INL/MIS-20-60702-Revision-0

INL Waste Management Program Assessment Report

Delbert Randall Allen

December 2020

The INL is a U.S. Department of Energy National Laboratory
operated by Battelle Energy Alliance

INL/MIS-20-60702-Revision-0

INL Waste Management Program Assessment Report

Delbert Randall Allen

December 2020

Idaho National Laboratory
Idaho Falls, Idaho 83415

http://www.inl.gov

Prepared for the
U.S. Department of Energy
Office of Environmental Management
Under DOE Idaho Operations Office
Contract DE-AC07-05ID14517

Independent Assessment of INL Compliance with Nevada National Security Site Waste Acceptance Criteria NNSSWAC Requirements

Independent Assessment

Performed by
INL Quality
Battelle Energy Alliance, LLC
Assessment Number: ASMT 2020-0616

November 19, 2020

Independent Assessment of Compliance with Nevada National Security Site Waste Acceptance Criteria NNSSWAC November 2016 Requirements

Lead Assessor:

JEFFERY FLUCKIGER (Affiliate) Digitally signed by JEFFERY FLUCKIGER (Affiliate) Date: 2020.11.30 15:43:44 -07'00'

J. J. Fluckiger, Lead Auditor
Quality Training and Support Manager
Battelle Energy Alliance, LLC

Date

Assessment Approval:

McClung, Bradley D (MCCLBD) Digitally signed by McClung, Bradley D (MCCLBD) Date: 2020.12.01 09:09:08 -05'00'

B. D. McClung
Quality Research and Special Projects Manager
Battelle Energy Alliance, LLC

Date

KENT MILLER (Affiliate) Digitally signed by KENT MILLER (Affiliate) Date: 2020.12.02 05:20:41 -07'00'

K. L. Miller
Director, Environmental Support Services
Battelle Energy Alliance, LLC

Date

EXECUTIVE SUMMARY

In accordance with section 5.10 of DOE/NV--325-16-00, the Nevada National Security Site (NNSS) Waste Acceptance Criteria (WAC), this independent assessment has been performed to verify INL Waste Management Program compliance with NNSS WAC requirements and to promote process improvement.

ASSSESSMENT ACTIVITIES

The NNSS WAC program audit checklists obtained from NNSS were used to ensure all aspects of Waste Certification Program activities were included and evaluated. The checklists cover the topics of Quality Assurance, Radiological Waste and Chemical Characterization, Traceability, and Transportation.

This assessment was conducted during a period of controlled work conditions due to the Covid-19 pandemic. Therefore, this assessment was performed primarily as a records/documentation review using completed FY 2020 shipment files. Approximately 25 shipments, with documentation available for review, had been completed at the time the assessment was initiated. A sampling of approximately 10%, (3 completed shipment files) was selected for review. The sampling represented two different waste streams and included both boxes and drums as waste containers. One live shipment of a cask was also observed.

Assessment activities focused on evaluation of program control documents and observation of completed shipment records that demonstrate adherence to the program. Interviews and conversations with waste management personnel were also included in the assessment. Documents reviewed and activities observed are recorded in the attached checklists. Implementation of the requirements was found to be compliant.

The Assessment Plan is included as Appendix A to this Report. Documentation of personnel observed during work performance is included as Appendix B. A listing of Waste Management Program procedures and forms is included in Appendix C. Verification of program or procedure adequacy together with observed objective evidence demonstrating process implementation are included in the response sections of the checklists which are Appendices D through H.

CONCLUSION

Overall, based on the objective evidence and observations of work performed, the assessors determined that BEA, in conjunction with WGS, has an effective and compliant Waste Management program, consisting of procedures, specialized forms, checklists, and qualified personnel, to ensure compliance with regulatory and contractual waste management requirements. The BEA Waste Management Program is compliant with the NNSS WAC.

One identified Condition was presented to management. The Condition was minor and was corrected during the assessment. Details are included in the body of this report. Several observations or recommendations for improvement have also been provided (see below).

Overall Performance Rating: Effective

This rating is based on objective evidence of program adequacy and documentation of program implementation in accordance with the criteria provided within DOE/NV--325-16-00, the NNSS WAC, issued November 2016.

1. ASSESSMENT PURPOSE AND SCOPE

The purpose of this independent assessment was to evaluate the INL Battelle Energy Alliance, LLC (BEA) Waste Management Program and implementation against the requirements specified in DOE/NV--325-16-00, the NNSS WAC, issued November 2016.

The primary focus of this assessment was on requirements from the NNSS WAC. Per INL PLN-17522 "Quality Assurance Program Plan for Low-Level, Mixed Low-Level and Hazardous Waste Management/Waste Certification", the NNSSWAC program audit checklists obtained from NNSS were used. Specifically:

1) NNSSWAC DOE/NV-325-16-00 Quality Assurance Checklist
2) NNSSWAC 325-16-00 Radiological Waste Characterization Checklist
3) NNSSWAC DOE/NV--325-16-00 Chemical Characterization Checklist
4) NNSSWAC 325-16-00 Waste Traceability Checklist
5) NNSSWAC 325-16-00 Waste Transportation Assessment Checklist

To accomplish this assessment, a review of the completed checklists from the assessments performed over the last two years was conducted. During this initial review, all programmatic responses to checklist questions were verified as accurate or were updated when it was discovered that procedures or processes had been revised. Implementation of program controls was verified through review of completed shipment files for waste that had been shipped to NNSS during FY 2020, and through on-site observation of a shipment from the Advanced Test Reactor Complex to NNSS.

Additionally, it was observed that in the completed assessment report from 2018, a finding had been noted. The finding was stated as follows:

PDD-13000 Section 6.17 requires "Quality assurance records shall furnish documentary evidence that items or activities meet specified quality requirements". Contrary to that requirement, forms were identified that had sections not completed. Examples include:

a. Form 435.B04, NNSS Driver Briefing for Shipment NEL18014 was incomplete in the "Tritium" portion of the form. This condition was self-identified by the WCO during the course of this assessment.
b. Form 435.79, Container Information and Closure Checklist for CO225 Container MFC180150, Section V-Isotopic Information, was blank for the outer container.

As follow up on the effectiveness of corrective actions for the finding listed above, completed documentation for the shipments selected was reviewed. Reviews revealed that most forms had been completed properly. In one instance a duplicate of a form was used to capture two separate signatures. In this case both forms were included in the shipping file which gave the appearance that neither form was properly completed. Additionally, two 435.88 forms, that were presented to the assessment team for review, did not have signatures indicating completion of the forms. However, the completed 435.88 forms were provided, upon request, as included in record transmittal files. The unsigned forms had been captured in the shipment file for later review or validation, prior to submitting the file to records management.

2. ASSESSMENT RESULTS

In accordance with MCP-4252 "INL Quality Assurance Oversight" Revision 3, objective evidence has been gathered to demonstrate effective implementation of the requirements listed in the checklists. Identified conditions/issues and observations/recommendations are noted in the completed checklists and are discussed, in this summary report below. Conditions constitute a failure, malfunction, deficiency, defective item, or non-conformance. A Condition Report (CO) is typically generated to assist management with tracking and completion of actions to resolve conditions adverse to quality.

One Condition was identified and communicated to the appropriate management personnel. The condition was corrected during the assessment. The condition was presented as follows:

Conditions/Issues

Condition: CO 2020-1769 - PDD-1078 "Waste Generator Services Technical Qualification Program" and MCP-17500 Requires:

> *If you are an individual who: Performs Nevada National Security Site (NNSS) waste certification; oversees the NNSS waste certification process; coordinates Idaho National Laboratory distribution of changes to NNSS requirements documents and forms; reviews completed documentation; conducts and controls assessments; verifies program implementation, training, and qualification; completes applicable shipment checklist; ensures adequate validation of analytical data; and reviews and approves waste characterization and shipping documentation; you must complete Job Code WGCONLCTOF, BEA NNSS Waste Certification Official.*

One Alternate Waste Certification Official, who had signed as a WCO on reviewed shipment documents, did not have the **WGCONLCTOF** (WCO) job code assigned to his training plan, as required. It was, however, observed that the AWCO had completed all the required qualifications associated with the job code, and had been accepted through the NNSS approval process. The missing job code appears to have been an administrative oversight. During the assessment, the WGS Manager notified the Training Coordinator and the job code was added to the individual's training plan.

Observations/Recommendations

The following Observations/Recommendations are provided to management personnel as a result of this assessment.

Observation: SG 2020-0581 - PLN-4385 and PDD-17000 reference INL documents that are no longer current, such as LWP-4002, "Service Acquisitions" and PLN-522, "Quality Assurance Program Plan for the Waste Management/Waste Certification Program". It is recommended that they be considered for revision. Also referenced in PDD-17000 is PLN-3318 that is an inactive document.

Observation: SG 2020-0583 - PLN-17522 Rev. 0 does not include reference to a training/qualification plan. PLN-552 (PLN-17522's predecessor) called out PDD-1078 as the program description document for training and qualification. It is suggested that PLN-17522 include a reference to a qualification/training program.

Observation: SG 2020-0584 - Weekly WGS Reports contain INL Corrective Actions (CA) as documented in Labway. WGS personnel then track CAs to closure to assure any issue associated with waste streams are corrected. A review of WGS reports shows that CAs for all INL conditions; including for some nuclear facilities that may or may not be business sensitive are tracked. The suggestion is to work with the INL Issues Management Group to build a query tool for WGS to only track CAs that are pertinent to their mission. Also, this would reduce the burden of WGS personnel from screening and tracking all CAs.

Observation: SG 2020- 0585 - Some documents, included in shipping files, do not indicate they are under form control (i.e., Form No., revision date). As a suggestion, evaluate forms used in shipping packages to determine if the forms should be controlled using a form number and revision number.

Observation: SG 2020-0586 - INL Form 435.B04 'NNSS Driver Briefing" does not contain a field to link the completed form to a specific shipment.

Observation: SG 2020-0587 - DOE-STD-1090 has been revised in 2020. The standard states that this technical standard is not mandated for use at DOE sites. However, this assessment check list requires objective evidence that rigging devices, have a current load test that meets the DOE standard. It is suggested that waste management personnel coordinate with Hoisting and Rigging or Packaging and Transportation personnel to evaluate the program to latest revision of the DOE standard to assure any deltas are understood and addressed.

Observation: SG 2020-0588 - For Purchase Order (PO): 00129719, the original PO in Asset Suites did not have the correct address of the vendor as listed in the INL QSL. Revisions of the PO (1 and 2) did have the correct address of Clinton TN. This could be an error trap if Asset Suite has multiple addresses for QL1 suppliers.

Observation: CO 2020-1449 - LWP-13120 "Identifying and Controlling Items" has field changes initiated in June of 2017. LWP-9101 "INL Procedure Usage" states: "Generally, a revision "should be" initiated when published field changes are more than 6 months old". This condition was reported to Quality Program management as a management "expectation" rather than a requirement. Quality Program management initiated a condition report (CO 2020-1449) based on less than adequate timeliness in resolving a field change. At the time of this report the CO had been resolved by revising LWP-13120.

The completed documentation and processes observed during this assessment demonstrate that the overall BEA/Atkins Waste Generator Services (WGS) Waste Management Program is "effective."

3. ASSESSMENT TEAM

Team Member	Title / Position	Area(s) Evaluated
Jeff J. Fluckiger	Lead Assessor	Assessment process oversight
D. Randall Allen	Assessor	Radiological Waste Characterization Chemical Characterization Waste Traceability Waste Transportation
Michael J. Kelso	Assessor	Quality Assurance

4. APPENDICES

Appendix A: Assessment Plan
Appendix B: Personnel Contacted/Observed Record During Assessment
Appendix C: Referenced Document List
Appendix D: NNSSWAC DOE/NV-325-16-00 Quality Assurance Checklist
Appendix E: NNSSWAC 325-16-00 Radiological Waste Characterization Checklist
Appendix F: NNSSWAC DOE/NV--325-16-00 Chemical Characterization Checklist
Appendix G: NNSSWAC 325-16-00 Waste Traceability Checklist
Appendix H: NNSSWAC 325-16-00 Waste Transportation Assessment Checklist

Intentionally Blank

Appendix A

Assessment Plan

Idaho National Laboratory

ASSESSMENT ACTIVITY FORM

Assessment Plan

1. Type of Assessment:

☐ **Surveillance** ☐ **Management Assessment** ☐ **Independent Assessment** ☒ **QA Audit** ☐ **Other**

2. Title: NNSS Annual Independent Assessment: INL Compliance with NNSSWAC

3. Assessment Number: ASMT 2020-0616

4. Assessment Requirements (AR #): N/A

5. Purpose and Scope: This independent assessment is performed to:

1) Verify adequacy of the Waste Management and Quality Assurance (QA) Programs supporting shipments to NNSS; and

2) Provide a report outlining assessment activities, to include processes observed, conclusions, objective evidence to demonstrate compliance with requirements and expectations, and ·identified concerns.

6. Objectives:

	(a) Objectives / Elements	(b) Applicable Documents	(c) LOIs (See Sect. 13)
1.	Review Waste Management and QA Programs work control methods to verify adequacy	LI-435, LWP-17000, LWP-17300, LWP-17410, MCP-17000, MCP-17435, MCP-17500, MCP-17501, PDD-1078, PDD-1700, PLN-1435, PLN-17522	See attached checklists
2.	Review completed assessments to evaluate adequacy of coverage		
3.	Observe completed process documentation and observe operations in order to collect objective evidence of program implementation		
4.			

7. Team Members ☒ Qualifications Verified

	Name	Role	Objectives / Elements
	Jeffery Fluckiger	Lead Auditor	All - See attached checklists
	Randall Allen	Auditor	

8. Schedule of Activities:

Start Date 07/01/2020 Factual Accuracy Review 09/08/2020 – 09/10/2020 Completion Date 09/15/2020

Other Scheduled Activities

ASSESSMENT ACTIVITY FORM

ASSESSMENT ACTIVITY FORM

9. Assessment Plan Approval:

Submitted by:

Jeffery J. Fluckiger	Jeff J. Fluckiger	7-22-2020
Lead Assessor/Auditor Printed name	Signature	Date

Approved by:

Rob Black	Black, Rob L (BLACRL) Digitally signed by Black, Rob L (BLACRL) Date: 2020.07.28 10:51:22 -06'00'	7-28.2020
Sponsoring Director or Manager / MSL Printed Name	Signature	Date

Intentionally Blank

Appendix B

Assessment Meeting/Contact Record

Name	**Organization or Position**
Timothy Brown	Alternate Waste Certification Official
Tyler L. Winder	Waste Generator Services – Project & Program Support
Larin D. Mortimer	Waste Generator Services – Project & Program Support
Dwayne B. Purser	ATR RadCon Operations
Fred Hoffmeister	Truck Driver
William J. Lambson	ATR RadCon Operations
Stanley D. Zohner	Calibration Services
Michael S. Stears	Calibration Services
Kevin Ockerman	Instrumentation/Calibration Tech
Nancy L Casebolt	Orano - Shipping
Jeanie D. Hernandez	Packaging & Transportation

Intentionally Blank

Appendix C

Waste Management Program Procedures and Forms Reviewed During the Assessment

Work Control Documents

GDE-17233	"Waste Container Labeling"
LI-435	"Waste Management Routine Field Activities"
LWP-1202	"Records Management",
LWP-2502	"Acquisition and Storage of Hazardous Materials Packaging"
LWP-4506	"Acceptance of Procured Items and Services"
LWP-10200	"Engineering Calculations and Analysis Report"
LWP-13120	"Identifying and Controlling Items"
LWP-15017	"Radiological Release Surveys"
LWP-15026	"BEA Methodologies for Characterization of Radioactive Material"
LWP-17000	"Waste Management"
MCP-139	"Radiological Surveys"
MCP-8523	"Managing Hazardous and Non-hazardous Samples"
MCP-9810	"Shipment and Receipt of Hazardous Materials"
MCP-9811	"Selection and Acquisition of Hazardous Material Packaging"
MCP-17000	"Waste Generator Services Waste Management"
MCP-17435	"Sorbent Selection and Use"
MCP-17500	"Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site"
PDD-1078	"Waste Generator Services Technical Qualification Program"
PDD-13000	"Quality Assurance Program Description"
PLN-4385	"IT Asset Maintenance Plan for the Integrated Waste Tracking System (IWTS)"

PLN-8510	“Planning and Management of Environmental Monitoring Sampling Activities”
PLN-17522	“Quality Assurance Program Plan for Low-Level, Mixed Low-Level and Hazardous Waste Management/Waste Certification”

Process Forms

435.B01,	“NNSS Container fissile Material Limit Evaluation”
435.B04	“NNSS Driver Briefing”
435.39	“Waste Determination and Disposition Form” (WDDF)
435.42	“Radioactive Waste Inventory Sheets”
435.88	“NNSS Waste Profile Checklist”
435.89	“NNSS Shipment Checklist”
441.45	“Radiological Survey Report”
435.46	“Monthly Inspection Checklist”
435.93	“NNSS Waste Certification Official Shipment Checklist”
435.99	“Absorbent Determination Form”
460.13	“DOT Excepted and IP-1 Design Criteria Checklist”
953	“Analytical Lab Process Worksheet”

Appendix D

NNSSWAC DOE/NV-325-16-00
Quality Assurance Checklist

Intentionally Blank

NNSSWAC DOE/NV-325-16-00 Quality Assurance Checklist

Assessment No. & Date(s):	ASMT-2020-0616	**Date(s) Performed**:	September and October, 2020
Generator Site/Organization:	H540 INL Waste Management		
Assessor(s):	J. J. Fluckiger, M. J. Kelso		
Personnel Contacted:	See Appendix B		
Reference Documents:	See Appendix C		

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
	5.0	**QUALITY ASSURANCE REQUIREMENTS FOR WASTE CERTIFICATION PROGRAMS**		
1.		Verify the generator has developed and approved a site Quality Assurance Program Plan (QAPP) or Waste Program Plan (WCPP) demonstrating compliance to the NNSSWAC. Has a controlled copy of the QAPP /WCPP been provided to the CO RWAP Manager?	BEA has developed PLN-17522 Rev.0 (formally PLN-522 Rev.13), "Quality Assurance Program Plan for the Waste Management/Waste Certification Program" to demonstrate compliance to the NNSSWAC. A controlled copy of PLN-17522 is provided to the CO RWAP Manager each time the QAPP is revised. An e-mail from Rebcca Guertal to RWP@EMNV.DOE.GOV dated 10/22/2019 provides objective evidence that PLN-17522 Rev. 0 has been provided to CO RWAP.	**SAT**
2.		Verify the WCO completed and approved an NNSSWAC Implementation Crosswalk (NIC) and performed the annual review to ensure referenced	A review of NEID NIC 16-00 Documents dated 01/23/2020 provides objective evidence that Rebeca Guertal/Tim Brown the WCO/AWCO, completed a NNSSWAC Implementation Crosswalk (NIC) and	**SAT**

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
		procedures, processes, and methods are current? Has a completed and signed copy of the NIC been submitted to the CO RWAP Manager? Was the NIC submitted by February 13, 2020?	performed the annual review to ensure referenced procedures, processes, and methods are current on 01/23/2020. The NIC cross walk was approved by the WCO on 01/23/2020. Email documents that a copy of the NIC was submitted to the CO RWAP Manager on 01/24/2020 and acknowledged by RWAP on 01/24/2020.	
	5.1	**PROGRAM**		
3.		Verify the generator has developed an organization chart specific to waste management and support organizations, which depicts the organizational structure, functional responsibilities, and interfaces necessary to manage the waste certification program. Does the chart identify the organizations that generate, characterize, package, inspect, assess, ship, and perform functions (i.e., procurement, document control, RCRA oversight, and training)?	The organization chart specific to waste management and support organizations was verified in PDD-17000 Rev.14 Section 8 -Figure 2 of, "Waste Management Program". This section describes the organizational structure, functional responsibilities, and interfaces necessary to manage the waste certification program. The chart identifies the organizations that generate, characterize, package, inspect, assess, ship, and perform operational and support functions such as procurement, document control, RCRA oversight, and training. **Observation**: PDD-17000 Rev.14 references QAPP PLN-522 throughout the document. The procedure needs to be revised to reference the new QAPP PLN-17522 Rev. 0. Also referenced in PDD-17000 is PLN-3318 that is an inactive document.	**SAT**
4.		Verify the generator has established a Waste Certification Official (WCO) position, Alternate WCO, and Package Certifiers (PC), if applicable, who are responsible for verifying implementation of the QAPP / WCPP and certification of wastes. • Does organizational structure ensure independence of the WCO, AWCO, and/or PCs from waste generators (waste operations)? • Do AWCOs and PCs report to the WCO when performing waste certification activities?	A review of procedures PDD-17000 Rev. 14 Sec. 9.5.5- describes the responsibility of the WCO and their independent authority, organizational freedom, and their accountability to The Quality Assurance Program representative to ensure compliance with the NNSS WAC. Rebecca Guertal WCO and Tim Brown and Marshall Marlor AWCOs. The term Package Certifiers (PCs) is not applicable. PDD-17000 Rev.14 Sec. 9.5.6 -Describes that the AWCO reports to the WCO and performs duties as directed by the WCO.	**SAT**

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
			Procedural reporting structure ensures independence of the WCO, and AWCO from waste generators.	
	5.2	**PERSONNEL TRAINING & QUALIFICATION**		
5.		Verify the level and type of required training for the functional positions important to the waste certification program are evaluated and documented.	PLN-17522 Rev 0. Sec. 5.2- provides general personnel training and qualification requirements. Specific training requirements for the functional positions important to the waste certification program as referenced in MCP17000 and MCP17500 are evaluated and documented in PDD-1078 Rev. 15, "Waste Generator Services Technical Qualification Program. The program is aimed toward technical and operations staff who perform waste operations and management activities at the Idaho National Laboratory under the direction of the Battelle Energy Alliance (BEA) Waste Generator Services (WGS) Project. The document bases training requirements on functional activities and provides the regulatory basis for training requirements. Qualifications as verified in TRAIN (qualification report) QNNTSWCO-BEA NTS Waste Cert Official. Other qualifications include QNTAAUSR, QNWDSREC, QNNGSRCA, QNWGSRCA, QNWGSWTS, and QNWMUCUS. List of qualification for three individuals include: Guertal- QNNTSWCO Brown- QNNTSWCO, QNTAAUSR, QNWDSREC, QNWGSRCA, QNWGSWTS, and QNWMUCUS. **Only individual with *QNNGSRCA- (BEA WGS RCA).*** Marlor- QNNTSWCO, QNTAAUSR, QNWDSREC, QNNGSRCA, QNWGSRCA, QNWGSWTS, and QNWMUCUS. **Only individual *with QNWDSNTS- (BEA WGS WDS NEVADA TEST SITE).***	**SAT**

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
			Observation: PDD-1078 (Idaho Cleanup Project- Program Description Document) does not list the same qualification codes that personnel listed in this assessment have recorded in TRAIN. **Condition:** MCP-17500 Rev. 23 Section 3.1.1.4 States WCOs must meet the NNSS training requirements and qualifications associated with job code **WGCONLCTOF**. This qualification is not listed on Marshall Marlor's training plan. **Observation**: PLN-17522 Rev. 0 does not include reference to a training/qualification program document. Previous PLN 552 called out PDD-1078 as the program document for qualification. Suggest listing a qualification/training program document in Section 5.2 and in the references section.	
6.		Verify personnel are trained in their respective functional position requirements to ensure proficiency is maintained (e.g., required reading of procedures / instructions, classroom, etc.) and specified records of training are current.	A review of individual training plans and qualifications provides objective evidence of training requirements and completion of training for personnel who have been documented in the Training Records and Information Network (TRAIN). The training profile of Tim Brown (AWOC) and Marshall Marlor (AWOC) were verified in TRAIN. Note: Rebecca Guertal needs to update required reading of MPC-17000	**SAT**
	5.3	**QUALITY IMPROVEMENT**		
7.		Verify that process controls have been established, documented, and implemented to detect and prevent quality problems.	PLN-17522 Rev. 0 Sec. 3.1- defines both requirements and guidance for developing documents and processes to achieve the necessary quality during waste management activities. "Quality Program Areas" Sec. 5- defines processes for specific requirements and oversight of the program up to and including Quality Improvement" Sec. 5.10 for direction on performance verification of the program, and corrective actions. A review of ASMT-2020-0224 FY-20 WGS NNSS: Quality Improvement provides objective evidence of QA oversight.	**SAT**

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
			ASMT-2020-0238 FY-2020 WGS: TBD and Effectiveness Review (based on emerging program needs and risks). (closed 07/02/2020) Assessment found no issues. MCP-17000 and MCP 17500 provide instructions and the appropriate INL Form No. (i.e., Form 435.XX) to assure correct implementation and documentation of the waste management program. These protocols and checklists provide numerous opportunities for personnel to detect quality issues. A review of issues in the BEA issues management program (Labway) provides objective evidence of the tracking of quality issues and included a verification of issue closure and associated corrective actions for CO-2019-2414, 2019-2448, 2020-0406, 2020-0808. CO-2019-2414 referenced ECARs that had not been approved and available in EDMS. ECAR-4717, 4719, 4720, 4721 4725. All have been verified to include that referenced ECARs are all in EDMS (acceptable) CO-2019-2448- Visual inspection found metal can in a LLW waste bag contrary to (Form 435.42) having only “paper” and “plastic” boxes checked on the form. CO-2020-0406 DOE EA-31 referenced 2 ea. corrective actions: CA 20200293 and CA-2020-0184 CO-2020-0808- Resin found on the resin liner inside the Resin cask upon removing fill head. Corrective actions included, and to verify completion of eCR 678476 for DOP-4.8.68. Also, MWR 2020-2084 for resin cleanup activities.	
8.		Verify that nonconforming conditions are reviewed for technical justification and dispositioned by authorized personnel.	No objective evidence was available for nonconformances (NCRs) that required technical justification and disposition in FY2020.	**N/A**

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
9.		Verify that processes for resolving nonconforming conditions document the corrective action, root cause, action to prevent recurrence, and estimated completion dates.	A review of COs listed in Item No. 7 of this checklist provides objective evidence of corrective action documentation utilizing LWP-13840 (Labway). Corrective Actions, Root Cause, Actions to Prevent Reoccurrence and estimated completion dates and closure dates. Also, CO-2019-2429 Supplier Evaluation Annual Reviews, and Apparent Cause Analysis Report for the 2019 RWAP Surveillance of INL WCP for NNSS Finding I-2859. INL/EXT-20-57135 provides objective evidence corrective actions and cause analysis protocols were initiated correctly. **Observation**: Weekly WGS Reports contain INL Corrective Actions (CA) as documented in Labway. WGS personnel then track CAs to closure to assure any issue associated with waste streams are corrected. A review of WGS reports shows that CAs for all INL conditions; including for some nuclear facilities that may or may not be business sensitive are tracked. Suggestion is to work with the INL Issues Management Group to build a query tool for WGS to only track CAs that are pertinent to their mission. Also, this would reduce the burden of WGS personnel from screening and tracking all CAs.	**SAT**
10.		Verify the WCO and appropriate levels of management are involved in the corrective action process.	A review WGS reports and logs, provides objective evidence of WCO and appropriate levels of management involvement with corrective actions. As documented that a review of weekly WGS reports and e-mail from Allen Cain (WGS Project Manager) dated 04/01/2020 to Tim Brown and Rebecca Guertal regarding corrective actions. And a review of WCO Document Review Log from 01/06/2020 through 09/30/2020. This documentation reflected that the WCO and appropriate levels of management are actively involved in the corrective action process.	**SAT**
11.		Verify nonconforming conditions / corrective actions are tracked until successfully resolved.	A review of CA 20200293, CA-2020-0184, and CA-2020-0604 provides objective evidence of verification that all Quality issues previously listed in Item 7,8,9, and 10 of this checklist for Non-Conformance Reports and Condition Reports, corrective actions were adequately tracked until successfully resolved.	**SAT**

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
	5.4	**DOCUMENTS AND RECORDS**		
12.		Verify a document control system is established to ensure instructions, procedures, and drawings applicable to waste certification activities are prepared, reviewed, approved, controlled, and made available to those performing the work.	PLN-17522 Rev. 0 sec. 6 -defines document and records requirements and implementing procedures: • LWP-1201 "Document Management" which details the basic principles of document management at INL • LWP-1201 Section 5 – (hyper link) INL Intranet-Records Schedule Matrix • PDD-11 "Records Management," which detail the records process in place at INL. • PLN-4653 "Records Management" which defines all applicable records management processes for managing records created, received, or maintained. • MCP-17000 "Waste Generator Services Waste Management" • MCP-17500 "Waste Generator Services Certification of Waste Shipments to Nevada National Security Site" A review of documents in EDMS provides objective evidence of document control. Documents (e.g. Manifests, Checklist, Forms, Pertinent emails, etc.) are filled out and accumulated to make complete shipping records. The originals are temporarily stored by Atkins in a 1-hour fire related cabinet IAW PLN -4653 Sec 3.6.3. Once complete, documents are immediately scanned. The electronic and hard copy are both available at this point. At the end of every month, all scanned records are submitted electronically to BEA Document Control to be uploaded to EDMS. Dual Storage of paper copies is utilized due to 1-hour fire rated cabinets (not the required two-hour rating). Documents and records are kept on hand for convenience. Documents verified include: MFC33929 - MFC180347 - MFC190208 - MFC190349 - MFC190352 - MFC190470 - MFC200020 - MFC200029 - MFC200030 - MFC200076 - MFC200081 – MFC32482, ATRX-200021.	**SAT**

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
			Observation: Some documents do not indicate they are under form control (i.e., Form No., revision date).	
13.		Sample controlled work process documents to ensure the current version is maintained by the responsible individuals and available to those performing the work.	A review of documentation for several waste shipments provides objective evidence that current versions of work process defining documents are maintained by the responsible individuals and available to those performing the work electronically (EDMS). Additionally, much of the work performed is controlled and recorded on paper forms and checklists that are made available, populated, and approved prior to the activity. Documents verified include: MFC33929 - MFC180347 - MFC190208 - MFC190349 - MFC190352 - MFC190470 - MFC200020 - MFC200029 - MFC200030 - MFC200076 - MFC200081 - MFC33929-1, MFC32482, MFC190349 – NEID-09RALLW Rev.3, and NEID-09INLCLLW, R8. **Observation**: NNSS Waste Profile Checklist Check List (form 435.88) for NNSS Waste Stream ID Numbers - NEID-09RALLW Rev.3 and NEID-09INLCLLW, R8- utilized revision 9 of Form 435.88. Should have used revision 10 (current Revision). Checklists as provided to audit team were not dated or signed. Further conversation with authors of the checklists indicate that they were completed in FY2020. **Observation**: MFC-190349 form 435.79 has incomplete steps- not signed or checked NA. A copy of form 435.79 with the correct signature is attached. However, each copy is incomplete and does not stand alone. It appears that two copies of the same document were used to capture signature approvals.	**SAT**
14.		Verify the WCO has documented a review and concurrence of procedures (including revisions) critical to waste certification activities (i.e., generation, packaging, inspection, characterization, certification, etc.).	A review of documentation in EDMS provides objective evidence of document review and concurrence.	**SAT**

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
		• Is a records system defined and implemented in accordance with written instructions, procedures, or other documentation? • Are records documenting compliance with waste certification criteria specified, prepared, reviewed, and signed by authorized personnel? • Does the records management system include provisions for transmittal, distribution, retention, handling, correction, disposition, and retrievability? • Are completed records protected from damage, loss, and deterioration? • Are records maintained for time periods equivalent to onsite records retention requirements, but not less than three years (or for time periods designated by applicable regulatory authorities)?	Work packages/ checklists reviewed: MFC33929, NEL20026-MFC-180347, MFC-190208, MFC-190352, 190470, MFC200020, MFC-200029-200030-200076., MFC-170175, MFC-190359. ALL requirements were verified Including. • BEA records system use (EDMS) • Most records reviewed were fully populated (see documents referenced in Item No.13 of this assessment checklist) • It was verified that that all required or requested documents were quickly retrievable (EDMS). • Verified documents are submitted to EDMS and they met all retention requirements (3 year) as verified to include: **Disposition Authority ENV2-d-2 (low level rad waste)** • All documents observed were complete and legible **Note**: cross-outs and initial /dates on documents could use some improvement as documents become cluttered and difficult to interpret. **Observation/Recommendation**: Evaluate forms used in shipping packages to determine if forms should be controlled by No. and Rev. Shipping File TSDF: NNSS (aka NTS) form does not have form control. Also, multiple page copies do not indicate form control.	
	5.6	**DESIGN**		
15.		Verify design items and processes use sound engineering/scientific principles and appropriate standards. Design work and design changes shall incorporate applicable requirements and design bases. These design inputs shall be specified and translated into the design documents.	Design activities are not performed in support of work performed in accordance with the NNSSWAC. Waste containers are purchased from vendors capable of designing and building them to meet IP-1 requirements and applicable DOE orders, 10 CFR, 40 CFR, and 49 CFR requirements. Objective evidence was verified in procurement documentation (See Procurement sections of this checklist) that design requirements were met.	**SAT**
16.		Ensure design adequacy is verified by qualified personnel other than those who designed the item. Verification of designs items and processes shall be completed and approved prior to implementation of the	Design activities are not performed in support of work performed in accordance with the NNSSWAC and was therefore not reviewed during this assessment.	**N/A**

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
		design and design changes. Verify design interfaces are identified and controlled.		
17.		Verify the generator performed a documented review of item(s) or process(es) when the designs are developed by others (e.g., waste containers, sorbent, waste treatment operations) to ensure they conform to established requirements and end-use application.	A review of INL's Qualified Suppliers List (QSL) provides objective evidence that supplier programs are evaluated. WGS uses suppliers verified by the QSL. This assessment reviewed the qualifications and end use application requirements for MHF Services, Clinton TN, and Skonik Industries, Chicago, IL.	**SAT**
18.	3.2.5	Verify waste disposal package (packaging and contents) is capable of supporting a uniformly distributed load of 16,477 kg/m² (3,375 lbs/ft²). Actual physical testing or design engineering calculations may be used to demonstrate this requirement. (Not applicable to bulk waste, steel drums, super sacks, or cargo containers.)	A review of procurement documentation provides objective evidence of Purchase Orders (POs), that were verified to include actual physical testing, and design calculations. Packages reviewed included purchase orders (PO) 00129719 Rev.1-Release 61 and 63. Also PO 00215914 Rev. 1	**SAT**
19.	3.2.	Verify lifting devices were designed in accordance with the DOE Hoisting & Rigging Standard, DOE-STD-1090-Current Publication. • Lifting devices that are a structural part of the package shall be designed with a minimum safety factor of three-to-one against yielding when used to lift the package.	A review of NEL20074 provides objective evidence that DOE Hoisting and Rigging requirements in accordance with DOE-STD-1090 have been met. MCP-17500 Sec 4.2.11 states the lifting devices that are a structural part of the package shall be designed with the minimum safety factor of the three-to-one against yielding when used to lift packages. NEL 20074 contains a Test Certificate for wire slings. The Test Certificate reference that the test was in accordance with ANSI B30.9. This ASME/ANSI standard requires that testing will be 5 to 1 of engineering design calculations. Very few items have lifting devices. Most containers are lifted on bases with a forklift.	**SAT**

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
20.	3.2.6	Verify rigging devices (e.g., slings, spreader bars, rings, hooks) not permanently attached to the waste package have a current load test based the requirements of the DOE Hoisting & Rigging Standard, DOE-STD-1090-Current Publication. Non-permanently attached rigging devices shall have traceable certifications provided with the shipping documents.	A review of resin cask shipment provides objective evidence that load tests and traceable certifications, as required by DOE Hoisting and Rigging (DOE-STD-1090) are included in waste documentation. ATRX200021 included resin liner 683954-1 (QA285490) to NNSS (NEL20074). This package contains a C of C from ENERGYSOLUTIONS and Test Certificates and sling assembly Proof and Load Tests reports. **Observation:** DOE-STD-1090 has been revised in 2020. The standard states that this technical standard is not mandated for use at DOE sites. However, this assessment check list requires objective evidence that rigging devices, have a current load test that meets the DOE standard. Suggestion: Evaluate program to latest revision of the DOE standard to assure any deltas are at a minimum understood or corrected. DOE-STD-1090 lists: • ASME B30.9 “Slings”: • ASME B30.26 “Rigging Hardware” or ASME B30.1 “Hooks” • ASME B30.20 “Below-the-Hook Lifting Devices” and ASME BTH-1	**SAT**
21.		Verify design changes are approved with the same control measures that were applied to the original design.	Design activities are not performed in support of work performed in accordance with the NNSSWAC and was therefore not reviewed during this assessment.	**N/A**
	5.7	**PROCUREMENT**		
22.		Verify that components and services critical to the waste certification program are procured under a controlled and documented system.	A review of purchase orders provides objective evidence that procurements that are critical to waste certification are procured under a controlled and documents program. PO:00129719 Rel. 61 Receipt Inspection Report-Receipt No. 00245533-CFA **Class 7 Waste Bins** included: Inspection Instructions - Procurement QA Flow Downs - Certificate of Conformance (container and gasket) - Weld Inspection Report -Chemical and Material Analysis (CMTRs) - Calibration Reports – Certificate of Calibration - COO90-IP1-BCP-LR4	**SAT**

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
			NNSS Stack Test Calculations - Packaging Compliance Analysis, and copies of Drawings. PO:00129719 Rel. 63 Receipt Inspection Report-Receipt No. 00246101-CFA **Class 7 Waste Bins** included: Inspection Instructions - Procurement QA Flow Downs - Certificate of Conformance (container and gasket) - Weld Inspection Report -Chemical and Material Analysis (CMTRs) - Calibration Reports – Certificate of Calibration - COO90-IP1-BCP-LR4 NNSS Stack Test Calculations - Packaging Compliance Analysis, and copies of Drawings PO:00129719 Rel. 33 Receipt Inspection Report-Receipt No. 00229444-CFA **Class 7 Waste Bins** included: Inspection Instructions - Procurement QA Flow Downs - Certificate of Conformance (container and gasket) - Weld Inspection Report -Chemical and Material Analysis (CMTRs) - Calibration Reports – Certificate of Calibration - COO90-IP1-BCP-LR4 NNSS Stack Test Calculations - Packaging Compliance Analysis, and copies of Drawings **Observation**: Original PO in Asset Suites did not have the correct address of the vendor as stated in the INL QSL. Revisions of the PO 1 and 2 did have the correct address of Clinton TN. This could be an error trap if Asset Suite has multiple address for QL1 suppliers. PO:00201642 Receipt Inspection Report-Receipt No 00240955-CFA **Performance Based Hazardous Material Packaging(s)** included: Certificate of Conformance/Compliance (Skolnik) – UN Drum Qualification Test Report – Type A Test Report, and closure instructions.	
23.		Verify procurement documents identify applicable technical requirements (i.e., drawings, specifications,	A review of procurement documentation including purchase orders and receipt inspection plans listed in Item 22 of this assessment checklist,	**SAT**

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
		codes, standards, regulations, tests, inspection and acceptance criteria, and certification records) and have been reviewed and approved by authorized personnel. • Have changes been reviewed and approved at the same degree as the original?	provides objective evidence of specific regulatory testing and inspections requirements for containers that will be used to transport/store waste will meet waste certification requirements, and provides objective evidence specifications, codes, standards, and drawing requirements are also met and maintained.	
		Supplier Evaluation & Selection		
24.		Verify the selection of suppliers providing components and services critical to waste certification are evaluated and selected based upon specified criteria.	A review of INL's Qualified Suppliers List (QSL) provides objective evidence that supplier programs are evaluated. WGS uses suppliers verified by the QSL. This assessment reviewed the qualifications and end use application requirements for MHF Services, Clinton TN, and Skonik Industries, Chicago, IL. A review of procurement documentation provides objective evidence of specific requirements for materials to be provided by qualified suppliers, will meet waste certification requirements. Including COO90-IP1-BCP-LR4 NNSS Stack Test Calculations Certification Testing, and Type A Test Reports/Packaging Tests 49-CFR-173.465. Packages reviewed included purchase orders (PO) 00129719 Rev.1-Release 61 and 63. Also PO 00215914 Rev. 1, and PO 00201642 Rev. 0	**SAT**
25.		Verify methods of evaluation (i.e., audit, surveillance, source inspection, receipt inspection, third party audits) are adequately defined and documented to ensure selected suppliers meet established requirements. • Has a process to ensure approved suppliers continue to provide acceptable components and/or services been established and implemented? Are the methods of evaluation specified and documented?	INL procedures for supplier evaluation, selection, and receipt inspection acceptance of procured materials/components critical to waste certification include: • LWP 4503-Supplier Evaluation and Commercial Grade Survey- provides direction that supplier's capability to provide items or services is evaluated to procurement document requirements prior to awarding contract. • LWP 4505- External Supplier Audits- provide the requirements by which prospective suppliers are evaluated and selected (qualified for INL procurements). • LWP-4506- Acceptance of Procured Materials and Services- provides assurance that during receipt inspection, all	**SAT**

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
			procurement requirements that were flowed down to the supplier are verified to be acceptable. • MCP 13326 Procurement and Supplier Quality Engineering- provides additional controls for selecting suppliers based on procurement criteria	
26.		If third-party audits are used to qualify a supplier, verify that a documented evaluation of the report was performed by a qualified Lead Auditor identifying the activities, findings, conclusions, and basis for qualification.	No third-party audits have been used in the past year.	**N/A**
27.		In lieu of conducting supplier evaluations (audits), does the purchasing organization conduct product testing or verification of conformance to technical requirements (e.g., off the shelf sorbents)? If yes, verify testing is documented and the item conforms to design requirements.	There was no current objective evidence available of purchasing organization performing additional testing or verification by receipt inspection of sorbents.	**N/A**
	5.8	**INSPECTION AND ACCEPTANCE TESTING**		
28.		Verify that Receipt Inspections were conducted to ensure components (containers, liners, etc.) received conform to the procurement documents, required certifications were received, and specified design criteria satisfied. • Do records of inspection identify the type of inspection, component(s), services, or process inspected, date of inspection, inspector, inspection results, and action taken if nonconforming conditions are identified?	A review of INL inspection plans listed in Item 22 of this assessment checklist, provides objective evidence that components (containers, liners, etc.) are inspected to assure procurement document requirements, including certifications have been received, and are acceptable.	**SAT**
	5.9	**MANAGEMENT ASSESSMENT**		
29.		Verify management of waste certification programs elements has periodically assesses their management processes to ensure conditions that preclude the organization from achieving objectives are identified and corrected.	A review of assessments and surveillances in Labway provides objective evidence of periodical assessments of waste management process.	**SAT**

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
			Objective evidence included review of ASMT-2020-0221 (closed on 04/09/2020). The scope of the Surveillance included 18 Lines of Inquiry (LOI). Including: IWTS material and container profiles were reviewed and approved, WDDF were correct, reviewed and approved. With on LOI generating corrective actions to address ECAR approval and availability in EDMS. CO-2019-2414 and GA 2019-1537. CO-2020-0406 (completed 06/09/2020) Assessment of Radioactive Waste Management at the INL by DOE EA-31 Audit Team. (CA-2020-0293) ASMT-2020-0223 FY 20 WGS NNSS: Waste Packaging (closed 03/05/2020). ASMT-2020-0233 FY 20 WGS NNSS WCO NNSSWAC Requirements ASMT-2020-0237 FY-2020 WGS: Waste Conformance (Prohibited Items, Sorbent Use and Compatibility). This assessment has documented an open CA 2020-1088 (Assessment and Corrective action are open in Labway as of Oct 6, 2020). **Observation:** ASMT-2020-0236 FY-2020 WGS: WMP Training Qualification (closed 01/16/2020) contains a line of enquiry to verify job code WGCONLCTOF for WCOs. A verification of all WCOs and AWCOs found one individual did not have this code in their training plan. The AWCO filled the position in June of 2020. It was also observed that the AWCO had completed all of the quals. Associated with the Job Code. Management was notified and the Job Code was added during this assessment. Also, ASMT-2020-0225 FY-20 WGS NNSS: Training. documented “Satisfactory” for training level documentation. In addition, ASMT 2020-0233 FY 2020 WGS NNSS: WCO-NNSSWAC Requirements indicates a satisfactory for WCO/AWCO See Condition noted in Section 5 “Personnel Training and Qualification” of this checklist.	

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
			PLN-17522 Rev 0. Section 5.9 and MCP-17500 Sections 4.4.1 adequately address periodic assessment of management processes to ensure conditions that preclude the organization from achieving objectives are identified and corrected.	
30.		Verify management assessment programs / processes ensure results of management assessments are documented in a final report issued to the appropriate organization(s) and the WCO for review. • Do management assessments include managerial involvement?	Objective evidence of management involvement in the assessment program has been verified. See assessments, surveillances, and corrective actions listed in this assessment checklist.	**SAT**
	5.10	**INDEPENDENT ASSESSMENT**		
31.		Verify assessments are planned, scheduled, and conducted in accordance with a documented and approved process.	A review of Labway assessment provides objective evidence of assessment program implementation. AEID-2020-037 letter dated September 29, 2020 lists the Management Assessment Schedule. The responsible individuals listed to perform the assessment make up a large mix of personnel that provides opportunity for "independence." Office of Enterprise Assessments U.S. Department of Energy Assessment of Radiological Waste Management at the Idaho National Laboratory (Interim Report December 2019) as documented in Labway with CO-2020-0406. ASMT 2018-0483/2020-0083 (completed December 9, 2020) in accordance with Section 5.10 of DOE/NV—325-16-00, the Nevada National Security Site (NNSA) Waste Acceptance Criteria (WAC), an independent assessment verified compliance with the NNSS WAC program requirements and promoted process improvement. PLN-17522 Rev. 0 Section 5.9. requires Internal Surveillance, Management Assessments, and Independent Assessments be planned, scheduled, and conducted in accordance with LWP-13730-Performance Assurance and Assessment.	**SAT**
32.		Verify the generator performed an annual independent assessment of the waste certification program to verify	A review of completed annual independent assessments provides objective evidence of an annual Independent Assessments	**SAT**

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
		compliance with NNSSWAC program requirements. The annual independent assessment was performed and documented by a qualified Lead Auditor and a copy of the approved report was forwarded to the CO RWAP Manager.	ASMT 2017-0604 (report date November 7, 2018) ASMT 2018-0483/2020-0083 roll-up of surveillances conducted during the year (report date December 9, 2019)	
33.		When surveillances are accumulated and used in lieu of the annual assessment, verify a final report is prepared identifying the activities, conclusions, findings, and corrective actions initiated during each surveillance. (Assessment must have been conducted within 12 months of the last annual audit or surveillance)	2020 surveillances were accumulated and used in lieu of the annual assessment. The final report for ASMT 2018-0483/2020-0083 was signed by the Lead Auditor and appropriate Management on 12/09/2019. The report was also signed by the INL Waste Management Program on December 10, 2019. The Report was then forwarded to the WCO (reference letter CCN 246153) on December 19, 2019. The final report was prepared identifying the activities, conclusions, findings, and corrective actions initiated during each surveillance, and was conducted within 12 months of the earliest surveillance. All surveillance used to meet roll-up requirements per Nevada Test Site (NNSS) Waste Acceptance Criteria (WAC) were performed within 12 months of previous year annual assessment.	**SAT**
34.		Verify the WCO and/or supporting oversight organizations have scheduled and conducted periodic surveillance of activities critical to the waste certification program (e.g., personnel training, waste packaging, receipt inspection, control of M&TE). • Are personnel performing surveillances qualified in the surveillance process and knowledgeable of the area being assessed?	The WCO, along with supporting oversight organizations, schedule and perform periodic surveillance of activities critical to the waste certification program. The Waste Program Manager has scheduled and ensured performance of 12 WGS NNSS Certification Surveillances as planned in AEID-2020-0037. A review of personnel qualifications to perform assessment/surveillances listed in AEID-2020-037 and, additional personnel who performed assessment/surveillances includes. Rob Black - Assessor Shankara Velezio – Assessor Allen Cain - Lead Assessor Amy Cox - Lead Assessor David Jacobson - Lead Assessor Marshall Marlor - Lead Assessor Paul Velasquez - Lead Assessor	SAT

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	NNSSWAC Section	Requirement	Objective Evidence	Status
			Vicent Chermak - Quality Assurance Lead Auditor	
35.		Verify the results of assessment activities are documented, approved, and reported to responsible management, including the WCO.	Each of the WGS NNSS Certification Surveillances as planned in AEID-2020-0037 were documented, approved, and reported to responsible management, including the WCO and the general Manager. Surveillances reviewed included those listed in this assessment checklist.	**SAT**
36.		Verify personnel performing assessments and surveillances are qualified and independent of the areas being assessed.	Training records of personnel performing surveillances were reviewed. Those verified were found to be qualified in the surveillance, and the assessment process. Annual assessments were performed by personnel who are independent from the processes they were assessing.	**SAT**
37.		Verify deficiencies identified during assessments are tracked until acceptable resolution is achieved and verified.	A review of deficiencies identified during assessment provides objective evidence that issues are tracked until resolution/disposition is completed. CO-2019-2414, CO-2020-0406, GA 2019-1537, CA-2020-0293, and CA 2020-1088	**SAT**

Intentionally Blank

Appendix E

NNSSWAC 325-16-00
Radiological Waste Characterization Checklist

Intentionally Blank

NNSSWAC 325-16-00 Radiological Waste Characterization Checklist

Assessment No. & Date(s):	ASMT-2020-0616	**Date(s) Performed:**	September and October, 2020
Organization:	H540 - INL Waste Management		
Assessor(s):	J. J. Fluckiger and D. R. Allen		
Personnel Contacted:	See Appendix B		
Reference Documents:	See Appendix C		
Waste Streams:	NEID-09INLCLLW R8 and NEID-09RALLW R3		

Item No.	WAC Section	Requirement	Objective Evidence	Status*
38	5.5	Verify the radiological characterization process is accomplished under controlled conditions using technical standards, instructions, procedures, or other appropriate means.	The INL process for radiological characterization of materials (including waste and waste related samples) is controlled by use of LWP-15026, "BEA Methodologies for Characterization of Radioactive Material". Radiological Engineers capture required information in Engineering Calculations and Analysis (ECAR) forms, in accordance with LWP-10200 "Engineering Calculations and Analysis Report". The following ECARs are referenced in the completed Container Information and Closure Checklists (Form 435.79) for each of the waste shipments reviewed: 5043, 4934, 5008, 4940, 4979, 4895, 4966, 4879, 4764, 4776.	S
39	4.0	Verify radiological waste characterization documentation supports the waste profile.	For NNSS shipments NEL20022, NEL20026, and NEL20051, the ECARs were reviewed. Completed INL Form 435.88 "NNSS Waste Profile Checklist" for Waste Streams NEID-09INLCLLW R8 and NEID-09RALLW R3, documents verification that: • "the waste has been characterized using methods, procedures, and processes that validate the physical, chemical, and	S

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	WAC Section	Requirement	Objective Evidence	Status*
			radiological characteristics of the waste. This documentation, including methodologies for determining the ranges for radionuclides and chemical constituents listed on the NNSS Waste Profile, has been recorded and was known during all stages of the waste management processes (NNSSWAC § 4.0)." • The waste complies with the NNSA/NSO approved waste profile and the waste profile contains required supporting characterization documentation (NNSSWAC § 4.0). • The waste characterization documentation is traceable to the following (NNSSWAC § 4.0): o Waste profile (NNSSWAC § 4.0) o Waste package (NNSSWAC § 4.0) o Isotopic distributions and corresponding activity concentrations to the package (NNSSWAC § 4.0) o Traceability to the parcel level if characterization was conducted at that level (NNSSWAC § 4.0).	
40	3.1.1	Verify controls are adequate to ensure transuranic waste is not disposed. If the waste stream contains alpha-emitting transuranic radionuclides with half-lives greater than 20 years, verify the total activity of these nuclides does not exceed 100 nCi/g. Only the net weight of the waste should be used to calculate the specific activity. Evaluate documentation that demonstrates compliance.	The Waste Determination and Disposition process in MCP-17000 "Waste Generator Services Waste Management" is used to identify waste types and determine a disposition path. MCP-17500, "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", requires compliance to the NNSS Waste Acceptance Criteria and limits the certification process to the specified waste types.	S
41	4.1	When "Process Knowledge" (PK) is used, including Materials Control and Accountability data, verify the: a. Adequacy of this method; b. Information is properly documented; c. PK was evaluated for uncertainties, inconsistencies, limitations, and use-fullness.	The following ECARs were reviewed, as pertaining to shipments NEL20022, NEL33929, and NEL33929-1: 5043, 4934, 5008, 4940, 4979, 4895, 4966, 4879, 4764, 4776 Each of the ECARs reviewed used Process Knowledge as a method to characterize the waste materials. The ECARs documented the origins of information, information evaluations, and accuracy/adequacy reviews.	S

Item No.	WAC Section	Requirement	Objective Evidence	Status*
42.	4.2	When Sampling & Analysis is used, verify the following: a. The process was controlled and documented; b. Assess the adequacy of the validation report (e.g., portions of data independently validated, standards specified, analytical methods specified, scope/statement of work completed, data confidence statement, usability of the data, Data Quality Objectives met, propagation of error considered, etc.); (4.2.1) c. Controls are in place to trace each sample number to a specific package number or group of packages.	The following ECARs were reviewed, as pertaining to shipments NEL20022, NEL 33929, and NEL 33929-1: 5043, 4934, 5008, 4940, 4979, 4895, 4966, 4879, 4764, 4776 Process Knowledge and documentation were the primary methods for waste characterization for these waste profiles. The Waste Characterization Requirements sections of INL Form 435.88 "NNSS Waste Profile Checklist" was reviewed for Waste Streams NEID-09INLCLLW R8 and NEID-09RALLW R3. In each case verification was documented of compliance with NNSS characterization requirements.	S
43.	E.3	When direct and gross measurements or methods other than process knowledge or sampling and analysis are used, verify that the: a. Characterization process was controlled; b. Methods were documented; c. Methods were adequate.	LWP-15026 "BEA Methodologies for Characterization of Radioactive Material" to include Appendix C "Disposal Facility Source Term Waste Acceptance Criteria" along with MCP-139, "Radiological Surveys", provide adequate methods and controls to perform and document direct measurements of radioactive material. Several characterization methods were observed during review of ECARs. Each method was well documented in the associated ECAR.	S
44.	5.5	Verify that testing and validation of computer programs and verification of data results from those programs (i.e., LWIS, Package Shipment Disposal Request (PSDR) data and radioactivity calculations) are performed and documented.	Idaho National Laboratory performs V&V of IWTS software modifications or builds in accordance with PLN-4385 "IT Asset Maintenance Plan for the Integrated Waste Tracking System (IWTS)". Each ECAR reviewed contains a section entitled Computer Code Validation wherein discussion is provided pertaining to the various software used and its validation. **Observation:** PLN-4385 references other INL documents that are no longer current, such as LWP-4002, "Service Acquisitions" and PLN-522, "Quality Assurance Program Plan for the Waste Management/Waste Certification Program". It is recommended that PLN-43585 be considered for revision.	S

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	WAC Section	Requirement	Objective Evidence	Status*
45.	3.2.1	Verify controls are in place to ensure waste packages comply with the fissile material limits in Appendix E.7 of the NNSSWAC.	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site" section 4.3.2.1 requires: "Ensure each container complies with fissile material limits in NNSSWAC Appendix E.7 by completing Form 435.B01, "NNSS Container fissile Material Limit Evaluation" for each container". The data certified in form 435.B01 is supported by the PSDR and the ECAR associated with the container.	S
46.	3.2.2	Verify controls are in place to ensure waste packages comply with the plutonium-239 gram equivalent (PE-g) limits.	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site" Section 4.1.6 provides the following controls: "Complete plutonium equivalent gram (PE-g) calculations for the largest and smallest containers listed on the waste profile, in accordance with Appendix B, and have the calculations verified." IWTS also generates a Container Profile Validation Report (NNSS Reportable Nuclides, PE-g, Container U-235 fissile gram equivalent) which becomes part of the Waste Management Program records.	S
47.	3.2.1 E.1	Verify radionuclides are properly reported on the Waste Profile and on the Package Shipment and Disposal Request form. If the activity concentration in the final waste form exceeds 1% of either the NNSSWAC Action Level or the total activity concentration, the radionuclide must be reported.	Completed INL Form 435.88 "NNSS Waste Profile Checklist" for Waste Streams NEID-09INLCLLW R8 and NEID-09RALLW R3, documents verification that "radionuclides known, or reasonably expected, to be present in a waste stream are reported as follows (NNSSWAC § Appendix E.1.A): a. The activity concentration of the radionuclides in the final waste form exceeds 1% of the action level (NNSSWAC Table E-1). These radionuclides require rigorous waste characterization and shall be reported on the PSDR and in the waste profile (NNSSWAC § Appendix E.1.A.1)."	S
48.	E.1	Verify the determination of activity concentrations reported on the waste profile (Sections D.5 and D.6) and the PSDR are documented and available for review.	Completed INL Form 435.88 "NNSS Waste Profile Checklist" for Waste Streams NEID-09INLCLLW R8 and NEID-09RALLW R3, documents verification that "activity concentrations in the final waste form that exceed 1% of the total activity concentration have been reported on the PSDR and the waste profile. The total activity concentration includes the activity of all radionuclides except for those that are exempt from the reporting requirements. For these radionuclides and for those present at a level less than the detection limit of industry-accepted characterization methods, process	S

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	WAC Section	Requirement	Objective Evidence	Status*
			knowledge is sufficient for characterization (NNSSWAC § Appendix E.1.A.3)."	
49.	3.1.4	For sealed sources, verify: a. Sealed sources having an activity equal to or greater than 100 uCiI are segregated from other waste and handled as a separate waste stream. b. Sealed sources containing TRU nuclides are evaluated against the TRU waste criteria individually, considering only the mass of the source itself. The mass of the source and any component integral to the source shall be used to determine the activity concentration for reporting on the WP. c. Lead shielding is integral or external to the sealed source and that is used to reduce radiation exposure or if removed would cause undue or excessive radiation exposure to workers.	LI-435 "Waste Management Routine Field Activities" Appendix B item 14 states: "Sealed sources that have an activity of 3.7 MBq (100 uCi) or greater shall be segregated from other waste and grouped together and profiled as a separate waste stream. Sealed sources that have an activity of less than 3.7 MBq can either be a component of other waste streams or included with sealed sources that have an activity of 3.7 MBq or greater. The following are specific items related to sealed sources: • Stabilization: Sealed sources may need to be stabilized in the shipping/disposal container to ensure that dose rates remain the same during transport (e.g., stabilization using concrete to ensure sources do not drift during transport). • Lead shielding: Lead used as shielding that either is integral or external to the sealed source and that is used to reduce radiation exposure is acceptable as LLW. This includes lead that, if removed, would cause undue or excessive radiation exposure to workers. • Smoke detectors: In determining the transuranic activity concentration for sources in smoke detectors, the activity is divided over the mass of the entire smoke detector. The requirements found in NNSSWAC Section 3.2.4, Lead Shielding, shall be followed if new packaging with lead shielding is used. " If required, LI-435 allows sealed sources to be stabilized in the shipping/disposal container to ensure that dose rates remain the same during transport (e.g., stabilization using concrete to ensure sources do not drift during transport). No shipments of sealed sources were included in this assessment.	S
50.	3.2.4	If lead is being used for shielding in containers, verify the generator maintains documentation that demonstrates: • the standard packaging without lead shielding would not reduce the exposure rate to less than 5 mrem/hr at 30 centimeters and the shielding is necessary for radiation protection; and,	LI-435 "Waste Management Routine Field Activities" Appendix B item 9 states: For lead shielding maintain: • "Documentation demonstrating that the standard packaging without lead shielding would not reduce the exposure rate to less than 0.005 rem/hour (5 mrem/hour) at 30 cm and the shielding is necessary for radiation protection".	S

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	WAC Section	Requirement	Objective Evidence	Status*
		• the amount of lead used for shielding is not excessive for each specific container of LLW. The documentation shall include calculations demonstrating the amount of lead (thickness/quantity) in the container is not excessive by justifying the quantity of lead required in each given container, or on a container-by-container basis. • Documentation shall be provided to NNSA/NFO RWAP by email to emlead@nv.doe.gov at least seven days in advance of waste shipment.	• "Documentation demonstrating that the amount of lead used for shielding is not excessive for each specific container of waste. The documentation shall include calculations demonstrating the amount of lead (thickness/quantity) in the container is not excessive by justifying the quantity of lead required in each given container on a container-by-container basis. Justification for using the appropriate amount of lead shielding can be demonstrated by a detailed dose rate survey that shows the shielding dose rate exceeds 0.005 rem/hour at 30 cm from the waste package." "…the documentation shall be provided to Nevada National Security Site personnel as specified in the Nevada National Security Site Waste Acceptance Criteria at least 7 days in advance of waste shipment." None of the shipments observed for this assessment required lead shielding.	
51	3.2.13	Verify radiological contamination on waste packages and transport vehicles are below the limits specified in 10 CFR 835, Appendix D. • List and check adequacy of radiological survey procedures (i.e., instrumentation, survey density, receipt survey on transport vehicle, duration between survey and release of shipment, training, etc.). • Internal contamination levels on Type B cask that are to be returned to generator shall be forwarded to RWMC Operations prior to shipment. Removable contamination levels from inside of a cask, intermodal, sealand, overpack, or equivalent container that requires any inner package to be removed shall be reported on the ALARA planning spreadsheet.	Radiological Surveys are performed in accordance with MCP-139, "Radiological Surveys", and recorded on Form 441.45, "Radiological Survey Report". Radiological Release is performed in accordance with LWP-15017 "Radiological Release Surveys" MCP-17000 "Waste Generator Services Waste Management" Section 4.7.9 requires "Obtain a complete and thorough radiological survey for the container that is documented on a radiological-survey map." Each set of shipment documentation reviewed during the course of this assessment included radiological survey maps that were reviewed and approved by appropriate personnel.	S

Intentionally Blank

Appendix F

NNSSWAC DOE/NV--325-16-00
Chemical Characterization Checklist

Intentionally Blank

RWAP
NNSSWAC DOE/NV—325-16-00 Chemical Characterization Checklist

Assessment No. & Date(s):	ASMT-2020-0616	Date(s) Performed:	September and October, 2020
Organization:	H540 INL Waste Management		
Assessor(s):	J. J. Fluckiger and D. R. Allen		
Personnel Contacted:	See Appendix B		
Reference Documents:	See Appendix C		
Waste Streams:	NEID-09INLCLLW R8 and NEID-09RALLW R3		

Item No.	WAC Section	Requirement	Objective Evidence	Status*
1.	4.0	Verify characterization methods and procedures employed by the generator ensure the physical and chemical characteristics of the waste are recorded and known during all stages of the waste management process.	LWP-17000 “Waste Management” provides instruction for waste generators and initiates coordination with the Waste Generator Services group. MCP-17000 “Waste Generator Services Waste Management” provides instructions for waste characterization, packaging, storage, transportation, and ultimate disposition of waste. An example process flow diagram for waste management is included in Appendix B. MCP-17500 “Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site” provides instructions for the waste technical specialist (WTS), waste disposition specialist (WDS), and the waste-certification official (WCO) or alternate WCO for use during certification of waste shipments from Idaho National Laboratory (INL) to the Nevada National Security Site (NNSS). Certification includes ensuring characterization, packaging, and all documentation related to management of waste to be shipped	S

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	WAC Section	Requirement	Objective Evidence	Status*
			to NNSS are compliant with applicable standards and the NNSS waste-acceptance criteria (NNSSWAC). For each INL waste stream a "Waste Determination and Disposition Form" (WDDF), Form 435.39, is completed by the generator. A Material Profile is then created in the Integrated Waste Tracking System (IWTS). Once a container begins to be loaded, a Container Profile is created in IWTS. Monthly Inspections are performed on Form 435.46 "Monthly Inspection Checklist" while the container is being filled. The following data is then gathered and used to complete the Container Profile in IWTS: • Radioactive Waste Inventory Sheets (Form 435.42), • Engineering Calculations and Analysis Reports (ECAR), • VSDS Standard Survey Map, • WDDF, • Surface contamination calculation sheets, and • others as required.	
2.	2.2.2	Verify controls are in place to ensure the WCO has performed and documented an annual review of approved Waste Profiles (WPs) based on the current revision date.	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site" section 3.1.4.1 requires that the WCO must review waste profiles (annually). Reviews are performed annually and documented as an Atkins letter. The following reviews were verified during this assessment: Documentation was verified for the annual reviews of the following waste streams: The listed letters are the review notifications sent to NNSS. **Letter Number:** AEID-2020-009 **Waste Profile Number:** NEID-09INLCLLW, R8 **Letter Number:** AEID-2020-26 **Waste Profile Number:** NEID-0900RALLW	S
3.	3.3.3	Verify controls are in place to ensure mixed waste and hazardous classified matter profiles are re-certified annually based on the revision date.	BEA does not currently ship mixed or hazardous waste to NNSS. Section 4.4.1.19 of MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site" States: "Perform annual reviews of the NNSS approved waste profiles, based on the current revision date of each profile, to ensure characterization data, waste stream information, and referenced procedures are current (NNSSWAC § 2.2.2)."	S
4.	2.2.2	Verify controls are in place to ensure a Derivative Classifier signs the profile. If no DC then ensure documentation	MCP-17500, "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site" section 4.1.14 requires "Submit the profile	S

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	WAC Section	Requirement	Objective Evidence	Status*
		supports N/A on profile signature line. Documentation may be: contract security classification specification (DOE F 470.1); Designated Unclassified subject area, site security POC letter/email/etc.	to WGS management for approval to ensure, at a minimum, the profile is reviewed by a derivative classifier". Waste profiles reviewed for this assessment indicated N/A for classification.	
5.	4.0	Verify the waste characterization documentation supports the Waste Profile.	Completed INL Form 435.88 "NNSS Waste Profile Checklist" for Waste Streams NEID-09INLCLLW R8 and NEID-09RALLW R3, documents verification that: • "the waste has been characterized using methods, procedures, and processes that validate the physical, chemical, and radiological characteristics of the waste. This documentation, including methodologies for determining the ranges for radionuclides and chemical constituents listed on the NNSS Waste Profile, has been recorded and was known during all stages of the waste management processes (NNSSWAC § 4.0)." • The waste complies with the NNSA/NSO approved waste profile and the waste profile contains required supporting characterization documentation (NNSSWAC § 4.0). • The waste characterization documentation is traceable to the following (NNSSWAC § 4.0): o Waste profile (NNSSWAC § 4.0) o Waste package (NNSSWAC § 4.0) o Isotopic distributions and corresponding activity concentrations to the package (NNSSWAC § 4.0) Traceability to the parcel level if characterization was conducted at that level (NNSSWAC § 4.0).	S S
6.	4.1	If waste characterization is based on, "Process Knowledge" (PK) verifies the following: Adequacy of this method Data / information has been properly documented	MCP-17000 "Waste Generator Services Waste Management" sections 6 Definition of Acceptable Knowledge and section 4.3.2.3 addresses making a determination of the adequacy of Acceptable knowledge. MCP-17000 section 4.2.4 requires capturing acceptable knowledge information on the WDDF. MCP-17000 section 4.3. Note 1 states: "The completed WDDF documents the acceptable knowledge sources used for waste characterization	

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	WAC Section	Requirement	Objective Evidence	Status*
		Data was evaluated by the generator for uncertainties, inconsistencies, limitations, and usefulness	and identifies the uncertainties, inconsistencies, limitations, and usefulness of the acceptable knowledge sources".	
7.	4.1	If historical data is used, is it routinely verified through controlled methods? This is a should not a shall in NNSSWAC	Waste management procedures contain several documentation review and verification steps to ensure waste is properly characterized and can meet waste receiving facility's acceptance criteria.	S
8.	4.2, 3.3.7	If waste characterization is based on, "Sampling & Analysis" verify: Processes are controlled and documented.	MCP-8523, "Managing Hazardous and Non-hazardous Samples", provides instructions for container and package selection, labeling, handling, preservation, chain of custody, storing, and shipping for hazardous and non-hazardous environmental sampling activities. LWP-15026, "Radioactive Material Characterization Methodologies for BEA Facilities", documents requirements for sampling and analysis in Appendix B, Radioactive Material Characterization Methodologies. LWP-10200 "Engineering Calculations and Analysis Report" provides instructions for performing and documenting engineering calculations and analyses. Typically, BEA does not characterize waste solely based on sampling and analysis. Sampling and analysis is typically used to verify Process Knowledge or historical data. ECARs 5043, 4934, 5008, 4940, 4979, 4895, 4966, 4879, 4776 referenced in shipments NEL20022, NEL20026 and NEL20051 were reviewed. Each ECAR reviewed documented objective evidence of a controlled process.	S S
		Adequacy of the validation report (e.g., portions of data independently validated, standards specified, analytical methods specified, Scope/Statement of work completed, data confidence statement, usability of the data, Data Quality Objectives met, etc.).	PLN-8510 "Planning and Management of Environmental Monitoring Sampling Activities" addresses validation of analytical services. LWP-15026 "BEA Methodologies for Characterization of Radioactive Material" includes instruction of validation of radiological analysis. LWP-10200 "Engineering Calculations and Analysis Report" addresses validation of software used for calculations. Each ECAR reviewed included one or more reviewer to validate the calculations and analysis.	S
		Controls are in place to trace each sample number to a specific package number or group of packages.	MCP-8523, "Managing Hazardous and Non-hazardous Samples", provides instructions for container and package selection, labeling, handling, preservation, chain of custody, storing, and shipping for hazardous and non-hazardous	S

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	WAC Section	Requirement	Objective Evidence	Status*
			environmental sampling activities.	S
		Analytical used to make mixed waste determinations or LDR certifications are from a DOECAP audited laboratory, or equivalent.	BEA does not currently ship mixed waste to NNSS. INL participates in the DOECAP program and utilizes audited laboratories as necessary.	
		Sampling and analytical results are properly reported on Table B-1 of the applicable waste profile.	BEA does not currently ship mixed waste to NNSS. The waste shipments selected for review during this assessment contained waste material from waste streams NEID-09INLCLLW and NEID-09RALLW. Both waste streams were primarily characterized using process knowledge documentation methods. Completed INL Form 435.88 "NNSS Waste Profile Checklist" for each waste stream indicates Sampling & Analysis were not applicable.	
9.	3.1.5	Verify adequate process controls are established to ensure waste stream(s) are evaluated for the presence of free liquids and satisfy the following conditions:	Bullet 2 of section 7 of Appendix B to LI-435 "Waste Management Routine Field Activities" states "For waste to be disposed at NNSS, free liquid shall not exceed 1% of the volume of the waste when the waste is in a disposal container or 0.5% of the volume of the waste processed to a solidified form." All "Container Information and Closure" forms (Form 435.79) observed for shipments NEL 20022, NEL 20026, and NEL 20051 indicated no absorbent had been added for any identified liquids. Bullet 3 of section 7 of Appendix B to LI-435 states "Waste to be disposed at NNSS shall be evaluated to determine its potential to release liquid during handling, storage, and transportation." MCP-17435 "Sorbent Selection and Use" Table 1 and Form 435.99 "Absorbent Determination Form" are used to determine and document the type and amount of sorbent required. MCP-17435 "Sorbent Selection and Use", provides instruction for stabilization using sorbents and requires Form 435.99 be used to determine and document the type and amount of sorbent required. AL-5000-LI-010 "Solidification of Radioactive Liquid Using Immobilizing Agent" and FRM-953 "Analytical Lab Process Worksheet" are used by the Analytical Lab and meet the requirements in MCP-17435.	S
		a. Free liquid must not exceed 1 percent of the volume of the waste when the waste is in a disposal container; or 0.5 percent of the volume of the waste when processed to a solidified form.		
		If "a" is not met, verify stabilization method.		
		Determination of the potential to release liquids during handling, storage, and transportation.		
		Determination of the type and amount of sorbent to be used for high moisture content waste must be documented.		

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	WAC Section	Requirement	Objective Evidence	Status*
			MCP-17435 “Sorbent Selection and Use” section 4.2.12 requires use of Table 1 and Forms 435.42 “Radioactive Waste Inventory Sheets”, 435.79 “Container Information and Closure Checklist”, or 435.99 “Absorbent Determination Form” as applicable to determine and document the type and amount of sorbent required”.	
10	3.1.6	Verify waste stream(s) has been evaluated for fine particulates and/or potential to be mechanically or chemically transformed into fine particulates during handling, storage, and shipping. If yes, verify process controls and explain immobilization or packaging method.	LI-435 “Waste Management Routine Field Activities” Appendix B Section 10, Particulates, requires: “For fine particulate waste to be disposed at NNSS, ensure the following: • Fine particulate waste shall be immobilized so the waste package contains no more than 1 weight percent of less-than-10-micrometer-diameter particles or 15 weight percent of less-than-200-micrometer-diameter particles. • Waste known to be in a fine particulate form or in a form that could mechanically or chemically be transformed to a particulate during handling and interim storage shall be immobilized. • Secure packaging may be used in place of immobilization. The following are examples of acceptable packaging: steel boxes, drums with a sealed 6-mil minimum (or equivalent) liner, containers with the contents individually wrapped and sealed in plastic, and over-packed containers. INL Form 435.88 “NNSS Waste Profile Checklist”, under “Particulates Requirements” has an evaluation statement as follows: “Fine particulate waste is immobilized or placed in secure packaging (i.e., steel box; drums with a sealed, 6-mL minimum, or equivalent, liner; containers with contents individually wrapped and sealed in plastic; or overpacked containers)” Completed 435.88 forms for waste profiles NEID-09INLCLLW R8 and NEID-09RALLW R3, pertaining to waste shipments NEL20022, NEL20026 and NEL20051 were reviewed and were found to have the above item checked “Yes, indicating compliance with fine particulate waste NNSS WAC requirements.	S
11	3.1.8	Verify stabilization methods employed reduce volume and provide a more stable waste form.	Section 15 of Appendix B to LI-435 “Waste Management Routine Field Activities” provides the requirements regarding stabilization and volume reduction. Bullet one states, “Where practical, waste shall be treated to reduce volume and provide a more stable waste form”.	S

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	WAC Section	Requirement	Objective Evidence	Status*
			All of the completed 435.79 Forms "Container Information and Closure Checklist" for the three shipments observed indicated that there was no blocking or bracing of waste.	
		Verify chemical stability and compatibility is demonstrated to ensure that no reactions occur that result in generation of harmful gases, vapors, liquids, or that explosive conditions and compounds are not generated.	Bullet two of section 15 of Appendix B to LI-435 "Waste Management Routine Field Activities" states "Waste shall not react with other waste or the packaging during storage, shipping, handling, and disposal". Section 15 ends with the statement "Chemical stability and compatibility shall be demonstrated to ensure that no reactions occur, and significant quantities of harmful gases, vapors, or liquids are not generated". INL Form 435.88, "NNSS Waste Profile Checklist" ensures waste streams are evaluated such that "The waste is chemically stable and compatible and will not generate reactions and significant quantities of harmful gases, vapors, or liquids" and "Incompatible waste, or incompatible waste and materials, have not been placed in the same container if such placement does the following: • Generates extreme heat or pressure, fire or explosion, or violent reaction • Produces uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health • Produces uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions • Damages the structural integrity of the device or facility containing the waste • Through other like means, threatens human health or the environment" Completed 435.88 forms for NEID-09INLCLLW and NEID-09RALLW were reviewed. Both waste streams were found to be adequately evaluated and documented that the waste stream met NNSS WAC stability and compatibility requirements.	
12	3.1.7, 3.1.9, 3.1.10, 3.1.12, 3.1.13, and 3.1.16	Verify the waste stream(s) have been evaluated for the following prohibited items, the results are documented within the characterization documentation, and controls are in place that prohibits the following elements from being present in the waste:	INL Form 435.88, "NNSS Waste Profile Checklist" ensures waste streams are evaluated for prohibited items, the results are documented within the characterization documentation, and controls are in place that address the elements or otherwise prohibit them from being present in the waste. The checklist specifically states: • "The waste does not contain compressed gases as defined by Title 49 CFR"	S

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	WAC Section	Requirement	Objective Evidence	Status*
		Compressed gases or waste packaged at a pressure exceeding 1.5 atmospheres absolute at 20°C Pathogens, infectious wastes, or other etiologic agents Greater than 1% by weight, unbound chelating or complexing agents Material capable of detonation, explosion, or reaction with water Pyrophoric material Animal carcasses without proper packaging	• "The waste does not contain low-level waste gases packaged at a pressure that exceeds 1.5 atmospheres absolute at 20°C" • "The waste contains no pathogens, infectious waste, or other etiologic agents as defined in Title 49 CFR" • "The waste package contains no chelating or complexing agents in amounts greater than 1% of the waste or has been stabilized or solidified" • "Waste does not contain unreacted explosives" • "The waste is not pyrophoric" • "Or the pyrophoric materials contained in the waste have been treated, prepared, and packaged to be nonflammable. A pyrophoric material that has been blended in a hardened concrete matrix is considered to be treated to be nonflammable" • "The waste does not contain animal carcasses" • "For waste containing animal carcasses or contained in radioactive material, the radioactive material has been packaged with the biological material layered with lime and placed in a metal container meeting applicable requirements:" • "When the resultant waste matrix is capable of gas generation, the container has been vented with a carbon composite high efficiency particulate air filtration device" • "The waste carcass has not been preserved with formaldehyde" Additionally, LI-435 "Waste Management Routine Field Activities" establishes process controls to ensure the following LLW waste forms are properly controlled by field personnel: 1. Regulated Asbestos Low-Level Waste 2. Beryllium Dust 3. Chelating Agents 4. Compatibility 5. Etiologic Agents 6. Explosives 7. Free Liquids 8. Gases 9. Lead Shielding 10. Particulates 11. Polychlorinated Biphenyl 12. Pyrophorics 13. Radioactive Animal Carcasses	

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	WAC Section	Requirement	Objective Evidence	Status*
			14. Sealed Sources 15. Stabilization INL Form 435.88 "NNSS Waste Profile Checklist" for NEID-09INLCLLW and NEID-0900RALLW were reviewed during this assessment. Both forms indicated well evaluated waste streams and documented that the waste streams meet NNSS WAC requirements.	
13	3.1.11, 3.3.5, 3.3.6.2	Verify the waste stream(s) have been evaluated for the presence of PCBs and controls are in place to ensure waste containing PCBs meets the standards for disposal under 40 CFR 761.50(b)(7).	MCP-17000 "Waste Generator Services Waste Management" Section 4.14 Note 6 states "PCB bulk product waste (including PCB/radioactive bulk product waste) destined for disposal on the basis of its radioactive properties in a facility permitted, licensed, or registered by a state as a municipal or non-municipal, non-hazardous waste landfill is exempt from the manifesting and COD requirements". Completed INL Form 435.88 "NNSS Waste Profile Checklist" for Waste Streams NEID-09INLCLLW R8 and NEID-09RALLW R3, documents verification of the following (as applicable to the waste stream): • The low-level waste contains PCBs that meet the requirements for disposal in a solid waste or permitted hazardous waste landfill as specified in 40 CFR 761 and NAC 444.9452 (NNSSWAC § 3.1.11). • "The PCB-contaminated low-level waste is packaged, marked, and labeled in accordance with the requirements of 40 and 49 CFR. Packages containing PCB-contaminated low-level waste meet the applicable shipping requirements for the radioactive content of the package (NNSSWAC § 3.1.11)." • The low-level waste containing PCBs that meet the requirements for disposal in a permitted hazardous waste landfill are segregated into a separate waste stream. These types of PCB waste also meet the requirements listed in Sections 3.3.5 and 3.3.6.2.	S
		Verify that the generator has provided written notice, a minimum of 15 days, in advance of the first shipment of each waste stream containing PCB remediation waste or bulk product waste.	Shipping file checklists completed for shipments NEL20022 and NEL20026 state that written notification was made appropriately.	

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	WAC Section	Requirement	Objective Evidence	Status*
		Verify LLW containing PCBs that meet the requirements for disposal in a permitted hazardous waste landfill is segregated into a separate waste stream, profiled, and packaged separately from other waste streams. Or has an NFO justification for comingling been approved?	BEA sends only PCB bulk product waste as defined in 40 CFR 761.62(b)(1)(i) and approved in NEID09INLCLLW, Rev 8, Waste streams NEID09RALLW and NEID09MFCRLLW contain PCBs. Waste for these profiles are segregated into a separate waste stream and packaged separately from other waste streams.	
		Verify these types of PCB wastes also meet the free liquids, sorbents, compatibility, and void space requirements		
14	3.1.15	Verify the waste stream(s) have been evaluated for ALLW and applicable program / process controls are in place to ensure the following ALLW is packaged, marked, and labeled in accordance with federal requirements.	Requirements and objective evidence of the following with respect to regulated asbestos low-level waste (RALLW) are found in LI-435"Waste Management Routine Field Activities", Appendix B, section 1 and INL Form 435.88 "NNSS Waste Profile Checklist" for Asbestos management and INL Form 435.89" NNSS Shipment Checklist" for labeling and shipping requirements. Additionally Form 435.93 "WCO Official Shipment Checklist" documents WCO verification of meeting Asbestos related requirements. Paperwork for shipment NEL 20051 containing Asbestos was reviewed. Forms 435.88, 435.89, and 435.93 were all complete indicating verification of compliance to Asbestos related requirements.	S
		If free liquids are present, verify generator has calculated and documented the amount of sorbent to be added to containers to comply with the free liquid criteria.	LI-435 "Waste Management Routine Field Activities" Appendix B Section 1, Regulated Asbestos, bullet 4 requires "If free liquid is present, sorbent shall be added to ensure compliance with the free liquids criteria" MCP-17435 "Sorbent Selection and Use" section 4.2.12 requires use of Table 1 and Form 435.99 "Absorbent Determination Form" to determine and document the type and amount of sorbent required. INL Form 435.99 "Container Information and Closure Checklist" documents a review of whether or not absorbent materials have been added to waste containers. All completed 435.99 forms for containers in shipments NEL20022,	

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	WAC Section	Requirement	Objective Evidence	Status*
			NEL20026, and NEL20051 were reviewed and none of the containers had absorbent material added.	
		Sharp edges and corners in the package are to be padded or protected to prevent damage to the plastic bag during handling, shipping, and disposal.	LI-435 "Waste Management Routine Field Activities" Appendix B Section 1, Regulated Asbestos, bullet 4 requires "Sharp edges and corners in the package shall be padded or protected to prevent damage to the plastic bag during handling, shipping, and disposal".	
		Procedures require ALLW to be segregated from other waste streams. Or has an NFO justification for comingling been approved?	LI-435 "Waste Management Routine Field Activities", Appendix B, section 1 specifically states "RALLW shall be profiled and segregated into a separate waste stream". Shipment NEL20051, a shipment of a metal box containing RALLW was reviewed. The container was established, filled, and packaged separately from other waste streams.	
15	3.1.17	Verify the waste stream(s) have been evaluated for beryllium or beryllium contaminated equipment that may be released as an airborne particulate and applicable program / process controls are in place to ensure the following Packaged in sealed, impermeable bags with a minimum thickness of six mils or in a secure container/enclosure that prevents the release of beryllium dust during handling and packaging and labeled.	LI-435 "Waste Management Routine Field Activities" Appendix B item 2 states "Beryllium-containing waste and beryllium containing equipment must be packaged in sealed, impermeable bags (minimum 6 mils), in a container, or in enclosures to prevent the release of beryllium dust during handling and transportation." Beryllium-containing waste is labeled in accordance with GDE-17233 section 12.4. INL Form 435.88 "NNSS Waste Profile Checklist" documents the evaluation for beryllium or beryllium contaminated equipment. The completed forms for both waste streams associated with shipments NEL20022, NEL20026, and NEL20051 indicate the presence of beryllium or beryllium contaminated equipment. Form 435.88 also contains the following checklist information: If the waste contains beryllium-containing waste and beryllium- contaminated equipment, the following requirements have been verified (NNSSWAC § 3.1.17): • The waste is packaged in sealed, impermeable bags (minimum 6 mil), containers, or enclosures to prevent the release of beryllium dust during handling and transportation (NNSSWAC § 3.1.17). • The bags, containers, or enclosures are labeled with the following information (NNSSWAC § 3.1.17):	S

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	WAC Section	Requirement	Objective Evidence	Status*
			• "DANGER, CONTAMINATED WITH BERYLLIUM. DO NOT REMOVE DUST BY BLOWING OR SHAKING. CANCER AND LUNG DISEASE HAZARD."	
16	3.1.4	Is the waste hazardous (check federal and state regulations)? If treated to be non-hazardous explain treatment and LDR compliance.	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site" section 4.4.4.20 states "ensure waste shipments consigned to NNSS are made in accordance with applicable DOE, DOT, Environmental Protection Agency, state, and local hazardous waste regulations and requirements". None of the shipments reviewed for this assessment included treated waste.	S
17	3.3.5.1, 3.3.5.2, 3.3.3, and 3.3.1	If the waste is mixed waste, verify adequate process controls are established that ensure mixed waste streams: Do not contain any free liquids	BEA does have process controls in place for management of Mixed Waste. At the time of this assessment there were no approved mixed waste streams and no mixed waste had been shipped to NNSS. Implementation of mixed waste management processes was not evaluated during this assessment.	NA
		Is compatible with container or other materials/wastes within container.		
		Contain only sorbents that are non-biodegradable and are identified on the mixed waste profile		
		Is profiled and packaged separately from other waste streams		
		Have only EPA hazardous waste numbers as listed in the NNSSWAC		
		Controls to ensure containers are at least 90% full when packaged		
		Meet the LDR treatment standard requirements in Nevada Administrative Code (NAC) 444.8632 (incorporating Title 40 CFR 268.40 and 268.45), including standards for underlying hazardous constituents (UHCs)		
18	3.1.18	Verify controls are in place that ensures "Classified Waste" will be segregated into a separate waste stream.	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site" Section 4.1.1 requires "Create separate NNSS profiles for waste containing… Classified waste/matter".	S

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Item No.	WAC Section	Requirement	Objective Evidence	Status*
19	3.1.18	Verify characterization data for "Classified" waste profiles include a signed DOE or NNSA "Security Authorization" that allows for permanent burial without sanitization.	BEA only sends classified waste from Specific Manufacturing Capability (SMC). Department of Energy Idaho Operations Office transmitted Security Authorization Letters dated February 4, 2019, and May 6 2019 for classified waste profiles. The letters authorize permanent, non-retrievable burial without sanitization.	S
20		Verify that the facility is not under investigation and that no findings are pending by any regulating authority, (i.e., Federal, State, or Local) which affects waste characterization data.	Current EM Nevada Program approvals held by BEA remain in effect for the continued shipment of approved waste streams to the Nevada National Security Site for disposal.	

*Status: S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable

Intentionally Blank

Appendix G

NNSSWAC 325-16-00
Waste Traceability Checklist

Intentionally Blank

NNSSWAC 325-16-00 Waste Traceability Checklist

Assessment No.	ASMT-2020-0616	**Date(s) Performed:**	September and October 2020
Generator Site/Organization:	INL / H540 INL Waste Management		
Assessor(s):	J. J. Fluckiger and D. R. Allen		
Personnel Contacted:	See Appendix B		
Reference Documents:	See Appendix C		
Waste Streams:	NEID-09INLCLLW R8 and NEID-09RALLW R3		
Waste Verification(s): ☒ **Low-Level Waste** ☐ **Mixed Low-Level Waste** (Double Click box to check.)	**Container Verification Record Number(s) / Summary:**		

Item No.	WAC Section	Requirement	Results / Objective Evidence	Status*
	5.5	**Work Processes**		
1.	5.5	Verify adequate process controls are established to ensure waste traceability is maintained from the point of generation through shipment.	The following waste management process controls (procedures) were reviewed to ensure adequate instruction is provided to achieve waste traceability from the point of waste generation through shipment: • LWP-17000, “Waste Management”, • MCP-17000, “Waste Generator Services Waste Management”, • LI-435, “Waste Management Routine Field Activities”,	S

Item No.	WAC Section	Requirement	Results / Objective Evidence	Status*
			• MCP-17500, "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", • associated forms.	
2.	4.0	Verify waste characterization documentation (i.e., waste profile, MEF) is traceable to the exact package in which the waste is placed.	MCP-17000 "Waste Management", establishes the process for capture and management of waste characterization documentation, to include traceability to waste packages. Appendix B to MCP-17000 is a Process Flow Diagram for the Waste Management process. INL Form 435.88 "NNSS Waste Profile Checklist", documents a verification of the following: "The waste characterization documentation is traceable to the following (NNSSWAC § 4.0): • Waste profile (NNSSWAC § 4.0) • Waste package (NNSSWAC § 4.0) • Isotopic distributions and corresponding activity concentrations to the package (NNSSWAC § 4.0) • Traceability to the parcel level if characterization was conducted at that level (NNSSWAC § 4.0)." Additionally, the Integrated Waste Tracking System (IWTS) performs some documentation comparisons and INL Form 435.89 "NNSS Shipment Checklist" documents a verification of the following by indicating "Sat, UnSat, or NA": "Review the following IWTS reports for WAC compliance: Container Profile vs. Material Profile Report and Container Profile Validation Reports – NNSS Reportable Nuclides, PE-g, Container U-235 FGE." INL Form435.89 was reviewed for each shipment. Each was marked "Sat" for the checklist item listed above.	S
3.	5.5	Verify waste containers are controlled through the life cycle of the component (e.g., receipt, handling, storage, packaging, and shipping) to prevent damage, loss, or deterioration.	LWP-4506, "Acceptance of Procured Items and Services", and LWP-13120, "Identifying and Controlling Items", contain provisions to ensure items are inspected, identified, and stored to protect against damage, deterioration, or misuse.	S

Item No.	WAC Section	Requirement	Results / Objective Evidence	Status*
			Observation: LWP-13120 has field changes initiated in June of 2017. LWP-9101 "INL Procedure Usage" states: "Generally, a revision should be initiated when published field changes are more than 6 months old,"	
4.	3.2.10	Verify in-process waste packages are controlled to ensure the integrity of the package is not compromised (i.e., prohibited items are not introduced into the waste package).	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Sections 4.2.5 and 4.2.6, provide guidance for control of packages and use of tamper-indicating device. INL Form 435.79 "Container Information and Closure Checklist" contains a section for container pre-use inspections and a check to determine whether or not containers have been damaged during loading. 435.79 forms were reviewed for each container in the selected waste shipments. All verifications were favorable.	
	5.8	**Inspection & Acceptance Testing**		
5.	5.8	Verify inspection activities are conducted by qualified personnel having no responsibility for the work activity being inspected.	PDD-13000 "Quality Assurance Program Description", Section 6.10 requires Inspections to be carried out by properly qualified persons independent of those who performed or directly supervised the work using acceptance and performance criteria to verify conformance with specified requirements". INL has a robust qualification program for full time inspectors, such as those that perform receipt inspection of purchased materials. Many in-process inspections are conducted by WGS personnel qualified in accordance with PDD-1078 "Waste Generator Services Technical Qualifications Program" and are capture on process checklists. Qualifications and independence were verified for 24 individuals who routinely perform inspections for waste management purposes.	S
6.		Verify in-process inspections are identified which include pre-use inspections of waste containers, waste packaging activities, and are conducted throughout the waste certification process.	Inspections are accomplished using established checklists controlled through INL Forms Management. Form 435.79 "Container Information and Closure Checklist" captures verification of container pre-use and closure inspections, to include capture of calibration information for torque wrenches. It also captures and evaluation of whether or not containers have been damaged during waste loading.	S

Item No.	WAC Section	Requirement	Results / Objective Evidence	Status*
			435.79 forms were reviewed for each container in the selected waste shipments (NEL20022, NEL20026, and NEL20051). All verifications were favorable.	
7.		Ensure final inspections are conducted to verify the conformance of the waste, containers, and waste certification process to the NNSSWAC prior to shipment of the waste.	Final inspections of containers are conducted using form 435.79, "Container Information and Closure Checklist". 435.79 forms were reviewed for each container in the waste shipments selected for this assessment (NEL20022, NEL20026, and NEL20051). All verifications were favorable.	S
8.		Verify records of inspection identify the type of inspection, component(s), services, or process inspected, date of inspection, inspector, inspection results, and action taken if nonconforming conditions are identified.	Each of the above described records of inspections (completed forms 435.79) identified the type of inspection, components, services, or process inspected, date of inspection, inspector, and inspection results.	S
Storage		**Waste Packaging, Handling, &**		
9.	3.2.14	Verify generator program ensure the following are satisfied: • Waste containers used for shipping, at a minimum, will be Industrial Package-1 meeting the requirements of 49 CFR 173.410 and 173.411.	LI-435 "Waste Management Routine Field Activities", LWP-17000 "Waste Management", and MCP-17000 "Waste Generator Services Waste Management", all provide instruction for coordination of waste packaging selection. MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site" includes a step (section 4.2.4) to ensure waste containers used for shipping, at a minimum, will be Industrial Package-1 (IP-1), meeting the requirements of 49 CFR 173.410 and 173.411.	S
10.	3.2.3	Verify waste package closures are designed to ensure they will withstand the effects of changing temperatures, weather, pressures and/or vibrations under normal handling and shipping conditions.	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Sections 4.2.4, requires that "Waste containers used for shipping, at a minimum, will be Industrial Package-1 (IP-1), meeting the requirements of 49 CFR 173.410 and 173.411." INL Form 460.13 "DOT Excepted and IP-1 Design Criteria Checklist" includes an Inspection Requirement to ensure "Closures on the packagings are so designed and closed that under conditions (including the effects of temperature and vibration) incident to transportation: Except as provided in	S

Item No.	WAC Section	Requirement	Results / Objective Evidence	Status*
			49 CFR 173.24(g), "Venting" there is no identifiable release of hazardous materials to the environment from the opening to which the closure is applied; and The closure is secure and leak proof." INL Form 435.79 "Container Information and Closure Checklist" contains the following question: "Has the form 460.13, DOT excepted, and IP-1 design criteria checklist been completed by Packaging and Transportation? Completed forms observed during the assessment indicated either Yes or NA for this question.	
11.	3.1	Verify adequate process controls are established to ensure the following LLW waste forms are properly packaged by field personnel: • Free Liquids (3.1.5) • Particulate (3.1.6) • Gases (3.1.7) • Incompatible Wastes (3.1.8) • Etiological Agents (3.1.9) • Chelating Agents (3.1.10) • PCBs (3.1.11) • Explosives (3.1.12) • Pyrophorics (3.1.13) • Sealed Sources (3.1.14) • Regulated Asbestos (3.1.15) • Radioactive Animal Carcasses (3.1.16) • Beryllium (3.1.17) • Classified Waste, including non-radioactive hazardous. (3.1.18) • Petroleum Hydrocarbon Burdened LLW (NTS Generators Only) 3.1.19	MCP-17000 "Waste Generator Services Waste Management", Section 4.7 "Containerization (Packaging)", LI-435 "Waste Management Routine Field Activities", Section 5.2 "Waste Packaging", and MCP-9811 "Selection and Acquisition of Hazardous Material Packagings" contain the process controls to ensure various types of waste are properly packaged. Incompatible wastes are not shipped together. Explosives and most pyrophoric materials are not packaged as waste.	S
12.	3.3.5	Verify adequate process controls are established to ensure the following LLMW forms are properly packaged: • Free Liquids (3.3.5.1)	BEA does have process controls in place for management of Mixed Waste. At the time of this assessment there were no approved mixed waste streams and no mixed waste had been shipped to NNSS. Implementation of mixed waste management processes was not evaluated during this assessment.	NA

Item No.	WAC Section	Requirement	Results / Objective Evidence	Status*
		• Sorbents (3.3.5.2) • Compatibility (3.3.5.3)		
13.	3.3.8.2	Verify generator processes ensure that NNSS-rejected mixed waste packages (parent packages) that are repackaged and/or split into additional mixed waste packages (progeny packages) are traceable to the original package number.	BEA does have process controls in place for management of Mixed Waste. At the time of this assessment there were no approved mixed waste streams and no mixed waste had been shipped to NNSS. Implementation of mixed waste management processes was not evaluated during this assessment.	NA
14.	3.1.15	Verify that RALLW is profiled and segregated into a separate waste stream, and a. Is wetted (water and surfactant mixture) and packaged in a plastic bag not less than 6 mils in thickness, or a combination of plastic bags to equal at least 6 mils in thickness, or a container lined with plastic. If free liquid is present, sorbent must be added to ensure compliance with the free liquids criteria. (3.1.15) b. Sharp edges and corners in the package must be padded or protected to prevent damage to the plastic bag during handling, shipping, and disposal. (3.1.15) c. separated from other waste streams and not packaged into soft-sided containers.	LI-435 "Waste Management Routine Field Activities", section 5.5.3.2 requires verification that "vehicles used to transport asbestos-containing waste material during the loading and unloading of waste are marked/labeled as specified in 40 CFR 61.150(c)". • LI-435 Appendix B requires personnel to ensure regulated asbestos low-level waste (RALLW) destined for disposition at the Nevada National Security Site: shall be wetted with a water and surfactant mixture and packaged in a plastic bag that is not less than 6-mil thick, a combination of plastic bags that equal 6 mil thick, or a container that is lined with plastic; • If free liquid is present, sorbent shall be added to ensure compliance with the free liquids criteria. Sharp edges and corners in the package shall be padded or protected to prevent damage to the plastic bag during handling, shipping, and disposal. • shall be profiled and segregated into a separate waste stream. • and shall not be packaged into soft-sided containers as the only containment" Shipment NEL20051, a shipment of one metal boxes containing RALLW was reviewed. The asbestos container was established, filled, and managed separately from other waste streams. Shipment paperwork indicated the appropriate labelling was verified.	S
15.	3.2.9	Verify LLW containers are packaged to ensure interior volume is as efficiently and compactly loaded as practical to minimize void space.	LI-435 "Waste Management Routine Field Activities", section 5.2.2.10 states "IF the waste LLW is being packaged for Nevada National Security Site or RHLLW Disposal Facility, THEN ensure that void space is minimized and record the estimated void volume on Form 435.79".	S

Item No.	WAC Section	Requirement	Results / Objective Evidence	Status*
			Form 435.79, "Container Information and Closure Checklist documents" container void volumes were observed on completed forms.	
16.	3.2.8	Verify waste container weight does not exceed 4,082 kg (9,000 lbs.) per box or 544 kg (1,200lbs) per drum.	This verification is included in the NNSS Waste Certification Official Shipment Checklist INL Form 435.93. Reviewed completed checklists from the following shipments: NEL20022, NEL20026, and NEL20051. Containers were within weight limits.	S
17.	3.2.10	Verify after waste packaging activities have been completed and the container has been sealed, containers are stored in a secure, area to prevent unauthorized intrusion and protection from the environment to maintain package integrity and prevent deterioration.	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.2.5 includes the following process instruction: Store containers in a secure, protected area to ensure the following criteria are met (NNSSWAC § 3.2.10): • No deterioration or unauthorized intrusion occurs • The integrity of in-process waste packages is not compromised (that is, prohibited items are not introduced into the waste package) • The storage area provides protection from adverse weather, particularly rain and snow, if possible. INL Form 435.79 "Container Information and Closure Checklist" documents evaluation of container status after loading waste materials, during storage, and prior to shipment. 435.79 forms were reviewed for all containers in shipments NEL20022, NEL20026, and NEL20051.	S
5.3 Control of Nonconforming Components				
18.	5.3	Verify nonconforming components (e.g., containers, liner material, sorbents, M&TE) are conspicuously labeled, tagged, or otherwise marked to ensure removal from the waste certification process and prevent inadvertent use.	LWP-13830 "Control of Nonconforming Items", section 4.2.3 requires the following of nonconforming items: "Ensure the item or package containing the item has been tagged with a nonconformance tag (Form 230.02) and ensure the tag is not detrimental to the item. When tagging is not possible, use other administrative controls". Section 4.2.4 states: "Segregate and control the item in a clearly identified and designated area until properly dispositioned to prevent inadvertent use or installation. When segregation is not possible due to size, weight, access or other reasons, use other administrative controls".	S

<table>
<tr><th>Item No.</th><th>WAC Section</th><th>Requirement</th><th>Results / Objective Evidence</th><th>Status*</th></tr>
<tr><td></td><td></td><td></td><td>NCR 2017-0098 had been written to concerning container material that had been purchased from a supplier that had not been qualified at the INL. The materials were
marked and segregated to prevent inadvertent use until the items were appropriately dispositioned in accordance with LWP-13830.</td><td></td></tr>
<tr><td>19.</td><td>5.3</td><td>Verify when nonconforming conditions are identified that affect the quality of previously shipped waste, NNSA/NSO is notified.</td><td>MCP-17500 “Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site”, section 4.4.4.29 requires notification to the NNSA/NFO EMO manager if “Nonconforming conditions that affect the quality of previously shipped waste are identified”.

No such occurrences, affecting NNSS activities during the last 12 months, were identified during this assessment.</td><td>S</td></tr>
<tr><td colspan="3">5.5 Control of Measuring and Test Equipment (M&TE)</td><td></td><td></td></tr>
<tr><td>20.</td><td>5.5</td><td>Verify a process is established to ensure that M&TE is uniquely identified, controlled, and calibrated.</td><td>LWP-13455, “Control of Measuring and Test Equipment”, establishes the process for M&TE control and calibration.</td><td>S</td></tr>
<tr><td>21.</td><td>5.5</td><td>Verify M&TE markings include a unique identification, date of calibration, calibration due date, and any limitations.</td><td>The M&TE markings and calibration stickers included a unique identification, date of calibration, calibration due date, and the range of use for each piece of equipment.

The following M&TE were listed in completed 435.79 Forms for each container in Shipments NEL20022, NEL20026, and NEL20051. Each listing for torque wrenches included the calibration date and next Calibration Due Date. Radiological instrumentation, listed below, was verified as current with the INL Health Physics Instrumentation Lab. Scales were also verified as current through the INL Calibration Services.
<table>
<tr><th>M&TE</th><th>ID</th><th>M&TE</th><th>ID</th></tr>
<tr><td>Torque Wrench</td><td>A51737</td><td>Torque Wrench</td><td>A51769</td></tr>
<tr><td>Scale</td><td>725091</td><td>Ludlum 3030</td><td>854543</td></tr>
<tr><td>Torque Wrench</td><td>A66</td><td>Ludlum 2224</td><td>803041</td></tr>
<tr><td>Scale</td><td>732606</td><td>Torque Wrench</td><td>733699</td></tr>
<tr><td>Torque Wrench</td><td>735592</td><td>Scale</td><td>732171</td></tr>
<tr><td>Scale</td><td>729379</td><td>Ludlum 3030</td><td>854257</td></tr>
</table></td><td>S</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>WAC Section</th><th>Requirement</th><th>Results / Objective Evidence</th><th>Status*</th></tr>
<tr><td></td><td></td><td></td><td><table>
<tr><td>Torque Wrench</td><td>731859</td><td>Torque Wrench</td><td>732062</td></tr>
<tr><td>Scale</td><td>730787</td><td>Scale</td><td>729378</td></tr>
<tr><td>Scale</td><td>734949</td><td>Torque Wrench</td><td>736073</td></tr>
</table></td><td></td></tr>
<tr><td>22.</td><td>5.5</td><td>Verify records of calibration are maintained and traceable to the M&TE and to a nationally recognized standard or equivalent means to assure accuracy.</td><td>Records of calibration for each of the M&TE listed above (item 21) were reviewed. Records for each were maintained and contained suitable traceability information.</td><td>S</td></tr>
<tr><td colspan="2">5.4</td><td>Documents & Records</td><td></td><td></td></tr>
<tr><td>23.</td><td>5.4</td><td>Verify a records management system is approved to assure waste certification records are maintained in accordance with established requirements, which includes provisions for transmittal, distribution, retention, handling, correction, disposition, and retrievability.</td><td>LWP-1202, “Records Management”, controls the process by which lab-wide (including waste certification) records are maintained. LWP-1202 includes provisions for transmittal, distribution, retention, handling, correction, disposition,
and retrievability.

During this assessment, records requested were retrievable and legible.</td><td>S</td></tr>
<tr><td>24.</td><td>5.4</td><td>Verify waste certification shipping records are protected from damage, loss, and deterioration.</td><td>Electronic copies of records are maintained in the Electronic Document Management System (EDMS), an Enterprise Architecture documented and approved QA records database.

PLN-883, “Records Management Plan for Electronic Document Management
System”: (EDMS), Section 3.1.8 states “EDMS was developed to provide full electronic records management capabilities. It is comprised of both purchased and internally developed applications that operate as an integrated system to provide methods for processing, validating, storing, managing, and retrieving records. It provides full data protection through dual file storage, fail-over server technology, and off-line backup media. The record storage repository is fully integrated for DOE-ID, INL, and ICP controlled documents, drawings, and vendor data. EDMS along with the proper execution work processes outlined in this plan will ensure that all EDMS managed records are accurate, retrievable, and protected for their full lifecycle.”

During this assessment, all records requested were retrievable and legible.</td><td>S</td></tr>
</table>

Item No.	WAC Section	Requirement	Results / Objective Evidence	Status*
25.	5.4	Verify waste certification records are maintained for period's equivalent to on-site records retention requirements.	Section 5 of MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site" addresses records generated during the certification process. Records are assigned uniform file codes, disposition authorities, and retention periods.	S

Appendix H

NNSSWAC 325-16-00
Waste Transportation Assessment Checklist

Intentionally Blank

NNSSWAC Rev. 325-16-00 Waste Transportation & Shipping Assessment Checklist *Status: BMP= Best Management Practice, S= Satisfactory, U = Unsatisfactory, OBS = Observation/Weakness, N/A = Not Applicable			
Assessment No. & Dates:		Date(s) Performed:	
Organization:	INL Waste Management – H540		
Assessor(s):	J. J. Fluckiger and D. R. Allen		
Personnel Contacted:	See Appendix B		
Reference Documents:	See Appendix C		
Waste Streams:	NEID-09INLCLLW R8 and NEID-09RALLW R3		

Item No.	Requirement (Citation)	Objective Evidence	*Status
1	**OBJECTIVE: Determine whether additional requirements impact shipments**		
	GENERAL Are there any additional transportation-related requirements to consider due to Waste Profile conditions of Certificates of Compliance, Approvals/deviations or DOT Special Permits being utilized for specific shipments being surveilled or in general?	At the time of this Assessment, deviation requests for 7 profiles were in effect: NEID-05SMC3056, R01: DU Contaminated Material NEID-0900RALLW, R03: INL Regulated Asbestos LLW NEID-09INLCLLW, R08: INL Routinely Generated Contact Handled Low- Level Waste NEID-09MFCRLLW, R06: INL Routinely Generated Remote Handled Low-Level Waste NEID-11SOURCES, R02: INL CH Sealed Sources NEID-17MFCCLLW, R00: MFC Contact Handled Fissile Low-Level Waste NEID-IRCCERCLA, R00: IRC CERCLA Waste The U.S. Department of Energy Environmental Management Nevada Program approved the deviation on August 30, 2018. Each waste profile deviation was collectively assigned tracking number NEID-DR-18-06. The approval requests notification of Mission Support and Test Services, LLC Disposal Operations personnel with the applicable shipment number prior to use of the deviation on a shipment.	S
2	**OBJECTIVE: Verify generator has selected an MCEP-evaluated carrier and due diligence reviews are performed and documented**		
	CARRIER SELECTION/MOTOR CARRIER EVALUATION PROGRAM **Are processes / controls in place to ensure that:**		
	a. The carrier selected by the WG is identified on the most current MCEP List or has been evaluated by the WG. [6.4]	MCP-9810 “Shipment and Receipt of Hazardous Materials”, Rev 6, section 4.1.1.10 states “If the carrier is to transport highway route-controlled quantities of radioactive material or truckload quantities of radioactive material or hazardous waste, verify the carrier has been	S

		assessed in accordance with the DOE Motor Carrier Evaluation Program" (MCEP). Wilcox truck line was purchased by Bennett Heavy & Specialized. The Wilcox name was then changed to Bennett Secured Transport. The carrier listed for the shipments reviewed was either Bennet Secured Transport, LLC or Bennett Heavy & Specialized, LLC. Bennett Heavy & Specialized is listed on the DOE/NNSS October 2019 report as an approved shipper. Approvals are made based on MCEP reviews.	
	b. WG performs due diligence of the selected MCEP carrier's current status. [MCEP Program Plan]	Section 4.4.4.27 of MCP-17500 "Waste Generator Services Waste Management", and Item 17 of Form 435.93 "NNSS Waste Certification Official Shipment Checklist", require the WCO to confirm the due diligence review of the selected motor carrier has been completed. Records were reviewed for NEL20022, NEL20026, and NEL20051. Each Form 435.93 indicated that check had been completed.	S
	c. For new carriers, the WG evaluates the carrier in a manner similar to the MCEP process, or in lieu of conducting carrier assessments, the WG evaluates the carrier's performance by conducting a Documented verification assessment using the "DOE MCEP - Evaluated Carrier Performance List." [6.4]	BEA only uses carriers identified on the most current MCEP List for shipments to NNSS.	N/A
	d. The WCO notifies the NNSA/NFO EMO Manager when a carrier is being evaluated. [6.4]	BEA only uses carriers identified on the most current MCEP List for shipments to NNSS.	N/A
	e. The NNSA/NFO EMO Manager is notified when a carrier discrepancy, noncompliance, or inadequate performance is identified. [6.4]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", section 4.4.4.29 bullet 4 requires notification of the NNSA/NFO EMO manager when "A motor carrier discrepancy, noncompliance, or inadequate performance has been identified". No instances of carrier discrepancy, noncompliance, or inadequate performance were identified during the last year.	S
3	**OBJECTIVE: Verify personnel performing transportation activities are knowledgeable of requirements**		
	ARRIER SELECTION/MOTOR CARRIER EVALUATION PROGRAM Are processes/controls in place to ensure that:		

	WG personnel are trained and qualified to perform their assigned functions and tasks including the applicable parts of Title 49 CFR, Part 172, Subpart H "Training." [5.2 & 49 CFR 172.700]	PDD-173 "Hazardous Material Transportation Training Program", lists the required qualifications for each specific type of material to be transported. Records were reviewed for 2 shipping personnel who were observed during this assessment against the requirements specified above. All required training was current.	S
4	**OBJECTIVE: Verify routing preferences are communicated to carrier/driver prior to departure**		
	S **SHIPMENT ROUTING** Are processes/controls in place to ensure that:		
	a. The WG notifies the NNSA/NFO EMO Manager when the motor carrier route selection is being modified. [6.4]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.4.4.29 requires notification to NNSA/NFO EMO Manager when motor carrier route selection is being modified. Completed INL Form 435.B04 "NNSS Driver Briefing", documents driver acknowledgment that it is prohibited to transport the load through Las Vegas or across the Hoover Dam by-pass bridge deviations from the established route require notification. NNSS Driver Briefing records were reviewed for NEL20022, NEL20026, and NEL20051. Each briefing record was signed by the driver.	S
	b. Routes selected minimize radiological risk, considering information on accident rates, time in transit, population density, construction activities, and time of day. [6.4]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.4.4.23 requires routes to be chosen to minimize radiological risk and consider information on accident rates, time in transit, population density, construction activities, and time of day. INL Form 435.B04 "NNSS Driver Briefing", notifies the driver not to transport the load through Las Vegas or across the Hoover Dam bypass bridge. During the course of this assessment, no shipments to NNSS were identified as requiring additional route control.	S
5	**OBJECTIVE: Verify wastes are packaged in accordance with applicable transportation regulations and NNSSWAC requirements**		
	GENERAL PACKAGING REQUIREMENTS Are processes/controls in place to ensure that waste packages:		
	a. At a minimum, meet IP-1 requirements and applicable DOE orders, 10 CFR, 40 CFR, and 49	MCP-9811 "Selection and Acquisition of Hazardous Material Packages", controls the acquisition of waste packaging.	S

	CFR requirements. [3.2.14 & 173.410, 173.411(b), 173.24, 173.24a, and 173.24b]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.2.4 requires "Waste containers used for shipping, at a minimum, will be Industrial Package-1 (IP-1), meeting the requirements of 49 CFR 173.410 and 173.411". INL Form 460.13 "DOT Excepted and IP-1 Design Criteria Checklist", includes an Inspection Requirement to ensure "Closures on the packagings are so designed and closed that under conditions (including the effects of temperature and vibration) incident to transportation: Except as provided in 49 CFR 173.24(g), "Venting" there is no identifiable release of hazardous materials to the environment from the opening to which the closure is applied; and The closure is secure and leak proof." INL Form 435.79 "Container Information and Closure Checklist" contains the following question: "Has the form 460.13, DOT excepted, and IP-1 design criteria checklist been completed by Packaging and Transportation? Completed forms observed during the assessment indicated Yes for this question. PO number 00184129 was reviewed and found to require compliance to NNSS WAC and to NQA-1 2008, 1A 2009 Addenda. Procurement documents invoked 49 CFR 173.410, 412, 465, or 178.350 as appropriate. Receipt inspection reports were reviewed and found to include test documents and certification reports.	
	b. Are capable of withstanding the stresses associated with loading, handling, stacking, and shipping. [3.2]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.2.9 requires that "non-bulk packages are capable of withstanding the stresses associated with loading, handling, stacking, and shipping. PO number 00184129 for 5 waste bins included test data for strength and stacking.	S
	c. Provide cleats, offsets, rings, handles, Permanently attached or removable skids, or other auxiliary lifting devices that allow handling by means of forklifts, cranes, or similar handling equipment. [3.2.6] .	Boxes used typically are designed for lifting with forklifts. Other lifting devices for containers were not observed during this assessment.	

	d. Requiring cranes for off-loading have an approved lift plan generated by the NNSS M&O contractor prior to shipment. [3.2.6]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.3.16 states this requirement. Form 435.89 "NNSS Shipment Checklist", section IV item 5.e and section VIII item 7.e require verification with WCO that the following advanced shipment notification(s) have been sent as required: If crane required for offloading, approval has been received from NNSS Area 5 Ops. Completed Forms 435.89 for shipments NEL20022, 20026, and NEL20051 were reviewed. The checklist items in the sections listed above were all marked N/A indicating no notifications for rigging were required.	S
	e. With auxiliary lifting devices extending from the top of the package that are no higher than 4 inches in normal position. [3.2.6]	With respect to waste packages, MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.2.11 requires that "Lifting devices are no higher than 4 in. in normal position". No auxiliary lifting devices extending from the top of the package higher than 4 inches in normal position were observed during the course of this assessment.	S
	f. With lifting devices that are designed in accordance with the current DOE Hoisting & Rigging Manual, DOE-STD-1090. [3.2.6]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.2.11 requires that 'Lifting devices are designed in accordance with the DOE-STD-1090, "Hoisting and Rigging"'. No lifting/rigging devices, subject to the DOE Hoisting and Rigging Manual, were used for the shipments observed.	S
	DRUMS g. Unless in a group of 3 or less, waste packaged in drums are palletized and banded in a manner to securely hold the drums to the pallet, and pallets are designed to support the total drum weights without failure during handling and transport. [3.2.14]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.2.4, requires that "Waste packaged in drums will be palletized and banded. This requirement does not apply to drums in groups of three drums or fewer".	S
	BULK & UNPACKAGED ITEMS h. Unpackaged bulk material has external contamination fixed, covered, or contained sufficiently for safe transport. [3.2.7]	BEA does not typically send unpackaged bulk material to NNSS. No examples of shipments falling under this criterion were identified in the shipments selected for this assessment. MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.2.10, however, requires that "Any contamination is fixed, covered, or contained sufficiently for safe transfer".	S

	NTERMODAL [ROLL OFF BOXES] EMPTIED AND RETURNED i. The weight of intermodal is =< 42,000 lb. gross weight, and weight is evenly distributed. [Appendix F] j. No top-hinged tailgate intermodals are used. [Appendix F] k. There is no need for the NNSS M&O Contractor to open the top lid of the container for any reason. [Appendix F] l. There are attachments to secure the door in the open position during off-loading. [Appendix F] m. Containers are at least standard 6 × 8 × 20 ft. IP-1 intermodals. [Appendix F]	BEA does not send waste to NNSS in intermodal packages (roll-off boxes).	NA
	LOW LEVEL WASTE CONTAINING REGULATED ASBESTOS n. RALLW material is packaged separately from other waste streams and is not packaged in soft-sided containers as the only containment. [3.1.15]	LI-435 “Waste Management Routine Field Activities”, Appendix B, section 1 specifically states “RALLW shall be profiled and segregated into a separate waste stream”, and “RALLW shall not be packaged into soft-sided containers as the only containment”. Shipment NEL20051 was an exclusive use shipment that contained asbestos material. The asbestos container was a metal boxes 170175 and was packaged separately from other containers and waste streams.	S
	LOW LEVEL WASTE CONTAINING POLYCHLORONATED BIPHENYLS (PCB’S) o. PCB material is packaged separately from other waste streams. [3.1.11]	MCP-17000 “Waste Generator Services Waste Management”, Section 4.14 Note 6 states “PCB bulk product waste (including PCB/radioactive bulk product waste) destined for disposal on the basis of its radioactive properties in a facility permitted, licensed, or registered by a state as a municipal or non-municipal, nonhazardous waste landfill is exempt from the manifesting and COD requirements”. LI-435 “Waste Management Routine Field Activities”, Section 11 says the following pertaining to PCB waste: “For low-level waste containing PCBs to be disposed of at NNSS and that meet the requirements for disposal in a permitted hazardous waste landfill as specified in 40 CFR Part 761 and NAC 444.9452, then ensure the following: • Waste is segregated into a separate waste stream and profiled and packaged separately from other waste streams.”	S

		Shipments NEL20022 and NEL20026 contained PCBs and were controlled separately.	
6	**OBJECTIVE: Verify shipments are properly protected and that the environment is not adversely impacted by lead devices**		
	GENERAL LABELING Are processes/controls in place to ensure that the following marks and labels are applied appropriately and as required to arrive at the NNSS intact and readable:		
	TAMPER INDICATING DEVICES If applicable, are processes/controls in place to ensure that tamper-indicating devices [TIDs] clips, or banding do not contain lead. [3.2.10]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.4.4.11 states "Prior to shipment departure, ensure lead free security seals are attached to the shipping trailer's door latches or to each package if the shipment is not enclosed in a trailer". BEA uses only plastic or non-lead metal seals. Item 9 of section VI in form 435.89 "NNSS Shipment Checklist", documents a check that all containers have TIDs. All the shipments checked during this assessment had this item marked "Sat" in the checklist.	S
7	**OBJECTIVE: Verify wastes are labeled in accordance with transportation regulations and NNSSWAC requirements**		
	GENERAL LABELING Are processes/controls in place to ensure that the following marks and labels are applied appropriately and as required to arrive at the NNSS intact and readable:		
	a. Weatherproof [must not deform when wet or fade in the sun] [C.1 & 49 CFR 172.407]	Packaging and Transportation (P&T) purchases their labels from JJ Keller. Literature obtained from Keller stated that the labels meet 49 CFR Part 172(E). 49 CFR 172.407(a) under subpart E requires the following regarding durability: "Each label, whether printed on or affixed to a package, must be durable and weather resistant".	S
	b. Resistant to tearing, peeling, and cracking [C.1]	The overview for Class 7 Radioactive III labels listed on the JJ Keller website states that they meet DOT requirements of 49 CFR Part 172(E), are comprised of PVC-free, exterior grade white poly, and a permanent adhesive meeting British Standard (BS5609) for 90-day sea water immersion.	S
	c. Print must be with permanent indelible ink and legible. [C.1]	Literature obtained from Keller stated that the labels meet 49 CFR Part 172(E). 49 CFR 172.407(a) under subpart E requires the following regarding durability: "A label on a package must be able to withstand,	S

		without deterioration or a substantial change in color, a 30-day exposure to conditions incident to transportation that reasonably could be expected to be encountered by the labeled package".	
	d. Bar Code Label x 2 [3.2.12 & C.1]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.3.11 requires 2 barcode labels for each package. INL form 435.89 "NNSS Shipment Checklist" Section VI item 1.e requires "Two barcode labels have been securely placed on each package near the top and sides". Completed 435.89 forms, for each shipment observed, indicated "Sat" for barcode labels.	S
	e. Completed and WCO/AWCO signed Package Certification Label [C.2]	INL form 435.89 "NNSS Shipment Checklist", Section VI item 1.c requires "Package certification label, signed by WCO/AWCO". Completed 435.89 forms, for each shipment observed, indicated "Sat" signed WCO/AWCO certification labels.	S
	f. Applicable DOT Labeling [3.0 & C.2]	MCP- 17000 "Waste Generator Services Waste Management", Section 4.7.2 and LI-435 Section 5.2.2.6 refer to GDE-17233 "Waste Container Labeling", for waste shipment and disposal label requirements. GDE-17233 section 5.2 states "For waste containers being shipped to the Nevada National Security Site ensure the requirements of the Nevada National Security Site Waste Acceptance Criteria §3.3.6.1 and Appendix C are met". Completed INL Forms 435.89 "NNSS Shipment Checklist" documents a verification check that required markings and labeling are attached. Completed checklists for shipments NEL20022, NEL20026, and NEL20051 all indicated "Sat" for questions pertaining to labeling.	S
	g. Shipment Number Mark [C.2]		S
	h. Package Number Mark [C.2] I. Package Weight Mark or Label-[Kg & Lb.] [C.2]		S
	BERYLLIUM WASTE j. If applicable, verify that processes/controls are in place to ensure that Beryllium containing waste and beryllium contaminated equipment are packaged in sealed, impermeable bags [minimum 6 mil], containers, or enclosures, labeled with the appropriate BERYLLIUM label. [3.1.17 & C.2]	LI-435 "Waste Management Routine Field Activities", Appendix B item 2 states "Beryllium-containing waste and beryllium-containing equipment must be packaged in sealed, impermeable bags (minimum 6 mils), in a container, or in enclosures to prevent the release of beryllium dust during handling and transportation." Beryllium-containing waste is labeled in accordance with GDE-17233 section 12.4. The waste streams associated with the shipments reviewed for this assessment, indicate the presence of Beryllium or Beryllium	S

		contaminated equipment. Actual shipments reviewed did not contain Beryllium.	
	LOW LEVEL WASTE CONTAINING REGULATED ASBESTOS k. If applicable, verify that processes/controls are in place to ensure that each container of RALLW bears an appropriate ASBESTOS label [3.1.15 & C.2]	INL Form 435.89 "NNSS Shipment Checklist", Section VI item 2.a requires the WCO verify "Marking and labeling as required (PCB, asbestos, beryllium, etc.)". The completed 435.89 form for shipment NEL20051 indicated the appropriate labelling was verified.	S
8	**OBJECTIVE: Verify wastes are marked in accordance with transportation regulations and NNSSWAC requirements**		
	GENERAL MARKING Are processes/controls in place to ensure that package markings meet the following criteria:		
	a. Applicable DOT Marking [3.0 & C.2]	MCP- 17000 "Waste Generator Services Waste Management", and LI-435 "Waste Management Routine Field Activities", refer to GDE-17233 "Waste Container Labeling", for waste shipment and disposal label requirements. GDE-17233 section 5.2 states "For waste containers being shipped to the Nevada National Security Site, ensure the requirements of the Nevada National Security Site Waste Acceptance Criteria §3.3.6.1 and Appendix C are met". Completed INL forms 435.89 "NNSS Shipment Checklist" and 435.93 "NNSS WCO Official Shipment Checklist" document verification that necessary package markings are in place.	S
	b. Center of gravity, as required due to abnormal center of gravity. [3.2.6]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", section 4.2.12 states "Ensure that low level waste (see def.) packages that have abnormal centers of gravity are marked clearly with the center of gravity". INL Form 435.79 "Container Information & Closure Checklist", contains an item that asks: "Is the package load unbalanced (i.e., for heavy or oversized loads)? If yes, ensure center of gravity is marked. All of the completed 435.79 forms were reviewed for shipments NEL20022, NEL20026, and NEL20051. All indicated no or N/A in response to the question.	S
	CLASSIFIED NON-RADIOACTIVE HAZARDOUS WASTE/MATTER c. Packages of =< 119 gallons are marked with the words "HAZARDOUS WASTE – Federal law	BEA does have process controls in place for management of Mixed Waste. At the time of this assessment there were no approved mixed waste streams and no mixed waste had been shipped to NNSS.	NA

	prohibits improper disposal. If found, contact the nearest police or public safety authority of the U.S. Environmental Protection Agency", the Generators name and address, and Manifest Document Number [3.3.6.1] [40 CFR 262.32(b)]	Implementation of mixed waste management processes was not evaluated during this assessment.	
	MIXED LOW LEVEL WASTE d. If applicable, verify that processes/controls are in place to ensure that, for shipments of MLLW; packages of =< 119 gallons are marked with 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", the Generators name and address, and Manifest Document Number. [3.3.6.1 & C.2] [40 CFR 262.32(b)]	BEA does have process controls in place for management of Mixed Waste. At the time of this assessment there were no approved mixed waste streams and no mixed waste had been shipped to NNSS. Implementation of mixed waste management processes was not evaluated during this assessment.	NA
	PETROLEUM HYDROCARBON BURDENED LOW LEVEL WASTE [NV ONLY] e. Containers are identified as "HYDROCARBON WASTE" near the 2 bar code labels. [3.1.19]	BEA does not send Petroleum Hydrocarbon Burdened Low Level Waste to NNSS.	NA
9	**OBJECTIVE: Verify waste packages are loaded and secured in accordance with transportation regulations and NNSSWAC requirements**		
	VEHICLE LOADING Are processes/controls in place to ensure that:		
	a. Except for cargo containers =< 30,000 pounds, bulk waste shipments with complex geometries are loaded in the most stable configuration. [3.2.6]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.2.13, requires that "bulk waste shipments with complex geometries are loaded in the most stable configuration". INL Form 435.79 "Container Information & Closure Checklist" contains an item that says: "If blocking and bracing is required, has it been evaluated by Packaging and Transportation? If yes, document in the comments section haw the evaluation was performed…" 14 completed 435.79 forms were reviewed in association with the selected waste shipments. All 14 forms documented that an evaluation had been made and the forms were subsequently marked NA for the blocking and bracing question.	S
	b. External contamination levels for waste packages and transport vehicles meet the release limits	Surface contamination levels for transport vehicles are verified prior to loading as required by LI-435 "Waste Management Routine Field	S

	specified in Title 10 CFR Part 835, Appendix D or 49 CFR 173.443 Table 9, whichever is more restrictive. [3.2.13]	Activities", section 5.7 and MCP-17500 17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", section 4.3.14. MCP-17500 section 4.3.15 states "Ensure surveys for waste packages and loaded transport vehicles meet the limits specified in 10 CFR 835, Appendix D". Each package reviewed during the course of this assessment contained a radiological survey map. Calibration was verified, and documented on completed forms, for radiological measuring and test equipment (M&TE) used to perform the surveys.	
	c. Boxes > 11,000 lb are shipped on a flatbed trailer and cribbed to a 4-inch minimum height to allow offloading with a forklift. [3.2.8]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.2.13 states "Ensure weight limits for final waste packages do not exceed the approved packaging design of NNSS limits of 4.082 kg (9,000 lb) per box". The note preceding that step states: "The exception to the specified box weight limit is allowed if…Boxes exceeding 11,000 lb are shipped on a flatbed trailer and cribbed to a 4 in. minimum height to allow offloading with a forklift". No boxes that required being cribbed to a 4-inch minimum height were identified since the last audit. Containers typically contain built in fork pockets at the bottom of the container to allow handling by means of forklifts.	S
	d. Drums are shipped in a closed transport vehicle or similar equipment as a Conestoga and other curtain-side trailer. [3.2.14] Note: N/A for Intra-NNSS shipments.	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.2.4 requires "Ensure the following requirements are satisfied to improve transportation safety and off loading at NNSS… Waste packaged in drums from offsite facilities is shipped in a closed transport vehicle". INL form 435.89 Section VI item 8 requires "Verify drums are shipped in closed conveyance". The U.S. Department of Energy, Environmental Management, Nevada Program approved a deviation allowing the loading of a small number of tarped drums on a flatbed trailer for seven waste streams on August 30, 2018. Each waste profile deviation was collectively assigned tracking number NEID-DR-18-06. The approval requests notification of Mission Support and Test Services, LLC Disposal Operations personnel with the applicable shipment number prior to use of the deviation on a shipment.	S

	e. Packages of MLLW or Non-Radioactive Hazardous Classified Waste/Matter with TIDs are loaded to protect TID from damage. [3.3.6.3]	Controls are in place; however, BEA does not send MLLW or hazardous waste to NNSS. MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.2.6 requires "ensure the tamper indicating device is not removed or altered and is protected from damage during storage, loading, and transportation". Once loaded, INL form 435.89 "NNSS Shipment Checklist", Section VI item 8 requires "Check that all container(s) have TID(s) or there is a TID on the enclosed conveyance door(s)". All completed forms reviewed during the assessment indicated TIDs had been properly placed.	S
	f. Security seals are attached to the trailer's door latches or to each package if not enclosed in a trailer. [6.2.1]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.4.4.11 and INL Form 435.93 require security seals to be attached to the shipping trailer's door latches or to each package if the shipment is not enclosed in a trailer. INL Form 435.89 "NNSS Shipment Checklist" contains and item that says: "Check that all container(s) have TIDs or there is a TID on the enclosed conveyance door(s). All completed 435.79 forms reviewed indicated "Sat" for this item.	S
10	**OBJECTIVE: Verify drivers are provided information needed to facilitate a safe and compliant movement to the NNSS**		
	GENERATOR/CARRIER/DRIVER INTERFACE Are processes/controls in place to ensure that:		
	a. The route agreed to avoids the Hoover Dam Bypass Bridge and Las Vegas. [6.4 & 49 CFR 397.101] Note: Other than Nevada State Route 160.	INL Form 435.B04 "NNSS Driver Briefing", prohibits transport of the load through Las Vegas or across the Hoover Dam by-pass bridge. NNSS Driver Briefing records were reviewed for NEL20022, NEL20026, and NEL20051. Each briefing record was signed by the driver and explicitly prohibited transport of the load through Las Vegas or across the Hoover Dam by-pass bridge.	
	b. Driver is made aware of the importance of fully completing the "Drivers Questionnaire" at the NNSS before leaving the RWMC. [6.2.1]	The fifth item on Form 435.B04 "NNSS Driver Briefing", is acknowledgement that the driver understands that he or she will fully complete the NNSS Drivers Route/Shipment form before leaving area 5 RWMC. The briefing record was signed by the driver in each package reviewed.	S

	c. The Generator validates carrier driver(s) are US Citizens. [6.2.1]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.4.4.8 and INL Form 435.93 "NNSS Waste Certification Official Shipment Checklist", require the driver to be a US Citizen. Form 435.B04 "NNSS Driver Briefing", ensures the driver is made aware of the requirement to have proof of citizenship. Each package reviewed indicated that the requirement was met.	S
11	**OBJECTIVE: Verify waste shipments are documented in accordance with transportation regulations and NNSSWAC requirements**		
	SHIPPING PAPERS & ADDITIONAL DOCUMENTS Are processes/controls in place to ensure that:		
	a. Shipments are consigned to: U.S. Department of Energy, National Nuclear Security Administration in care of Mission Support & Test Services, LLC (MSTS) Waste Management Nevada National Security Site – Area 5, Radioactive Waste Management Complex Mercury, NV 89023 [6.2.2 & DOE O 460.2A CRD 2.c.] NOTE: Abbreviations are acceptable.	NEL20022, NEL20026, and NEL20051 were reviewed during the course of this surveillance. The Bill of Lading for each documented the shipments being consigned to the required address.	S
	b. Shipments are made by "exclusive-use vehicles" or "dedicated service" only. [modified] [6.4 & 172.203(d)(9)(i) or (ii)]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.4.4.17 states 'Ensure shipment is identified as either "Exclusive Use" or "Dedicated Service" as appropriate and ensure the appropriate shipment maintenance instructions are included with the shipping documentation'. INL Form 435.93 "NNSS Waste Certification Official Shipment Checklist", item 21 requires verification of "Exclusive use/dedicated use maintenance instructions, including routing information".	S
	c. **All shipments** are accompanied by: o An original PSDR or the original of an equivalent [6.3.3] o A signed Waste Shipment Certification Statement [6.3.4] o For DOT regulated material, a 49 CFR compliant shipping paper. [6.3.2]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.4.4.12 and INL Form 435.93 "NNSS Waste Certification Official Shipment Checklist", item 22 require the original completed and signed PSDR or the original of an equivalent to the PSDR. MCP-17500 Sections 4.3.13 and 4.4.4.5, and INL Form 435.93 item 23 require Waste Certification statements.	S

		MCP-17500 Section 4.4.4.16 requires "For materials regulated by DOT, ensure that complete shipping papers, with shipper's certification as required by Title 49 CFR, accompany each shipment". The 49 CFR compliant shipping paper used by BEA is the Bill of Lading for each shipment. Each package reviewed included a Package Shipping Disposal Request (PSDR), a Waste Shipment Certification Statement, and a Bill of Lading.	
	d. **Shipments of unpackaged bulk waste** are shipped with a signed PCL accompanying the shipping papers. [C.2]	The note following 4.4.4.5 in MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", requires that "When waste is unpackaged bulk, a signed Package Certification Label must accompany the shipping papers. BEA typically does not send unpackaged bulk material to NNSS. No such instances were identified during this assessment.	S
	e. **Shipments of petroleum hydrocarbon-burdened LLW** are shipped separately and are accompanied by the following documents, as appropriate: o Bill of Lading o Shipping Manifest o PSDR o Certification Statement [3.1.19]	BEA does not send Petroleum Hydrocarbon Burdened Low Level Waste to NNSS.	NA
	f. **Shipments o**f **MLLW** are accompanied by the following documents, as appropriate: ○ Uniform Hazardous Waste Manifest [6.3.2] ○ An appropriate signed LDR Cer□fica□on Statement is included with the shipment documents - only required for initial shipment of waste stream or when the WP changes. [6.3.4]	BEA does have process controls in place for management of Mixed Waste. At the time of this assessment there were no approved mixed waste streams and no mixed waste had been shipped to NNSS. Implementation of mixed waste management processes was not evaluated during this assessment.	NA
	g. **Shipments of Classified Matter** are accompanied by the following documents, as appropriate: o **Non-radioactive/Non-hazardous:** A Bill of Lading[3.1.18] o **Hazardous/Non-radioactive:** A Classified Matter Hazardous Material Shipping Document, NSO-291 [3.1.18] and an appropriate signed LDR Certification Statement - only required for initial shipment of waste stream or when the WP changes. [6.3.4]	Of the classified waste types described to the left, BEA only ships nonhazardous waste to NNSS. All shipments including classified non-hazardous waste require a Bill of Lading (INL Form 435.89 Section VIII 1. All shipments reviewed during this assessment included a Bill of Lading, the Waste Certification Statement, unclassified PSDR, the Shipping Request, and appropriately completed NNSS checklists.	S

	o **Treated and shipped from a commercial treatment facility:** A Uniform Hazardous Waste Manifest [3.1.18]		
	h. **Shipments of intermodal [roll off boxes] containers** containing bulk LLW being returned to the Generator, processes/controls are in place to ensure that return shipping documents are provided to RWMC Operations personnel. [Appendix F]	BEA does not send waste to NNSS in intermodal packages (roll-off boxes).	NA
	i. **Shipments of PCB's** are shipped under different shipment numbers than other waste streams. [3.1.11]	MCP-17500 Section 4.1.1 requires separate NNSS profiles for waste containing Polychlorinated biphenyl (PCB) remediation waste, or any waste containing PCBs that require disposal in a permitted hazardous waste landfill. MCP-17500 Section 4.3.1 requires separate IWTS shipping tasks for classified waste/matter, mixed low-level waste, PCB remediation waste, any waste containing PCBs that meet the requirements for disposal in a permitted hazardous waste landfill, and asbestos low-level waste.	S
12	**OBJECTIVE: Verify required pre-notifications are made prior to shipment**		
	RE-SHIPMENT NOTIFICATIONS & DOCUMENT SUBMITTALS Are processes/controls in place to ensure that:		
	a. An electronic version of the PSDR is transmitted to the NNSS M&O Contractor prior to shipment arrival. [6.3.3]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.3.10 states "Transmit an electronic copy of the PSDRs prior to shipment arrival". INL Form 435.89 "NNSS Shipment Checklist", Section VI, item 14 requires PSDR(s) be submitted electronically on the day of shipment. Completed 435.89 forms were reviewed for each shipment selected for this assessment. All indicated that the requirement was met.	S
	b. PSDRs for RALLW asbestos shipments are uploaded 24 hours in advance of shipment arrival at the NNSS and the comment section for RALLW material denotes "Asbestos". [3.1.15]	Note 2 above MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.3.10 states "PSDRs for shipments containing asbestos must be transmitted 24 hours prior to shipment arrival". INL Form 435.93 "NNSS Waste Certification Official Shipment Checklist" checklist item 2 verifies "Regulated asbestos – the PSDR text files were submitted to wmdata@nv.doe.gov at least 24 hours prior to shipment arrival at Area 5".	S

		Completed 435.93 form were reviewed for shipment NEL20022, 20026, and NEL20051 were reviewed. Shipment NEL20051, containing asbestos, was marked to indicate verification that this requirement was met.	
	c. Shipments of Classified Waste or Classified Matter that require protection from visual observation, have a "NNSS Advance Shipment Notification" form submitted via fax or e-mail to the NNSS M&O Contractor at least 7 days prior to shipment arrival. [3.1.18]	INL Form 435.88 "NNSS Waste Profile Checklist", contains the following requirement in the Classified Waste/Matter Requirements Section: Ensure "For classified waste/mater requiring protection from visual observation, the Advance Shipment Notification identified in NNSSWAC Appendix C.4 has been faxed to NNSS at (702) 295-6852 or email to wminfo@nv.doe.gov at least 7 days prior to shipment arrival. INL Form 435.89 "NNSS Shipment Checklist", sections IV item 5.a, and VIII item 7.b require advance notification if the waste requires protection from visual observation. For this assessment, no shipments requiring protection from visual observation were identified.	S
	d. For packagings that require the radioactive content to be removed and the packaging returned, the expected internal fixed/removable contamination levels on the packaging and the expected fixed/removable contamination levels on the radioactive content inside the packaging are recorded on the Radiological Data. For ALARA Planning Purposes and submitted to the NNSS M&O Contractor prior to delivery. [3.2.13]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.3.18 requires an as low as reasonably achievable (ALARA) planning spreadsheet to be forwarded to the NNSS Radioactive Waste Management Complex operations by the WCO. For this assessment no packaging that required removal of radioactive waste and return of the packaging were observed.	S
	e. For shipments that contain accountable or special nuclear material, a "Nevada National Security Site – Waste RIS VAB Accountable Nuclear Materials Authorization to Ship Waste" form, that includes the applicable shipment number(s), is faxed/e-mailed to the NNSS MC&A at least seven (7) days prior to shipment departure. [6.3.1]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.4.4.15 states "For all accountable or SNM shipments, ensure…a completed "Nevada National Security Site—Waste RIS VAB Accountable Nuclear Materials Authorization to Ship Waste" form is faxed to (702) 295-4215 or emailed as listed on the form 7 days prior to shipment". INL Form 435.93 "NNSS Waste Certification Official Shipment Checklist" checklist item 1 verifies "Accountable or special nuclear material – the "NNSS – Waste RIS VAB Accountable Nuclear Materials Authorization to Ship Waste" form was faxed to (702) 295-	S

		4215 or emailed as listed on the form at least 7 days prior to shipment (NNSSWAC § 6.3.1) and approval to ship was received". Completed 435.93 forms were reviewed. NEL20026 indicated "Sat" for this requirement while the forms for NEL20022 and NEL20051 indicated NA.	
	ACCOUNTABLE OR SPECIAL NUCLEAR MATERIAL / 741 FORM f. WG obtains authorization to ship from NNSS MC&A prior to making shipment. [6.3.1] g. A "Nuclear Material Transaction Report" [NRC Form 741] is submitted to DOE NMMSS and the NNSS M&O, prior to shipment arrival that includes the applicable shipment number(s). [6.3.1]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.4.4.15 states "For all accountable or SNM shipments, ensure… Authorization to ship has been obtained from NNSS materials control and accounting" and "Original DOE/NRC Form 741 accompanies shipment paperwork or is emailed to wminfo@nv.doe.gov prior to shipment arrival". INL Form 435.93 "NNSS Waste Certification Official Shipment Checklist" checklist item 29 verifies "For accountable or special nuclear material – NNSS MC&A authorization and original DOE/NRC Form 741 (unless original is submitted via email to wminfo@nv.doe.gov prior to shipment arrival)". The completed 435.93 form for shipment NEL20022 indicated "Sat" for the item listed above. The completed forms for NEL20026 and 20051 indicated NA.	S
13	**OBJECTIVE: Verify HAZTRAK entry is complete and includes information needed in the event of an incident and to facilitate availability of adequate Area 5 staffing/resources**		
	HAZTRAK/SHIPMENT NOTIFICATION Are processes/controls in place to ensure that:		
	a. The required pre-notification information is entered into the HAZTRAK database or, in the absence of access to HAZTRAK, a completed and accurate NNSS Advance Shipment Notification form is submitted to the NNSS M&O Contractor prior to 1500 Pacific Time -- at least one RWMC working day prior to shipments arrival. [6.2.1]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.4.4.10 requires pre notification information to be entered into the HAZTRAK database prior to 1500 local time, at least 1 working day prior to shipment arrival. Each shipment package reviewed included objective evidence of a HAZTRAK database submittal.	S
	b. If the estimated date of arrival changes while in transit, the date is changed by either entering the new date in the HAZTRAK database or providing such information to the appropriate NNSS M&O Contractor contact at the earliest opportunity. [6.2.1]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.4.4.14.1 requires the NNSS M&O Contractor be notified of the change using the HAZTRAK database at the earliest opportunity and providing the new estimated date of arrival if the	S

		shipment's estimated date of arrival should change. One driver typically makes the run in one day instead of the allowed two	
14	**OBJECTIVE: Verify processes are in place to make required notifications in the event of an incident**		
	HAZTRAK/SHIPMENT NOTIFICATION Are processes/controls in place to ensure that:		
	a. The WCO notifies the NNSA/NFO EMO Manager of a transportation delay, incident, or emergency situation. [6.4]	MCP-17500 "Waste Generator Services Certification of Waste Shipments to the Nevada National Security Site", Section 4.4.4.29 requires the NNSA/NFO EMO manager be notified if there is a transportation delay, incident, or emergency situation. Review of shipments sampled since the last audit identified no instances of transportation delay, incident, or emergency situation requiring notifies the NNSA/NFO EMO Manager.	S
	b. The Generator instructs the carrier to make notification to the NNSA/NFO Operations Command Center [at 702-295-0311] when there is a transportation delay, incident, or emergency situation, in accordance with DOE/NNSA policy letter dated October 17, 2016. [6.4]	NNSS Driver Briefing Form 435.B04 "NNSS Driver Briefing" instructs the carrier to make notification to the NNSA/NFO Operations Command Center [at 702-295-0311] as well as the WCO when there is a transportation delay, incident, or emergency situation. Each shipment package reviewed contained a completed Form 435.B04 which provided objective evidence that the driver acknowledged this requirement.	S