Expend: Process item or component to render any reactive, explosive, or pyrophoric material as inert prior to packaging and shipping, AND/OR process any pressurized item or component to ensure <1.5 atmospheres absolute at 20 °C by expended pressurized gas prior to packaging and shipping.

Finding: A deviation from a requirement specified in the NNSSWAC or a direct regulatory reference listed in the NNSSWAC arising from either incorrect actions, inaction, or omission.

Free Liquid: Liquid that readily separates from the solid portion of the waste under ambient temperature and pressure, including liquid that has been released during handling, storage, or transportation.

Highway Route Controlled Quantity (HRCQ): A quantity within a single package that exceeds: (1) 3,000 times the A_1 value of the radionuclides as specified in 49 CFR 173.435 for special form Class 7 (radioactive) material; (2) 3,000 times the A_2 value of the radionuclides as specified in 49 CFR 173.435 for normal form Class 7 (radioactive) material; or (3) 1,000 TBq (27,000 Ci), whichever is least.

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Incident: An unintentional release of hazardous material from a package during transportation, load shift, or any occurrence during transportation in which any of the circumstances identified in 49 CFR 171.15(b) occurs (American National Standards Institute N14.27).

Incompatible Waste: Waste type that might react adversely with its containment materials or commingled waste as defined in 40 CFR 260.10.

Infectious Waste: Waste that may have bodily fluids, including dried fluids, which may have the potential to cause human disease and may reasonably be suspected of harboring human pathogenic organisms.

Inspection: A planned and documented activity to verify that an item, service, or process conforms to specified criteria performed by authorized personnel.

Item: An all-inclusive term used in place of any article or unit, including assembly, component, equipment, or container.

Land Disposal Restricted Waste: Waste that is prohibited from land disposal in accordance with 40 CFR 268.

Land Disposal Restrictions: Regulations in 40 CFR 268 that detail wastes prohibited from disposal, treatment standards for land disposal, and prohibitions on storage, including testing, tracking, and recordkeeping requirements.

Low-Level Waste (LLW): Radioactive waste that is not high-level radioactive waste, spent nuclear fuel, transuranic (TRU) waste, byproduct material [as defined in section 11e.(2) of the Atomic Energy Act of 1954, as amended], or naturally occurring radioactive material.

Mixed Low-Level Waste (MLLW): Waste that contains both source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954 (as amended), and a hazardous component subject to RCRA.

Packaging: The assembly of components necessary to ensure compliance with DOT, EPA, and NNSW requirements. It may consist of one or more receptacles, absorbent materials, radiation shielding, spacing structures, thermal insulation, and devices for cooling or absorbing mechanical shocks. The conveyance, tie-down system, and auxiliary equipment may sometimes be designated as part of the packaging.

Pyrophoric Material: A material that, under normal conditions, is liable to cause fires through friction, retain heat from processing, or can be ignited readily; and, when ignited, burns so vigorously and persistently as to create serious transportation, handling, or disposal hazards.

Observation: An observation has no current impact to compliance but, if left unaddressed, could result in an NNSWAC or regulatory noncompliance in the future through continued action or inaction or omission.

NNSWAC Administrative Waste Acceptance Criteria

Opportunity for Improvement: OFIs include deviations from standard industry practices, non-NNSWAC based issues, or noted inefficiencies.

Quality Assurance: Planned and systematic actions necessary to provide adequate confidence that a structure, system, or component will perform satisfactorily in service.

Radioactive Waste: Any garbage, refuse, sludges, and other discarded material, including solid, liquid semisolid, or contained gaseous material that must be managed for its radioactive content.

Real-Time Radiography: X-ray unit used to examine waste packages.

Regulated Asbestos-Containing Material (RACM): RACM consists of any of the following: (a) friable asbestos material; (b) Category I nonfriable asbestos-containing waste (ACM) that has become friable; (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading; or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations. RACM may either be LLW or MLLW, and may be classified.

Remote-Handled Waste: Any waste package/container that has dose rates >100 mrem/hr @ 30 cm.

Removable Contamination: Removable radioactive material on the package surface or shipping vehicle.

Root Cause Analysis (RCA): An industry recognized problem-solving method used to formally identify the primary cause(s) of a finding, solving it, and identifying specific actions to prevent recurrence that is facilitated by a trained specialist.

Sanitization: The irreversible modification or destruction of a component to prevent revealing classified or otherwise controlled information.

Sealed Sources: Sources where the radioactive material is contained in a sealed capsule.

Security Lock: A lock or other securing device mandated by a security plan or security personnel to prevent access to classified waste or material during transit.

Solidification: A technique that limits the solubility and mobility of waste constituents by immobilization through physical means.

Squib: An engineered device containing small amount of explosive chemicals and a detonator that meets the definition of a DOT hazard class 1.4s.

Stabilization: A technique that limits the solubility and mobility of waste constituents by bonding or chemical reaction with the stabilizing material.

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Superload: Transport shipments that exceed 500,000 lb and/or any of the following external dimensions: Height >18 ft; Length >200 ft; Width >17 ft for two-lane road route or >19 ft for four-lane road route.

Supplier: Any individual or organization who furnishes items or services in accordance with a procurement document, including vendor, seller, contractor, subcontractor, fabricator, consultant, and their sub-tier levels.

Tamper-Indicating Device: A device that may be used on a container and that reveals violations of containment integrity.

Transuranic (TRU) Waste: Radioactive waste containing more than 100 nanocuries (3,700 becquerels) of alpha-emitting TRU isotopes per gram of waste, with half-lives greater than 20 years except for (1) high-level radioactive waste; (2) waste that the Secretary of Energy has determined, with the concurrence of the Administrator of the Environmental Protection Agency, does not need the degree of isolation required by the 40 CFR 191 disposal regulations; or (3) waste that NRC has approved for disposal on a case-by-case basis in accordance with 10 CFR 61.

Treatment: Any method, technique, or process designed to change the physical or chemical character of waste to render it less hazardous; safer to transport, store, or dispose; or reduced in volume.

Uniform Hazardous Waste Manifest: Shipping document EPA Form 8700-22.

Verification Sampling: Collection of an analytical sample to independently assess the waste. May be collected as a split of a sample, a co-located sample, or a direct sample collected from a system.

Waste Characterization: The identification of waste composition and properties by review of acceptable knowledge (which includes process knowledge); or by nondestructive examination, nondestructive assay, or sampling and analysis, to comply with applicable storage, treatment, handling, transportation, and disposal requirements.

Waste Generator: An individual, facility, corporation, government agency, or other institution that offers waste for disposal at the NNS.

Waste Package: Packaging/container (e.g., drum, metal box, soft-sided bags, cargoes) together with its contents of waste in final form for disposal/burial at the NNS.

Waste Profile: General description of the waste stream identifying the source, physical and chemical description, and upper limits on radionuclides. The WP summarizes the waste form, characterization data, and how the population is bounded.

Waste Stream: A waste or group of wastes from a process or a facility with similar physical, chemical, and radiological properties.



Nevada National Security Site Waste Acceptance Criteria



Volume II: Technical and Regulatory Waste Acceptance Criteria

March 2022

NNSWAC Technical and Regulatory Waste Acceptance Criteria

Approval Signatures

This document is correct, and the process and criteria stated within meet the U.S. Department of Energy and appropriate federal regulation requirements.

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March 2022

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List of Acronyms and Abbreviations

General Acronyms

AWAC	Administrative Waste Acceptance Criteria
Bq	Becquerel
Bq/g	Becquerels per gram
Bq/m ³	Becquerels per cubic meter
CERCLA	<i>Comprehensive Environmental Response, Compensation, and Liability Act</i>
CFR	<i>Code of Federal Regulations</i>
CSI	Criticality Safety Index
DET	Demonstrated Equivalent Technology
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
FGE	Fissile gram equivalent
ft	Foot
ft ³	Cubic foot
gal	Gallon
g	Gram
HEPA	High-efficiency particulate air
LDR	Land disposal restriction
LLW	Low-level radioactive waste
M	Meter
m ³	Cubic meter
MBq	Megabecquerel
MLLW	Mixed low-level waste
M&O	Management and operating
MSTS	Mission Support and Test Services, LLC
N/A	Not applicable
NAC	<i>Nevada Administrative Code</i>
NCSE	Nuclear Criticality Safety Evaluation
nCi/g	Nanocuries per gram
NNSA	National Nuclear Security Administration
NNSA/NFO	U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office
NNSS	Nevada National Security Site
NNSSWAC	<i>Nevada National Security Site Waste Acceptance Criteria</i>
NORM	Naturally occurring radioactive material
O	Order

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PCB	Polychlorinated biphenyl
pCi/g	Picocuries per gram
PE-g	Plutonium equivalent gram
PFAS	Per- and polyfluoroalkyl substance
ppm	Parts per million
PSDR	Package Shipment Disposal Request
RACM	Regulated asbestos-containing material
RCRA	<i>Resource Conservation and Recovery Act</i>
RWAP	Radioactive Waste Acceptance Program
SW	Solid waste
$t_{1/2}$	Half-life
TRU	Transuranic
TSCA	<i>Toxic Substances Control Act</i>
TWAC	Technical and Regulatory Waste Acceptance Criteria
UHC	Underlying hazardous constituent
USDA	U.S. Department of Agriculture
WG	Waste Generator
WP	Waste Profile
°C	Degree Celsius
μCi	Microcurie
μg/L	Micrograms per liter
μm	Micrometer

List of Radionuclides

Ac	Actinium	Ca	Calcium
Ag	Silver	Cd	Cadmium
Al	Aluminum	Ce	Cerium
Am	Americium	Cf	Californium
Ar	Argon	Cl	Chlorine
As	Arsenic	Cm	Curium
At	Astatine	Co	Cobalt
Au	Gold	Cs	Cesium
Ba	Barium	Cu	Copper
Be	Beryllium	Dy	Dysprosium
Bi	Bismuth	Er	Erbium
Bk	Berkelium	Es	Einsteinium
Br	Bromine	Eu	Europium
C	Carbon	Fe	Iron

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Fm	Fermium	Pt	Platinum
Fr	Francium	Pu	Plutonium
Ga	Gallium	Ra	Radium
Gd	Gadolinium	Rb	Rubidium
Ge	Germanium	Re	Rhenium
³ H	Tritium	Rh	Rhodium
Hf	Hafnium	Rn	Radon
Hg	Mercury	Ru	Ruthenium
Ho	Holmium	S	Sulfur
I	Iodine	Sb	Antimony
In	Indium	Sc	Scandium
Ir	Iridium	Se	Selenium
K	Potassium	Si	Silicon
Kr	Krypton	Sm	Samarium
La	Lanthanum	Sn	Tin
Lu	Lutetium	Sr	Strontium
Md	Mendelevium	Ta	Tantalum
Mg	Magnesium	Tb	Terbium
Mn	Manganese	Tc	Technetium
Mo	Molybdenum	Te	Tellurium
Na	Sodium	Th	Thorium
Nb	Niobium	Ti	Titanium
Nd	Neodymium	Tl	Thallium
Ni	Nickel	Tm	Thulium
Np	Neptunium	U	Uranium
Os	Osmium	V	Vanadium
P	Phosphorus	W	Tungsten
Pa	Protactinium	Xe	Xenon
Pb	Lead	Y	Yttrium
Pd	Palladium	Yb	Ytterbium
Pm	Promethium	Zn	Zinc
Po	Polonium	Zr	Zirconium
Pr	Praseodymium		

1.0 Introduction

The type, form, and quantity of radioactive, hazardous, and classified waste that the Nevada National Security Site (NNSS) can receive for disposal by burial is governed by various safety documents, permits, regulations, and U.S. Department of Energy (DOE) orders and directives. The following documents (current versions) establish the operating envelope for the NNSS disposal facility:

- DOE Order 435.1 and associated DOE Manual 435.1-1
- Radioactive Waste Management Basis
- Disposal Authorization Statement
- Hazardous Waste Permit NEV HW0101
- Solid Waste Permit SW 532
- *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)* off-site authorization
- Documented Safety Analysis
- Technical Safety Requirements
- U.S. Department of Agriculture (USDA) Compliance Agreement NV-101-NNSS-21

The following sections of this document, the Technical and Regulatory Waste Acceptance Criteria (TWAC), identify the technical and regulatory criteria for waste acceptance. Deviations from these criteria will be evaluated in accordance with the *Nevada National Security Site Waste Acceptance Criteria* (NNSSWAC) Administrative Waste Acceptance Criteria (AWAC) Section 4.2.3, “NNSSWAC Deviations.” Referenced Waste Profile (WP) Forms A and B can be found in the AWAC Appendix D, “Forms.”

AWAC and TWAC requirements are identified by the inclusion of the term “*shall*.” Non-bolded *shall* statements derive from NNSS operating procedures. Bolded ***shall*** statements are derived from federal or state regulations, permits, regulatory agreements, or the Documented Safety

NNSWAC Technical and Regulatory Waste Acceptance Criteria

Analysis. Hyperlinks to requirement references are included to source material on the Radioactive Waste Acceptance Program (RWAP) SharePoint site.

2.0 Prohibited Waste

Note: Definitions are provided in the AWAC “Glossary of Terms.” References are included in the TWAC [Appendix A](#).

The following are prohibited from disposal:

- Transuranic (TRU) waste: The concentration of alpha-emitting transuranic nuclides with half-lives >20 years exceeding 100 nCi/g [T.5.1](#)
- Infectious waste [T.1.1, T.6.1](#)
- Waste containing pathogens or other etiologic agents [T.6.1](#)
- Waste containing or capable of generating harmful toxic gases, vapors, or fumes [T.5.2, T.6.1](#)
 - Waste cannot contain, or be capable of generating by radiolysis or biodegradation, quantities of toxic gas, vapor, or fumes harmful to the public or disposal facility personnel; and cannot harm the long-term structural stability of the disposal site.
- Reactive waste [T.6.1](#)
- Ignitable waste [T.6.1](#)
- Polychlorinated biphenyl (PCB) waste not authorized for disposal in a State permitted municipal or non-municipal non-hazardous waste landfill, or RCRA permitted landfill [T.3.6, T.4.4](#)
- Liquid waste, with the exception of the specific allowances identified in this document [T.3.3, T.5.2](#)
- Incompatible wastes [T.3.1, T.3.2](#)
 - Wastes, absorbent, stabilization media, or other additives placed in the same container that could result in any of the following: [T.3.1](#)
 - Generates extreme heat or pressure, fire or explosion, or violent reaction. [T.3.2](#)
 - Produces uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health. [T.3.2](#)
 - Produces uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion. [T.3.2](#)

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- Damages the structural integrity of the package or facility containing the waste. [T.3.2](#)
- Threatens human health or the environment through other like means. [T.3.2](#)
- Animal carcasses preserved with formaldehyde [T.6.1](#)
- Gases as defined by 49 *Code of Federal Regulations* (CFR) 173.115
- The following weapons components:
 - Pits, canned subassemblies, neutron generators, or detonators that have not been demilitarized. Also see [Section 3.1.8, #7](#); and [Table 3-3](#).
 - Squibs that have not been rendered inert. Also see [Section 3.1.8, #8](#); and [Table 3-3](#).
- Spent nuclear fuel with the exception of test specimens of fissionable material irradiated for research and development as described in [Section 3.1.8](#), “Restricted Wastes.”

3.0 Acceptable Waste

The Waste Generator (WG) may submit the following waste types for disposal:

- Low-level radioactive waste (LLW) [T.6.1](#)
- *Resource Conservation and Recovery Act* (RCRA) hazardous waste that meets land disposal restrictions (LDRs) as stated in 40 CFR 268
- *Toxic Substances Control Act* (TSCA) waste, except those prohibited in [Section 2.0](#)
- Classified (can be radioactive or non-radioactive)
- Regulated asbestos-containing material (RACM)/asbestiform

Any combination of these waste types is acceptable, except all non-radioactive waste must be classified. RACM accepted must be radioactive and/or classified. The term “RCRA hazardous waste” in this document is inclusive of any waste that contains a constituent at a concentration regulated as RCRA under U.S. Environmental Protection Agency, state-of-generation, and/or Nevada state regulations. Wastes meeting the waste types described above and generated under CERCLA are accepted.

See [Table 3-1](#) for the general waste allowed in each waste cell type and the corresponding profile form. The designated disposal cell type for each WP will be designated in the WP approval letter.

3.1 Waste Acceptable in DOE O 435.1 LLW Cells

Radioactive waste that does not contain RACM and is not regulated under RCRA at either state or federal regulations at the time of disposal is eligible for disposal in the DOE O 435.1 LLW cells. The WG *shall* document the waste characteristics on Profile Form A, the NNSS Profile for LLW.

3.1.1 Free Liquid Allowances

LLW must contain less than 1 percent free liquid by waste volume or 0.5 percent of the volume of the waste processed to a solidified form. See [Table 3-3](#) for additional requirements.

3.1.2 Void Space

LLW packages *shall* be loaded to ensure that the interior volume is as efficiently and compactly loaded to minimize void space. More than one waste stream may be packaged in a disposal container, except those waste streams required to be profiled separately in the AWAC Section 4.2.1, “Wastes To Be Profiled Separately.”

3.1.3 PCB Wastes

See [Table 3-2](#) for acceptable PCB waste types, and [Table 3-3](#) for additional requirements.

3.1.4 Radionuclide Content or Concentration

The WG *shall* adhere to the AWAC Section 5.2, “Radiological Characterization,” and identify radionuclides with a reasonable probability of exceeding 1 percent of the waste concentration action level. The WG *shall* report as follows:

- The activity concentration of the radionuclides in the final waste form exceeding 1 percent of the action level (see [Table 3-4](#)) on the WP and the Package Shipment Disposal Request (PSDR). [T.7.2](#)
- Radionuclides that are alpha-emitting and TRU with a half-life ($t_{1/2}$) greater than 20 years that exceed 10 pCi/g on the WP. TRU waste radionuclides with concentrations that exceed 1 nCi/g *shall* be reported on the PSDR. [T.7.2](#), [T.7.5](#)
- Activity concentrations in the final waste form that exceed 1 percent of the total activity concentration on the WP and PSDR. The total activity concentration *shall* include the activity of all radionuclides, except for those that are exempt from the reporting requirements as specified. For these radionuclides and for those present at a level less than the detection limit of industry-accepted characterization methods, process knowledge should be sufficient for characterization. [T.7.2](#)

The WG *shall* submit a WP revision for waste packages exceeding the high-range concentration of the approved WP or with radionuclides not reported on the approved WP.

Radionuclides meeting any of the following criteria are exempt from the reporting requirements:

- Any radionuclide that will reach a state of transient or secular equilibrium with a parent radionuclide within 30 years. Radionuclides commonly expected to meet this exemption

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are listed in [Table 3-5](#). This includes radionuclides listed in [Table 3-4](#) when a long-lived supporting parent ($t_{1/2} \geq 5$ years) is present.

- Any radionuclide occurring at activity concentrations not exceeding background ranges for the region in which it was generated.

3.1.5 Fissile Material and Nuclear Criticality Safety

The WG *shall* ensure quantity of fissile material in a waste package is limited so that an infinite array of such packages will be subcritical under “as packaged” conditions and if the array were to be flooded with water to any credible degree. [T.5.2](#), [T.7.4](#)

The WG *shall* report ^{235}U fissile gram equivalent (FGE) and ^{235}U effective enrichment on the WP by completing [Table 3-6](#) for each enrichment range for fissile material. Fissile material includes waste containing enriched uranium (^{235}U weight percent ≥ 0.90), ^{233}U , ^{239}Pu , ^{241}Pu , $^{242\text{m}}\text{Am}$, ^{243}Cm , ^{245}Cm , ^{247}Cm , ^{249}Cf , or ^{251}Cf . The WG *shall* confirm the waste does not exceed the total FGE as specified for the effective enrichment. Waste containing uranium is not a fissile material concern if the enrichment is less than 0.90 percent ^{235}U by weight, and those nuclides listed in [Table 3-6](#) FGE are 1 percent or less of the tabulated grams of ^{235}U . [T.5.2](#)

3.1.5.1 Waste Packages

The WG *shall* ensure waste packages comply with the following fissile material limits and compliance is documented in the WP: [T.7.4](#)

- Meets criteria specified in 49 CFR 173.453, “Fissile Materials – Exceptions,” or waste disposal package has a Criticality Safety Index (CSI) equal to zero.
- Does not exceed 350 g of ^{235}U FGE per package nor exceed 2 g of ^{235}U FGE per kilogram of waste (mass of the package is not included in the mass of the waste) (graphite and beryllium *shall* not exceed 1 percent by mass of the waste).
 - Both limits *shall* not be exceeded. These criteria apply to 55-gal metal drums or larger containers (i.e., 85-gal drums, 4 ft × 4 ft × 6 ft metal boxes) and is not applicable to drums <55-gal or soft-sided, wood, or plastic containers.
- Does not exceed the limits, and the waste package meets the conditions as specified in [Table 3-7](#).

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- Does not exceed the limits, and the waste package meets the conditions as specified in [Tables 3-8](#) and [3-9](#).

The WG has the option to submit a waste-specific nuclear criticality safety evaluation (NCSE) for waste that does not meet the criteria specified in this section. Please contact the RWAP Manager via email at RWAP@emnv.doe.gov for further information on performing an NCSE.

Note: A minimum of six months will be required to assess a waste-specific NCSE.

3.1.6 Activity Limits

Activity limits are based on ^{239}Pu equivalent grams (PE-g). The WG *shall* calculate the total PE-g for either a waste package or a shipment by multiplying the activity of each radionuclide by the PE-g conversion factor (see [Table 3-10](#)) and then adding each radionuclide PE-g to get the total PE-g. [T.7.5](#), [T.7.6](#)

The PE-g limit for each waste package (e.g., drum, box, soft-sided package or wrapped object) is 300 PE-g. The PE-g limit for a shipment is 2,000 PE-g total for all packages. The WG *shall* provide a deviation request if exceeding the individual package and/or shipment limit prior to release of the shipment.

Deviation requests may be submitted for U.S. Department of Transportation (DOT) specification 7A, Type A packages—or for which the WG can provide documentation demonstrating DOT specification 7A, Type A equivalence—are limited to 12,000 PE-g per container and 60,000 PE-g per shipment. [T.7.6](#), [T.7.7](#)

WGs using DOT Type B Certificate of Compliance packages as the disposal package do not have a PE-g limit and do not require a deviation.

3.1.7 Sealed Sources

The WG *shall* evaluate each source individually against the TRU waste definition (see AWAC “Glossary of Terms”). The mass of the source and any component integral to the source *shall* be used to determine the TRU activity concentration (in nCi/g). For sources in smoke detectors, the activity is divided over the entire mass of detector being disposed. See [Table 3-3](#) for additional requirements and total μCi /limits. The WG *shall* confirm that the sources either originate from a

DOE/NNSA site or are included in the inventory of the NNSA Off-Site Source Recovery Program.

3.1.8 Restricted Wastes

The following wastes are eligible for disposal but have additional profiling, characterization, processing, packaging, and/or labeling requirements that must be met; see [Table 3-3](#).

1. Particulate wastes
2. Gases
3. Chelating or complexing agents $\geq 1\%$ by volume of waste
4. Pyrophoric waste
5. Radioactive animal carcasses
6. Beryllium waste
7. Ferroelectric or electronic neutron generators
8. Squibs
9. 11e.(2) and naturally occurring radioactive material (NORM)
10. Classified waste
11. Soils from fire ant quarantine regions
12. Wastes generating non-toxic gases that may result in pressurization
13. Test specimens of fissionable material irradiated for research and development

Note: While not currently restricted or prohibited, the WP will include fields to enter whether a WP includes known or suspected per-and polyfluoroalkyl substances (PFASs).

3.2 Waste Acceptable in Solid Waste Permitted Cells

The WG *shall* ensure that waste to be disposed in the Nevada solid waste permitted cells is limited to one of the following: [T.6.2](#)

- LLW (classified or non-classified) also containing RACM (not commingled with hazardous)
 - See [Table 3-3](#) for additional requirements.
- LLW with PCB wastes authorized for disposal in a State permitted municipal or non-municipal non-hazardous waste landfill also containing RACM (not commingled with hazardous)
 - See [Table 3-2](#) for acceptable PCB waste types and [Table 3-3](#) for additional requirements.

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- Non-radioactive classified waste (not commingled with hazardous)

The WG *shall* complete Profile Form A for wastes to be disposed in the solid waste permitted cells.

The WG *shall* ensure waste packages are loaded to ensure that the interior volume is as efficiently and compactly loaded to minimize void space. The WG *shall* ensure that free liquids are absorbed, stabilized, or otherwise removed from the waste. Containerized free liquids such as ampules (small articles that contain free liquids required for the article to function [e.g., batteries or capacitors]) are acceptable. The WG *shall* identify containerized free liquid on the WP.

The WG *shall* ensure wastes to be disposed in the solid waste permitted cells meet the requirements specified in [Sections 3.1.4](#) through [3.1.8](#) and [Table 3-3](#).

3.3 Waste Acceptable in RCRA Permitted Cells

Radioactive waste (classified or non-classified) or non-radioactive classified waste that is regulated under RCRA at either state or federal regulations at the time of disposal is eligible for disposal in the RCRA permitted cells. The WG *shall* document the waste characteristics on Profile Form B, the NNS Profile for Mixed Low-Level Waste (MLLW).

Wastes to be disposed in the RCRA permitted cells *shall* meet the requirements specified in [Sections 3.1.1](#) through [3.1.8](#). Requirements in [Sections 3.1.1](#) through [3.1.8](#) and in [Table 3-3](#) take precedent over any requirements in [Section 3.1](#) (e.g., free liquid allowances, void spaces). The waste characteristics *shall* be documented on Profile Form B.

3.3.1 PCB Waste Types

See [Table 3-2](#) for acceptable PCB waste types and [Table 3-3](#) for additional requirements.

3.3.2 RCRA Waste Codes

The WG *shall* ensure that the codes associated with RCRA hazardous waste to be disposed are included in the NNS NEV HW0101 RCRA Permit: [T.6.1](#)

- D004 through D043

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- F001 through F011, F039
- P001 through P018, P020 through P024, P026 through P031, P033, P034, P036 through P051, P054, P056 through P060, P062 through P078, P081, P082, P084, P085, P087 through P089, P092 through P099, P101 through P106, P108 through P116, P118 through P123, P127, P128, P185, P188 through P192, P194, P196 through P199, P201 through P205
- U001 through U012, U014 through U039, U041 through U053, U055 through U064, U066 through U099, U101 through U103, U105 through U138, U140 through U174, U176 through U194, U196, U197, U200, U201, U203 through U211, U213 through U223, U225 through U228, U234 through U240, U243, U244, U246 through U249, U271, U278 through U280, U328, U353, U359, U364, U367, U372, U373, U387, U389, U394, U395, U404, U409 through U411

3.3.3 State of Origin

The WG *shall* ensure that all applicable state of origin waste codes are listed on the WP. NNSWAC accepts California codes 0151, RACM waste; and LLW0181, Other inorganic solid waste for disposal. Any other state codes must be evaluated by the Waste Acceptance Review Panel prior to WP approval. [T.4.2](#)

3.3.4 Land Disposal Restrictions

The WG *shall* ensure that MLLW and non-radioactive hazardous classified waste meet the applicable LDR treatment standard requirements in 40 CFR 268, including standards for underlying hazardous constituents (UHCs), if applicable. [T.3.5](#), [T.4.3](#) The WG *shall* ensure that macroencapsulation systems submitted to satisfy the RCRA alternative treatment standards are identified by manufacturer on the WP. See [Table 3-3](#) for additional requirements and AWAC Section 6.4.2, “Macroencapsulation System Packaging.”

3.3.5 Liquids

The WG *shall* ensure that free liquids are absorbed, stabilized, or otherwise removed from the waste. Containerized free liquids such as ampules (small articles that contain free liquids required for the article to function [e.g., batteries or capacitors]) are acceptable. The WG *shall* identify containerized free liquid on the WP. [T.3.3](#), [T.6.1](#)

3.3.6 Non-biodegradable Sorbents

The WG *shall* ensure that any sorbents used are non-biodegradable and identified on the WP. [T.3.3](#)

3.3.7 Void Space

The WG *shall* ensure that MLLW containers meet the following criteria with the exception of very small items, such as ampules: [T.3.4](#)

- (a) at least 90 percent full when placed in the landfill; or
- (b) crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

The WG *shall* assess the void space in equipment (MLLW or LLW) and describe any actions taken to minimize voids on the WP. The WG *shall* minimize void space in LLW containers as practicable.

3.3.8 Volume Declaration

The WG *shall* determine the anticipated external container volume in cubic feet (ft³) and rounded to the nearest whole number, and specify the number of containers on the WP. This will be used to determine the number of containers to be verified. Additional information can be found in AWAC Section 3.1.3, “Verifications.”

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**Table 3-1
Waste and Cell Types**

Waste Type	DOE O 435.1 LLW Cell Profile Form A	Solid Waste Permitted Cell Profile Form A	RCRA Part B Permitted Cell Profile Form B
Radioactive	Accepted	Accepted	Accepted
Classified	Accepted	Accepted	Accepted
CERCLA	Accepted	Accepted	Accepted
RACM	Not Accepted	Accepted	Only if Commingled with Waste Requiring Disposal in RCRA Cell
RCRA/State Hazardous	Not Accepted	Not Accepted	Accepted
Non-Radiological/Non-Hazardous (must be classified)	Not Accepted	Accepted	Not Accepted
PCB Waste Types		See Table 3-2	

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**Table 3-2
Acceptable PCB Waste Types**

PCB Waste Type	DOE O 435.1 LLW Cell Profile Form A	Solid Waste Permitted Cell Profile Form A	RCRA Part B Permitted Cell Profile Form B
LLW with intact PCB article listed below - <ul style="list-style-type: none"> • PCB small capacitors • PCB hydraulic machines - drained (<1,000 ppm PCB) • PCB hydraulic machines - flushed (≥1,000 ppm PCB) • PCB contaminated electrical equipment (≥50 ppm but <500 ppm PCB) • Other PCB article <500 ppm PCB • PCB light ballast with PCBs in non-leaking capacitor 	Accepted without RACM	Accepted Only if Commingled with RACM	Accepted Only if Commingled with RCRA Regulated Waste
LLW empty PCB container formerly containing PCBs at concentrations <500 ppm PCB	Accepted without RACM	Accepted Only if Commingled with RACM	Accepted Only if Commingled with RCRA Regulated Waste
LLW with PCB bulk product listed below - <ul style="list-style-type: none"> • Plastics (such as plastic insulation from wire or cable; radio, television and computer casings; vehicle parts; or furniture laminates); preformed or molded rubber parts and components; applied dried paints, varnishes, waxes or other similar coatings or sealants; caulking; Galbestos; non-liquid building demolition debris • Other bulk product waste sampled and demonstrated to leach <10 µg/L PCB • Fluorescent light ballasts containing PCBs in the potting material • Non-intact PCB articles as listed above 	Accepted without RACM	Accepted Only if Commingled with RACM	Accepted Only if Commingled with RCRA Regulated Waste
LLW PCB bulk product that leaches PCBs ≥10 µg/L or cannot be tested	Not Accepted	Not Accepted	Accepted with or without RACM
LLW PCB remediation waste <50 ppm PCB	Accepted without RACM	Accepted Only if Commingled with RACM	Accepted Only if Commingled with RCRA Regulated Waste
LLW PCB remediation waste ≥50 ppm PCB	Not Accepted	Not Accepted	Accepted with or without RACM

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**Table 3-3
Waste Type Specific Requirements**

TWAC Section	Waste Type	Segregate and Profile Separately (Y/N)	Separate Shipment Numbers (Y/N)	Packaging	Marking/Labeling (not inclusive of DOT requirements)	Processing Requirements or Other
3.1.1	Free Liquid Allowance	N	N	High moisture content evaluation to be completed to determine the potential release of liquid during handling, storage, and transportation. See the NNSS Generator Working Group "Position Paper for High Moisture Content Waste," current revision, for guidance. 1.7.1	N/A	When significant temperature and atmospheric differences exist between the operating and disposal sites, additional absorbent should be considered.
3.1.8	Sealed Sources $\geq 100 \mu\text{Ci}$	Y	N	May need to be stabilized in the shipping/disposal container to ensure that dose rates remain the same during transport. Lead used as shielding that either is integral or external to the sealed source, and that is used to reduce radiation exposure is acceptable, and no lead shielding evaluation is required.	N/A	Sources $\leq 100 \mu\text{Ci}$ can be a component of other waste streams if identified on the WP. Sources $\geq 100 \mu\text{Ci}$ (3.7 MBq) are required to be described in a sealed source profile. 1.7.8
All three sections: 3.1.4 , 3.2 , 3.3.1	PCB Wastes	Y	Y	N/A	In accordance with 40 CFR 761.40 Out of Service Date legibly marked on each package	Maintain Approval Letters to satisfy 15-day notification requirements under 40 CFR 761.61(a)(5)(B)(2)(iv) for PCB Remediation Waste, and 40 CFR 761.62(b)(4)(i) or (ii) for PCB Bulk Product.

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**Table 3-3
Waste Type Specific Requirements**

TWAC Section	Waste Type	Segregate and Profile Separately (Y/N)	Separate Shipment Numbers (Y/N)	Packaging	Marking/Labeling (not inclusive of DOT requirements)	Processing Requirements or Other
3.1.8, #1	Particulate Wastes	N	N	Immobilized so that the waste package contains no more than 1 weight percent of less-than-10- μ m-diameter particles, or 15 weight percent of less-than-200- μ m-diameter particles. Secure packaging may be used in place of immobilization.	N/A	Acceptable packaging includes steel boxes, drums with a sealed 6-mil minimum (or equivalent) liner, containers with contents individually wrapped and sealed in plastic, and overpacked containers. If liner in intermodal, 12-mil minimum for soil.
3.1.8, #2	Gases	N	N	Cylinders and aerosol cans are to be depressurized by crushing or puncturing, or by valve stem removal. The WG shall ensure LLW in a gaseous form is packaged such that the pressure does not exceed 1.5 atmospheres absolute or less at 20°C. 1.6.1 The WG shall consider quantities of gases potentially generated when determining packaging. Gases cannot exceed the confinement capability of the container. 1.7.7	N/A	The presence of any cylinders, pressurized or depressurized (e.g., cylinders, aerosol cans, and/or pressurized gases) shall be reported on the WP.
3.1.8, #3	Chelating or Complexing Agents \geq 1% by Volume of Waste	N	N	Stabilized or solidified	N/A	N/A

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**Table 3-3
Waste Type Specific Requirements**

TWAC Section	Waste Type	Segregate and Profile Separately (Y/N)	Separate Shipment Numbers (Y/N)	Packaging	Marking/Labeling (not inclusive of DOT requirements)	Processing Requirements or Other
3.1.8, #4	Pyrophoric Waste	N	N	Treated, prepared, and packaged to be nonflammable.	N/A	Waste blended in a hardened concrete matrix and no longer pyrophoric is acceptable.
3.1.8, #5	Radioactive Animal Carcasses	N	N	Animal carcasses containing, or contained in, radioactive materials shall be packaged with the biological material layered with lime and placed in a metal container. I.6.1 If the resultant waste matrix is capable of gas generation, the container shall be vented with a carbon composite high-efficiency particulate air (HEPA) filtration device. I.5.3	N/A	Additional information or analysis may be required of the waste decomposition gases.
3.1.8, #6	Beryllium Waste	N	N	Packaged in sealed, impermeable bags (minimum 6 mil), containers, or enclosures to prevent the release of beryllium dust during handling and transportation.	The bags and containers shall be labeled with the following information: I.4.1 DANGER, CONTAMINATED WITH BERYLLIUM DO NOT REMOVE DUST BY BLOWING OR SHAKING CANCER AND LUNG DISEASE HAZARD	N/A

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**Table 3-3
Waste Type Specific Requirements**

TWAC Section	Waste Type	Segregate and Profile Separately (Y/N)	Separate Shipment Numbers (Y/N)	Packaging	Marking/Labeling (not inclusive of DOT requirements)	Processing Requirements or Other
3.1.8, #7	Ferroelectric or Electronic Neutron Generators	N	N	N/A	N/A	Power source removed in accordance with the requirements specified by NNSA/NFO in the Demilitarization Guidance for Electronic and Ferroelectric Neutron Generators. T.7.9
3.1.8, #8	Squibs	N	N	N/A	N/A	Squibs must be certified as rendered inert.
3.1.8, #9	11e.(2) and NORM	N	N	N/A	N/A	Small quantities of 11e.(2) byproduct material and NORM may be managed as LLW provided they can be managed to meet the requirements for LLW disposal in Section IV.P of DOE M 435.1-1.
3.1.8, #10	Classified Waste	Y	Y	N/A	N/A	Submit a signed DOE or NNSA Security Authorization Letter approving permanent burial with each WP. Submit an "NNS Advance Shipment Notification" form for classified waste requiring protection from visual observation to the NNS M&O contractor at least 7 days prior to shipment arrival.

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**Table 3-3
Waste Type Specific Requirements**

TWAC Section	Waste Type	Segregate and Profile Separately (Y/N)	Separate Shipment Numbers (Y/N)	Packaging	Marking/Labeling (not inclusive of DOT requirements)	Processing Requirements or Other
3.1.8, #11	Soils from Fire Ant Quarantine Regions	Y	Y	Per generating site compliance agreement. Minimum of IP-1.	The WG shall label package as "USDA Regulated Soil."	The WG shall mark PSDR as "USDA Regulated Soil" (using comment field or check box). T.7.3 The WG shall mark comment field of shipping papers "USDA Regulated Soil." T.7.3
3.1.8, #12	Wastes Generating Non-toxic Gases That May Result in Pressurization	N	N	Wastes that generate gases that are not toxic but may result in container pressurization or explosion hazards (e.g., hydrogen) through biodegradation, radiolysis or other means must be packaged to prevent pressurization hazards (e.g., equipped with nuclear grade filter units or controlled waste loading).	N/A	The WG shall provide waste-loading calculations and/or headspace monitoring used to demonstrate control of pressurization with WP along with evidence of an independent review and reviewer's qualifications cited. T.7.7
3.1.8, #13	Test specimens of fissionable material	Y	Y	N/A	N/A	Test specimens of fissionable material irradiated for research and development only, and not for the production of power or plutonium, classified as LLW by the cognizant authority, provided the activity concentration of TRU nuclides does not exceed 100 nCi/g. T.5.4

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**Table 3-3
Waste Type Specific Requirements**

TWAC Section	Waste Type	Segregate and Profile Separately (Y/N)	Separate Shipment Numbers (Y/N)	Packaging	Marking/Labeling (not inclusive of DOT requirements)	Processing Requirements or Other
3.2	RACM	Y	Y	<p>RACM shall be: I.2.1, I.4.1</p> <ul style="list-style-type: none"> - Wetted with a water and surfactant mixture. - Packaged in a plastic bag that is not less than 6 mil in thickness, a combination of plastic bags that equal 6 mil in thickness, or a container that is lined with plastic. <p>If free liquid is present, sorbent shall be added to ensure compliance with the free-liquids criteria.</p> <p>Sharp edges and corners in the package shall be padded or protected to prevent damage to the plastic bag during handling, shipping, and disposal.</p> <p>RACM shall NOT be packaged into soft-sided containers as the only containment.</p>	<p>Label that contains the statements below, or is in compliance with the applicable federal regulation:</p> <div style="text-align: center;">  <p>DANGER CONTAINS ASBESTOS FIBERS MAY CAUSE CANCER CAUSES DAMAGE TO LUNGS DO NOT BREATHE DUST AVOID CREATING DUST</p> </div>	<p>Solid Waste Permit SW 532 only unless combined with waste requiring disposal in RCRA Part B Permitted Cell</p>

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**Table 3-3
Waste Type Specific Requirements**

TWAC Section	Waste Type	Segregate and Profile Separately (Y/N)	Separate Shipment Numbers (Y/N)	Packaging	Marking/Labeling (not inclusive of DOT requirements)	Processing Requirements or Other
3.3.4	LDR - RCRA Hazardous	Y	Y	N/A	Packages of 451 liters (119 gal) or less must be marked with the following: <ul style="list-style-type: none"> – The words “HAZARDOUS WASTE Federal law prohibits improper disposal. If found, contact the nearest police or public safety authority of the U.S. Environmental Protection Agency” – WG’s name and address – Manifest Document Number 	Environmental media from cleanup activities require “Contained In” determination from state of origin; documentation waste is primarily environmental media; sampling data. If waste is associated with a Demonstrated Equivalent Technology (DET) or treatability variance, contact the RWAP Manager for required documentation to be submitted.

M&O = Management and operating

N/A = Not applicable

NNSA = National Nuclear Security Administration

NNSA/NFO = U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office

°C = Degrees Celsius

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**Table 3-4
Radionuclide Action Levels**

Nuclide	Action Level (Bq/m ³)	Nuclide	Action Level (Bq/m ³)
³ H	6.2E+11	²¹⁰ Pb	3.5E+11
¹⁴ C	5.4E+15	²²⁶ Ra	2.1E+07
²⁶ Al	9.7E+07	²²⁸ Ra	1.7E+12
³⁶ Cl	1.9E+08	²²⁷ Ac	1.7E+11
³⁹ Ar	9.9E+20	²²⁸ Th	4.3E+13
⁴⁰ K	9.4E+10	²²⁹ Th	2.8E+10
⁴¹ Ca	2.8E+12	²³⁰ Th	6.0E+07
⁵⁹ Ni	1.7E+14	²³² Th	8.1E+09
⁶³ Ni	3.2E+14	²³¹ Pa	1.0E+10
⁶⁰ Co	1.6E+12	²³² U	4.3E+10
⁸⁵ Kr	2.0E+20	²³³ U	8.2E+10
⁹⁰ Sr	4.3E+11	²³⁴ U	1.3E+10
⁹³ Zr	1.1E+14	²³⁵ U	1.1E+11
^{93m} Nb	4.6E+15	²³⁶ U	2.8E+11
⁹⁴ Nb	1.2E+10	²³⁸ U	3.5E+11
⁹⁹ Tc	3.2E+09	²³⁷ Np	3.4E+10
¹⁰⁷ Pd	2.9E+14	²³⁸ Pu	1.8E+12
^{113m} Cd	6.2E+12	²³⁹ Pu	5.1E+11
^{121m} Sn	2.1E+14	²⁴⁰ Pu	5.2E+11
¹²⁶ Sn	1.1E+10	²⁴¹ Pu	5.8E+12
¹²⁹ I	3.4E+09	²⁴² Pu	3.7E+11
¹³³ Ba	5.4E+12	²⁴⁴ Pu	4.8E+10
¹³⁵ Cs	2.8E+12	²⁴¹ Am	1.7E+11
¹³⁷ Cs	2.5E+11	²⁴³ Am	5.8E+10
¹⁵⁰ Eu	9.4E+10	²⁴³ Cm	8.3E+11
¹⁵² Eu	4.7E+11	²⁴⁴ Cm	3.4E+12
¹⁵⁴ Eu	1.7E+12	²⁴⁵ Cm	4.6E+10
¹⁵¹ Sm	2.4E+15	²⁴⁶ Cm	9.2E+10
^{166m} Ho	1.2E+10	²⁴⁸ Cm	2.9E+10
²⁰⁷ Bi	1.1E+11	²⁵⁰ Cf	1.5E+12

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**Table 3-5
Exempt Radionuclides**

^{90}Y , ^{93}Nb , $^{126\text{m}}\text{Sb}$, ^{126}Sb , $^{137\text{m}}\text{Ba}$
^{233}Pa , ^{225}Ra , ^{225}Ac , ^{221}Fr , ^{217}At , ^{213}Bi , ^{213}Po , ^{209}Tl , ^{209}Pb
^{239}Np , ^{231}Th , ^{227}Th , ^{223}Fr , ^{223}Ra , ^{219}Rn , ^{215}Po , ^{211}Pb , ^{211}Bi , ^{211}Po , ^{207}Tl
^{234}Th , $^{234\text{m}}\text{Pa}$, ^{234}Pa , ^{222}Rn , ^{218}Po , ^{214}Pb , ^{214}Bi , ^{214}Po , ^{210}Bi , ^{210}Po
^{240}U , $^{240\text{m}}\text{Np}$, ^{240}Np , ^{228}Ra , ^{228}Ac , ^{228}Th , ^{224}Ra , ^{220}Rn , ^{216}Po , ^{212}Pb , ^{212}Bi , ^{212}Po , ^{208}Tl

Note: The progeny radionuclides listed are exempt from reporting requirements when a parent radionuclide is present.

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Table 3-6
²³⁵U FGE Calculation and Effective ²³⁵U Enrichment for LLW Packages

A	B	C	D	E	F	G	H	I
Nuclide	High Activity Conc. (Bq/m ³)	Volume of Package (m ³)	Activity (Bq)	Specific Activity (Bq/g)	Mass of Nuclide (g) (D/E=F)	²³⁵ U FGE Factors	²³⁵ U FGE	If FGE is ≥1% of ²³⁵ U Mass, Then Include:
²³³ U				3.6E+08		1.4E+00		
²³⁵ U				8.1E+04		1.0E+00		
²³⁹ Pu				2.3E+09		1.6E+00		
²⁴¹ Pu				3.8E+12		3.5E+00		
^{242m} Am				3.6E+11		5.4E+01		
²⁴³ Cm				1.9E+12		7.8E+00		
²⁴⁵ Cm				6.4E+09		2.3E+01		
²⁴⁷ Cm				3.5E+06		7.8E-01		
²⁴⁹ Cf				1.5E+11		7.0E+01		
²⁵¹ Cf				5.9E+10		1.4E+02		
							TOTAL ²³⁵ U FGE	
Mass of ²³⁸ U =								
Effective ²³⁵ U Enrichment = $\frac{\text{Total } ^{235}\text{U FGE} * 100}{\text{Total } ^{235}\text{U FGE} + ^{238}\text{U}}$								

Instructions for completing Table 3-6:

1. Multiply high activity range of the waste stream (Bq/m³) by volume of waste to determine the maximum activity that could be present in a waste package for the nuclides listed above, resulting in Bq (Column D). For ²³⁵U, the activity is required to be included only if the ²³⁵U enrichment is equal to or greater than 0.90 percent by weight of total U.
2. Divide activity (Bq) (Column D) by the specific activity of the nuclide (Bq/g) (Column E) to determine the mass of the nuclide (Column F).
3. Multiply the mass (g) (Column F) of each nuclide by the ²³⁵U FGE factor (Column G) to determine FGE (Column H).
4. If the FGE value is greater than 1 percent of the ²³⁵U mass, then include in Column I to determine the total ²³⁵U FGE for a waste package.
5. Effective ²³⁵U enrichment (weight %) is calculated by dividing the total ²³⁵U FGE by the (total ²³⁵U FGE + ²³⁸U) and multiplying by 100.

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**Table 3-7
Allowable Package Fissile Loadings for Various Package Steel Weights**

Enrichment (wt% ²³⁵ U)	Steel Weights (lb)			
	35 lb (16 kg)	48 lb (22 kg)	70 lb (32 kg)	105 lb (48 kg)
	Maximum Grams of ²³⁵ U per Drum			
80 <x ≤ 100	57	69	86	108
60 <x ≤ 80	60	70	88	110
40 <x ≤ 60	61	73	90	113
20 <x ≤ 40	64	76	95	118
15 <x ≤ 20	70	86	104	130
10 <x ≤ 15	76	90	109	137
8 <x ≤ 10	80	98	123	150
7 <x ≤ 8	86	104	131	159
6 <x ≤ 7	90	108	133	166
5 <x ≤ 6	97	116	141	177
4.5 <x ≤ 5.0	103	124	155	193
4.0 <x ≤ 4.5	108	127	163	201
3.5 <x ≤ 4.0	117	140	174	216
3.0 <x ≤ 3.5	127	156	189	232
2.5 <x ≤ 3.0	148	179	225	260
2.0 <x ≤ 2.5	171	210	255	319
1.9 <x ≤ 2.0	214	256	326	410
1.8 <x ≤ 1.9	222	283	346	452
1.7 <x ≤ 1.8	252	308	390	480
1.6 <x ≤ 1.7	265	326	409	515
1.5 <x ≤ 1.6	298	367	460	579
1.4 <x ≤ 1.5	354	423	539	680
1.3 <x ≤ 1.4	420	514	630	828
1.25 <x ≤ 1.30	525	652	832	1,047
1.20 <x ≤ 1.25	607	755	923	1,186
1.15 <x ≤ 1.20	694	863	1,120	1,460
1.10 <x ≤ 1.15	836	1,041	1,376	1,736
1.07 <x ≤ 1.10	1,052	1,313	1,700	2,204
1.04 <x ≤ 1.07	1,232	1,575	2,011	2,704
1.02 <x ≤ 1.04	1,511	1,951	2,486	3,297

**Table 3-7
Allowable Package Fissile Loadings for Various Package Steel Weights**

Enrichment (wt% ²³⁵ U)	Steel Weights (lb)			
	35 lb (16 kg)	48 lb (22 kg)	70 lb (32 kg)	105 lb (48 kg)
	Maximum Grams of ²³⁵ U per Drum			
1.00 <x ≤1.02	1,782	2,178	2,974	3,852
0.99 <x ≤1.00	2,073	2,692	3,582	4,615
0.98 <x ≤0.99	2,271	2,916	3,883	5,297
0.97 <x ≤0.98	2,502	3,319	4,156	5,790
0.96 <x ≤0.97	2,972	3,774	4,942	6,638
0.95 <x ≤0.96	3,311	4,259	5,650	8,004
≤0.95	3,826	4,800	6,489	8,621

These values are subject to the following use instructions and restrictions:

1. Linear interpolations between steel weights are allowed, but extrapolation above or below the largest or smallest masses is prohibited. For steel weights in excess of 105 lb (48 kg), use the fissile mass for 105 lb (48 kg).
2. The mass limits do not apply to wastes containing more than 1% beryllium and carbon graphite by package weight.
3. For wastes with other fissile nuclides (other than ²³⁵U), these nuclides **shall** be accounted for by calculating a total ²³⁵U FGE and the effective ²³⁵U enrichment in accordance with [Table 3-6](#).
4. The total weight of steel in a package may include that of all inner drums such as 10-, 15-, and 30-gal drums inside of a 55-gal drum, and the outer drum.
5. Mixing drums in an overpack (such as commingling 15-, 30-, and 55-gal drums in a 4 ft × 4 ft × 7 ft box) is acceptable as long as the individual drums comply with mass limits.

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Table 3-8
Criticality Safety Restrictions for the Use of the Fissile Limits in [Table 3-7](#)

Volume of waste container	Nominal 55-gal packages or larger. The container may contain inner packages.
Space between waste container and contents	Shall be filled with loose, pourable material (e.g., vermiculite).
Boron properties (natural)	Shall contain ≈ 20 atom% ^{10}B .
Boron mass	Shall contain not less than 4 kg (8.82 lb) of boron in any solid, loose, pourable, non-soluble form.
Beryllium and graphite bypackage weight	$\leq 1\%$ of the mass of ^{235}U .
Maximum hydrogen content of waste as packaged	The hydrogen to ^{235}U ratio (H:U) shall be less than 50.
^{235}U mass limits	Values presented in Table 3-9 .

Table 3-9
Maximum Grams of ²³⁵U as a Function of Enrichment
(Controls As Specified in [Table 3-8](#))

²³⁵ U Enrichment (Weight %)	²³⁵ U Mass Limit (grams)	²³⁵ U Enrichment (Weight %)	²³⁵ U Mass Limit (grams)
0.95	∞	2.5	2,589
0.96	∞	3	2,263
0.97	∞	3.5	2,055
0.98	∞	4	1,899
0.99	8,839	4.5	1,798
1	8,528	5	1,711
1.02	8,025	6	1,577
1.04	7,547	7	1,496
1.07	7,156	8	1,442
1.1	6,784	9	1,395
1.15	6,360	10	1,352
1.2	5,970	15	1,238
1.25	5,593	20	1,171
1.3	5,339	30	1,108
1.4	4,804	40	1,066
1.5	4,432	50	1,036
1.6	4,091	60	1,019
1.7	3,784	70	1,003
1.8	3,661	80	988
1.9	3,375	90	969
2	3,169	100	935

∞ = Infinity or no limit

For wastes with other fissile nuclides (other than ²³⁵U), these nuclides **shall** be accounted for by calculating a total ²³⁵U FGE and the effective ²³⁵U enrichment in accordance with [Table 3-6](#).

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Table 3-10
Plutonium Equivalent Gram (PE-g) Radionuclide Conversion Factors

Note: For isotopes not having a direct PE-g conversion factor, the total activity *shall* be treated as Pu-239 for alpha emission and as Cs-137 for beta/gamma emission.

Nuclide CONVERSION FACTORS --- PE-g/Bq		Nuclide CONVERSION FACTORS --- PE-g/Bq		Nuclide CONVERSION FACTORS --- PE-g/Bq	
Ac-224	1.15E-12	Au-199	6.97E-15	Ca-45	3.26E-14
Ac-225	7.50E-11	Au-200	3.09E-16	Ca-47	1.85E-14
Ac-226	1.15E-11	Au-200m	6.35E-15	Cd-104	3.09E-16
Ac-227	4.85E-09	Au-201	1.50E-16	Cd-107	7.32E-16
Ac-228	2.20E-13	Ba-126	9.70E-16	Cd-109	7.14E-14
Ag-102	1.59E-16	Ba-128	1.23E-14	Cd-113	1.06E-12
Ag-103	2.38E-16	Ba-131	7.67E-15	Cd-113m	9.70E-13
Ag-104	3.26E-16	Ba-131m	6.88E-17	Cd-115	9.70E-15
Ag-104m	2.29E-16	Ba-133	8.82E-14	Cd-115m	6.79E-14
Ag-105	7.14E-15	Ba-133m	4.06E-15	Cd-117	1.50E-15
Ag-106	1.41E-16	Ba-135m	3.17E-15	Cd-117m	1.85E-15
Ag-106m	9.70E-15	Ba-139	5.20E-16	Ce-134	1.15E-14
Ag-108m	3.26E-13	Ba-140	5.11E-14	Ce-135	4.41E-15
Ag-110m	1.06E-13	Ba-141	3.00E-16	Ce-137	8.82E-17
Ag-111	1.50E-14	Ba-142	1.94E-16	Ce-137m	3.88E-15
Ag-112	1.50E-15	Be-7	4.85E-16	Ce-139	1.68E-14
Ag-115	2.56E-16	Be-10	3.09E-13	Ce-141	3.35E-14
Al-26	1.76E-13	Bi-200	2.91E-16	Ce-143	7.32E-15
Am-237	2.29E-16	Bi-201	5.82E-16	Ce-144	4.67E-13
Am-238	1.68E-15	Bi-202	4.85E-16	Cf-244	1.23E-13
Am-239	2.12E-15	Bi-203	2.29E-15	Cf-246	3.97E-12
Am-240	3.79E-15	Bi-205	8.20E-15	Cf-248	7.76E-11
Am-241	8.47E-10	Bi-206	1.50E-14	Cf-249	6.17E-10
Am-242	1.76E-13	Bi-207	4.94E-14	Cf-250	3.00E-10
Am-242m	8.11E-10	Bi-210	8.20E-13	Cf-251	6.26E-10
Am-243	8.47E-10	Bi-210m	3.00E-11	Cf-252	1.76E-10
Am-244	3.26E-14	Bi-212	2.73E-13	Cf-253	1.15E-11
Am-244m	1.41E-15	Bi-213	2.65E-13	Cf-254	3.62E-10
Am-245	4.94E-16	Bi-214	1.23E-13	Cl-36	6.44E-14
Am-246	6.08E-16	Bk-245	1.85E-14	Cl-38	3.97E-16
Am-246m	2.03E-16	Bk-246	2.91E-15	Cl-39	4.06E-16
As-69	1.85E-16	Bk-247	6.08E-10	Cm-238	4.32E-14
As-70	5.91E-16	Bk-249	1.41E-12	Cm-240	3.09E-11
As-71	3.53E-15	Bk-250	8.82E-15	Cm-241	3.26E-13
As-72	7.94E-15	Br-74	3.35E-16	Cm-242	5.20E-11
As-73	8.82E-15	Br-74m	5.47E-16	Cm-243	6.08E-10
As-74	1.85E-14	Br-75	4.67E-16	Cm-244	5.03E-10
As-76	6.53E-15	Br-76	3.62E-15	Cm-245	8.73E-10
As-77	3.44E-15	Br-77	7.41E-16	Cm-246	8.64E-10
As-78	7.85E-16	Br-80	8.29E-17	Cm-247	7.94E-10
At-207	2.03E-14	Br-80m	6.70E-16	Cm-248	3.17E-09
At-211	9.70E-13	Br-82	5.56E-15	Cm-249	3.53E-16
Au-193	1.06E-15	Br-83	4.23E-16	Cm-250	1.85E-08
Au-194	2.12E-15	Br-84	3.26E-16	Co-55	4.67E-15
Au-195	1.50E-14	C-11	1.59E-16	Co-56	5.91E-14
Au-198	7.58E-15	C-14	5.11E-14	Co-57	8.82E-15
Au-198m	1.76E-14	Ca-41	1.59E-15	Co-58	1.85E-14

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**Table 3-10
Plutonium Equivalent Gram (PE-g) Radionuclide Conversion Factors**

Nuclide CONVERSION FACTORS --- PE-g/Bq		Nuclide CONVERSION FACTORS --- PE-g/Bq		Nuclide CONVERSION FACTORS --- PE-g/Bq	
Co-58m	1.50E-16	Eu-156	3.00E-14	Hf-183	5.03E-16
Co-60	2.73E-13	Eu-157	2.47E-15	Hf-184	2.91E-15
Co-60m	1.23E-17	Eu-158	4.14E-16	Hg-193	6.61E-16
Co-61	4.50E-16	F-18	5.20E-16	Hg-193m	2.29E-15
Co-62m	1.85E-16	Fe-52	5.56E-15	Hg-194	1.15E-13
Cr-48	1.94E-15	Fe-55	6.79E-15	Hg-195	6.44E-16
Cr-49	3.09E-16	Fe-59	3.53E-14	Hg-195m	4.67E-15
Cr-51	3.26E-16	Fe-60	2.47E-12	Hg-197	2.65E-15
Cs-125	2.03E-16	Fm-252	2.82E-12	Hg-197m	4.67E-15
Cs-127	3.35E-16	Fm-253	3.53E-12	Hg-199m	2.82E-16
Cs-129	6.79E-16	Fm-254	5.38E-13	Hg-203	2.12E-14
Cs-130	1.23E-16	Fm-255	2.38E-12	Ho-155	1.76E-16
Cs-131	4.14E-16	Fm-257	6.26E-11	Ho-157	3.70E-17
Cs-132	2.65E-15	Fr-222	1.23E-13	Ho-159	5.38E-17
Cs-134	1.76E-13	Fr-223	7.85E-15	Ho-161	5.29E-17
Cs-134m	5.29E-16	Ga-65	1.50E-16	Ho-162	2.47E-17
Cs-135	7.58E-14	Ga-66	3.88E-15	Ho-162m	1.85E-16
Cs-135m	1.41E-16	Ga-67	2.12E-15	Ho-164	7.41E-17
Cs-136	2.47E-14	Ga-68	4.32E-16	Ho-164m	1.06E-16
Cs-137	3.44E-13	Ga-70	1.41E-16	Ho-166	5.73E-15
Cs-138	3.79E-16	Ga-72	4.67E-15	Ho-166m	1.06E-12
Cu-60	3.00E-16	Ga-73	1.23E-15	Ho-167	6.26E-16
Cu-61	6.88E-16	Gd-145	1.76E-16	I-120	8.82E-16
Cu-64	1.06E-15	Gd-146	5.64E-14	I-120m	7.76E-16
Cu-67	5.38E-15	Gd-147	3.53E-15	I-121	2.38E-16
Dy-155	6.79E-16	Gd-148	2.29E-10	I-123	6.53E-16
Dy-157	2.65E-16	Gd-149	6.44E-15	I-124	3.88E-14
Dy-159	3.26E-15	Gd-151	7.58E-15	I-125	4.50E-14
Dy-165	5.29E-16	Gd-152	1.68E-10	I-126	8.64E-14
Dy-166	1.68E-14	Gd-153	1.85E-14	I-128	1.76E-16
Er-161	4.23E-16	Gd-159	2.38E-15	I-129	3.17E-13
Er-165	6.97E-17	Ge-66	8.02E-16	I-130	5.91E-15
Er-169	8.82E-15	Ge-67	2.20E-16	I-131	6.53E-14
Er-171	1.94E-15	Ge-68	1.23E-13	I-132	9.70E-16
Er-172	9.70E-15	Ge-69	2.56E-15	I-132m	7.67E-16
Es-250	5.56E-15	Ge-71	9.70E-17	I-133	1.32E-14
Es-251	1.85E-14	Ge-75	3.17E-16	I-134	4.85E-16
Es-253	2.38E-11	Ge-77	3.26E-15	I-135	2.82E-15
Es-254	7.58E-11	Ge-78	8.38E-16	In-109	3.70E-16
Es-254m	4.14E-12	H-3	2.29E-15	In-110min	4.14E-16
Eu-145	4.85E-15	Hf-170	2.82E-15	In-110hr	1.15E-15
Eu-146	7.05E-15	Hf-172	2.82E-13	In-111	2.03E-15
Eu-147	9.70E-15	Hf-173	1.41E-15	In-112	6.53E-17
Eu-148	2.29E-14	Hf-175	1.06E-14	In-113m	1.76E-16
Eu-149	2.56E-15	Hf-177m	7.94E-16	In-114m	8.20E-14
Eu-150hr	1.68E-15	Hf-178m	2.29E-12	In-115	3.44E-12
Eu-150yr	4.67E-13	Hf-179m	3.35E-14	In-115m	5.20E-16
Eu-152	3.70E-13	Hf-180m	1.15E-15	In-116m	3.97E-16
Eu-152m	1.94E-15	Hf-181	4.41E-14	In-117	2.56E-16
Eu-154	4.67E-13	Hf-182	2.73E-12	In-117m	6.35E-16
Eu-155	6.08E-14	Hf-182m	4.06E-16	In-119m	9.44E-17

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**Table 3-10
Plutonium Equivalent Gram (PE-g) Radionuclide Conversion Factors**

Nuclide CONVERSION FACTORS --- PE-g/Bq		Nuclide CONVERSION FACTORS --- PE-g/Bq		Nuclide CONVERSION FACTORS --- PE-g/Bq	
Ir-182	2.12E-16	Mn-53	4.76E-16	Os-191m	1.41E-15
Ir-184	1.06E-15	Mn-54	1.32E-14	Os-193	4.59E-15
Ir-185	1.68E-15	Mn-56	1.06E-15	Os-194	7.50E-13
Ir-186	2.82E-15	Mo-90	3.17E-15	P-32	3.00E-14
Ir-187	6.97E-16	Mo-93	2.03E-14	P-33	1.32E-14
Ir-188	3.70E-15	Mo-93m	1.50E-15	Pa-227	7.05E-13
Ir-189	5.29E-15	Mo-99	8.73E-15	Pa-228	6.61E-13
Ir-190	2.12E-14	Mo-101	2.29E-16	Pa-230	6.70E-12
Ir-190m	8.82E-17	Na-22	1.15E-14	Pa-231	1.23E-09
Ir-192	5.82E-14	Na-24	2.38E-15	Pa-232	8.82E-14
Ir-192m	3.44E-13	Nb-88	2.47E-16	Pa-233	3.44E-14
Ir-193m	1.15E-14	Nb-89 (66)	6.26E-16	Pa-234	3.53E-15
Ir-194	4.94E-15	Nb-89 (122)	1.06E-15	Pb-195m	2.38E-16
Ir-194m	1.15E-13	Nb-90	5.82E-15	Pb-198	6.17E-16
Ir-195	6.26E-16	Nb-93m	1.59E-14	Pb-199	3.26E-16
Ir-195m	1.50E-15	Nb-94	4.32E-13	Pb-200	3.09E-15
K-40	1.85E-14	Nb-95	1.59E-14	Pb-201	1.06E-15
K-42	1.06E-15	Nb-95m	7.76E-15	Pb-202	1.06E-13
K-43	1.23E-15	Nb-96	5.82E-15	Pb-202m	8.82E-16
K-44	1.76E-16	Nb-97	3.97E-16	Pb-203	1.94E-15
K-45	1.32E-16	Nb-98	5.11E-16	Pb-205	7.50E-15
Kr-85	7.86E-24	Nd-136	4.76E-16	Pb-209	5.38E-16
La-131	2.03E-16	Nd-138	2.20E-15	Pb-210	4.94E-11
La-132	1.41E-15	Nd-139	8.82E-17	Pb-211	1.06E-13
La-135	1.23E-16	Nd-139m	1.32E-15	Pb-212	1.68E-12
La-137	7.67E-14	Nd-141	4.41E-17	Pb-214	1.32E-13
La-138	1.32E-12	Nd-147	2.12E-14	Pd-100	7.50E-15
La-140	9.70E-15	Nd-149	7.85E-16	Pd-101	5.47E-16
La-141	1.32E-15	Nd-151	1.50E-16	Pd-103	3.97E-15
La-142	7.85E-16	Ni-56	8.82E-15	Pd-107	5.20E-15
La-143	1.85E-16	Ni-57	4.67E-15	Pd-109	3.26E-15
Lu-169	3.35E-15	Ni-59	3.88E-15	Pm-141	1.32E-16
Lu-170	5.82E-15	Ni-63	1.15E-14	Pm-143	1.32E-14
Lu-171	7.76E-15	Ni-65	7.94E-16	Pm-144	7.23E-14
Lu-172	1.41E-14	Ni-66	1.59E-14	Pm-145	3.17E-14
Lu-173	2.12E-14	Np-232	1.06E-15	Pm-146	1.85E-13
Lu-174	3.70E-14	Np-233	1.50E-17	Pm-147	4.41E-14
Lu-174m	3.70E-14	Np-234	4.85E-15	Pm-148	1.94E-14
Lu-176	6.17E-13	Np-235	5.56E-15	Pm-148m	5.03E-14
Lu-176m	1.06E-15	Np-236hr	7.94E-14	Pm-149	6.44E-15
Lu-177	1.06E-14	Np-236yr	7.05E-11	Pm-150	1.15E-15
Lu-177m	1.41E-13	Np-237	4.41E-10	Pm-151	4.06E-15
Lu-178	2.29E-16	Np-238	3.09E-14	Po-203	3.17E-16
Lu-178m	2.91E-16	Np-239	8.82E-15	Po-205	6.08E-16
Lu-179	1.06E-15	Np-240	7.94E-16	Po-207	7.23E-16
Md-257	2.20E-13	Os-180	1.32E-16	Po-210	3.79E-11
Md-258	5.20E-11	Os-181	5.73E-16	Pr-136	1.23E-16
Mg-28	1.06E-14	Os-182	3.35E-15	Pr-137	1.85E-16
Mn-51	3.62E-16	Os-185	1.41E-14	Pr-138m	6.53E-16
Mn-52	1.23E-14	Os-189m	4.67E-17	Pr-139	1.76E-16
Mn-52m	2.56E-16	Os-191	1.68E-14	Pr-142	4.85E-15

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**Table 3-10
Plutonium Equivalent Gram (PE-g) Radionuclide Conversion Factors**

Nuclide CONVERSION FACTORS --- PE-g/Bq		Nuclide CONVERSION FACTORS --- PE-g/Bq		Nuclide CONVERSION FACTORS --- PE-g/Bq	
Pr-142m	6.17E-17	Re-184m	5.73E-14	Sc-48	9.70E-15
Pr-143	2.12E-14	Re-186	9.70E-15	Sc-49	3.53E-16
Pr-144	1.59E-16	Re-186m	1.06E-13	Se-70	6.70E-16
Pr-145	1.50E-15	Re-187	5.56E-17	Se-73	1.85E-15
Pr-147	1.59E-16	Re-188	4.76E-15	Se-73m	1.94E-16
Pt-186	2.91E-16	Re-188m	1.15E-16	Se-75	1.15E-14
Pt-188	3.70E-15	Re-189	3.79E-15	Se-79	6.00E-14
Pt-189	3.35E-16	Rh-99	7.67E-15	Se-81	1.32E-16
Pt-191	9.70E-16	Rh-99m	3.53E-16	Se-81m	4.50E-16
Pt-193	1.85E-16	Rh-100	3.09E-15	Se-83	3.00E-16
Pt-193m	1.06E-15	Rh-101	4.76E-14	Si-31	6.97E-16
Pt-195m	1.59E-15	Rh-101m	1.85E-15	Si-32	9.70E-13
Pt-197	7.50E-16	Rh-102	1.50E-13	Sm-141	1.32E-16
Pt-197m	2.12E-16	Rh-102m	6.26E-14	Sm-141m	2.82E-16
Pt-199	1.06E-16	Rh-103m	2.38E-17	Sm-142	6.26E-16
Pt-200	1.94E-15	Rh-105	3.09E-15	Sm-145	1.41E-14
Pu-234	2.12E-13	Rh-106m	9.70E-16	Sm-146	9.70E-11
Pu-235	1.32E-17	Rh-107	1.50E-16	Sm-147	8.47E-11
Pu-236	3.53E-10	Rn-220	5.32E-25	Sm-151	3.53E-14
Pu-237	3.44E-15	Rn-222	5.50E-25	Sm-153	5.56E-15
Pu-238	9.70E-10	Ru-94	3.88E-16	Sm-155	1.50E-16
Pu-239	1.06E-09	Ru-97	9.70E-16	Sm-156	1.94E-15
Pu-240	1.06E-09	Ru-103	2.65E-14	Sn-110	1.41E-15
Pu-241	2.03E-11	Ru-105	1.59E-15	Sn-111	1.15E-16
Pu-242	9.70E-10	Ru-106	5.82E-13	Sn-113	2.38E-14
Pu-243	7.58E-16	S-35	1.68E-14	Sn-117m	2.12E-14
Pu-244	9.70E-10	Sb-115	1.23E-16	Sn-119m	1.94E-14
Pu-245	3.79E-15	Sb-116	1.15E-16	Sn-121	2.03E-15
Pu-246	7.05E-14	Sb-116m	4.32E-16	Sn-121m	3.97E-14
Ra-223	7.67E-11	Sb-117	1.50E-16	Sn-123	7.14E-14
Ra-224	3.00E-11	Sb-118m	1.06E-15	Sn-123m	2.38E-16
Ra-225	6.79E-11	Sb-119	3.17E-16	Sn-125	2.73E-14
Ra-226	8.38E-11	Sb-120hr	6.44E-17	Sn-126	2.47E-13
Ra-227	4.06E-15	Sb-120day	9.70E-15	Sn-127	1.15E-15
Ra-228	1.41E-10	Sb-122	9.70E-15	Sn-128	8.11E-16
Rb-79	1.41E-16	Sb-124	7.58E-14	Sr-80	1.23E-15
Rb-81	3.00E-16	Sb-124m	5.20E-17	Sr-81	3.26E-16
Rb-81m	6.17E-17	Sb-125	1.06E-13	Sr-82	9.70E-14
Rb-82m	9.70E-16	Sb-126	2.82E-14	Sr-83	3.00E-15
Rb-83	6.08E-15	Sb-126m	1.76E-16	Sr-85	7.14E-15
Rb-84	8.82E-15	Sb-127	1.68E-14	Sr-85m	3.79E-17
Rb-86	8.20E-15	Sb-128min	1.32E-16	Sr-87m	1.85E-16
Rb-87	4.41E-15	Sb-128hr	3.70E-15	Sr-89	6.97E-14
Rb-88	1.41E-16	Sb-129	2.20E-15	Sr-90	1.41E-12
Rb-89	1.23E-16	Sb-130	4.67E-16	Sr-91	3.62E-15
Re-177	1.23E-16	Sb-131	3.88E-16	Sr-92	2.03E-15
Re-178	1.23E-16	Sc-43	9.70E-16	Ta-172	3.09E-16
Re-181	2.20E-15	Sc-44	1.59E-15	Ta-173	9.70E-16
Re-182 (12.7)	1.76E-15	Sc-44m	1.23E-14	Ta-174	3.79E-16
Re-182 (64)	1.06E-14	Sc-46	6.00E-14	Ta-175	1.15E-15
Re-184	1.68E-14	Sc-47	6.44E-15	Ta-176	1.76E-15

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**Table 3-10
Plutonium Equivalent Gram (PE-g) Radionuclide Conversion Factors**

Nuclide CONVERSION FACTORS --- PE-g/Bq		Nuclide CONVERSION FACTORS --- PE-g/Bq		Nuclide CONVERSION FACTORS --- PE-g/Bq	
Ta-177	9.70E-16	Te-131m	8.29E-15	W-179	8.11E-18
Ta-178	6.00E-16	Te-132	1.76E-14	W-181	2.38E-16
Ta-179	4.94E-15	Te-133	1.76E-16	W-185	1.06E-15
Ta-180	2.29E-13	Te-133m	7.67E-16	W-187	1.68E-15
Ta-180m	3.88E-16	Te-134	6.00E-16	W-188	5.03E-15
Ta-182	8.82E-14	Th-226	5.38E-13	Xe-120	5.36E-22
Ta-182m	1.85E-16	Th-227	8.82E-11	Xe-121	2.68E-21
Ta-183	1.85E-14	Th-228	3.53E-10	Xe-122	6.79E-23
Ta-184	3.79E-15	Th-229	2.12E-09	Xe-123	8.57E-22
Ta-185	4.23E-16	Th-230	8.82E-10	Xe-125	3.32E-22
Ta-186	1.59E-16	Th-231	2.91E-15	Xe-127	3.46E-22
Tb-147	6.70E-16	Th-232	9.70E-10	Xe-129m	2.89E-23
Tb-149	4.32E-14	Th-234	6.79E-14	Xe-131m	1.14E-23
Tb-150	9.70E-16	Ti-44	1.06E-12	Xe-133	4.29E-23
Tb-151	2.03E-15	Ti-45	8.20E-16	Xe-133m	3.93E-23
Tb-153	1.68E-15	Tl-194	3.88E-17	Xe-135	3.43E-22
Tb-154	3.17E-15	Tl-194m	1.68E-16	Xe-135m	5.72E-22
Tb-155	1.94E-15	Tl-195	1.32E-16	Xe-138	1.68E-21
Tb-156	1.06E-14	Tl-197	1.23E-16	Y-86	4.14E-15
Tb-156m (5.0)	8.47E-16	Tl-198	5.29E-16	Y-86m	2.47E-16
Tb-156m (24.4)	1.85E-15	Tl-198m	3.26E-16	Y-87	3.44E-15
Tb-157	1.06E-14	Tl-199	1.68E-16	Y-88	3.88E-14
Tb-158	4.06E-13	Tl-200	1.15E-15	Y-90	1.32E-14
Tb-160	6.17E-14	Tl-201	3.88E-16	Y-90m	8.82E-16
Tb-161	1.15E-14	Tl-202	1.68E-15	Y-91	7.85E-14
Tc-93	3.09E-16	Tl-204	3.44E-15	Y-91m	9.70E-17
Tc-93m	1.50E-16	Tm-162	1.41E-16	Y-92	1.59E-15
Tc-94	1.15E-15	Tm-166	1.50E-15	Y-93	3.70E-15
Tc-94m	4.06E-16	Tm-167	9.70E-15	Y-94	2.47E-16
Tc-95	9.70E-16	Tm-170	6.17E-14	Y-95	1.41E-16
Tc-95m	1.06E-14	Tm-171	1.23E-14	Yb-162	1.23E-16
Tc-96	6.17E-15	Tm-172	9.70E-15	Yb-166	6.79E-15
Tc-96m	6.61E-17	Tm-173	1.59E-15	Yb-167	6.08E-17
Tc-97	1.59E-14	Tm-175	1.59E-16	Yb-169	2.65E-14
Tc-97m	3.62E-14	U-230	1.41E-10	Yb-175	6.44E-15
Tc-98	3.97E-13	U-231	3.53E-15	Yb-177	6.08E-16
Tc-99	1.15E-13	U-232	3.26E-10	Yb-178	6.61E-16
Tc-99m	1.76E-16	U-233	8.47E-11	Zn-62	4.85E-15
Tc-101	1.06E-16	U-234	8.29E-11	Zn-63	3.26E-16
Tc-104	2.56E-16	U-235	7.50E-11	Zn-65	1.94E-14
Te-116	9.70E-16	U-236	7.67E-11	Zn-69	2.47E-16
Te-121	3.62E-15	U-237	1.68E-14	Zn-69m	2.38E-15
Te-121m	5.03E-14	U-238	7.05E-11	Zn-71m	1.41E-15
Te-123	3.44E-14	U-239	2.12E-16	Zn-72	1.15E-14
Te-123m	4.50E-14	U-240	5.11E-15	Zr-86	3.79E-15
Te-125m	3.70E-14	V-47	2.56E-16	Zr-88	3.17E-14
Te-127	1.23E-15	V-48	2.12E-14	Zr-89	4.85E-15
Te-127m	8.64E-14	V-49	3.00E-16	Zr-93	2.20E-13
Te-129	3.44E-16	W-176	3.62E-16	Zr-95	5.20E-14
Te-129m	6.97E-14	W-177	2.12E-16	Zr-97	8.11E-15
Te-131	2.47E-16	W-178	6.35E-16		

Appendix A
Requirement Documents

NNSSWAC Technical and Regulatory Waste Acceptance Criteria

Text Superscripts	Requirement Documents
CFR Title 10 - Energy	
T.1.1	10 CFR 850.38
CFR Title 29 - Labor	
T.2.1	29 CFR 1910
CFR Title 40 - Protection of Environment	
T.3.1	40 CFR 261.177
T.3.2	40 CFR 264.17(b)
T.3.3	40 CFR 264.314
T.3.4	40 CFR 264.315
T.3.5	40 CFR 268.40–268.49
T.3.6	40 CFR 761.60
Nevada Administrative Code (NAC)	
T.4.1	NAC 444.971
T.4.2	NAC 444.8565
T.4.3	NAC 444.8632
T.4.4	NAC 444.9452
DOE Manuals	
T.5.1	DOE M 435.1-1 IV.A
T.5.2	DOE M 435.1-1 IV.G
T.5.3	DOE M 435.1-1 IV.L
T.5.4	DOE M 435.1-1, Definitions - Spent Nuclear Fuel
NNSS Permits and Plans	
T.6.1	Hazardous Waste Permit Number: NEV HW0101, Current Revision
T.6.2	State of Nevada Solid Waste Disposal Site Permit, SW 532, Current Revision
Other Requirements	
T.7.1	"Position Paper for High Moisture Content Waste," Revision 1, March 2017
T.7.2	Addendum 2 to the "Performance Assessment for the Area 5 Radioactive Waste Management Site at the Nevada Test Site, Nye County, Nevada," DOE/NV/11718-176-ADD2, 06/2006; table A5.2 second column, 06/27/2006,
T.7.3	"USDA Compliance Agreement," NV-101-NNSS-21
T.7.4	MSTS "Derivation of Nevada National Security Site Waste Acceptance Criteria NCS Limits," NCSE-RWMC-2020-001, Revision 1, 03/25/2021
T.7.5	"Technical Safety Requirements for Area 3&5 RWMS," TSR-2156.100, Rev. 8, 05/23/2012
T.7.6	"Plutonium Equivalent Gram (PE-g) Radionuclide Conversion Factors," SB-CALC-21-RWMC-DSA-001, Revision 1
T.7.7	"Documented Safety Analysis for the NNSWAC Area 3&5 Radioactive Waste Facilities," Revision 7 CN 2, Effective Date 03/01/2021
T.7.8	"RWAP Position Paper on the Proper Characterization and Disposal of Sealed Radioactive Sources," Revision 3, February 2017
T.7.9	"Demilitarization Guidance for Electronic and Ferroelectric Neutron Generators," 11/27/2012