



## ***Nevada Site Specific Advisory Board (NSSAB)***

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**Full Board Meeting - Wednesday, January 17, 2024**

### ***Handouts:***

Page 2      Attendance Spreadsheet

Page 3      Low-Level Waste (LLW) Facility Evaluations – Work Plan #3  
LLW Visual Verification – Work Plan #2  
Real Time Radiography (RTR) Operations at the Area 5 Radioactive Waste  
Management Complex – Work Plan #4 Briefings

Page 50     Radioactive Waste Acceptance Program (RWAP) checklists for visual  
verifications and RTR evaluations

## NSSAB FULL BOARD MEETING ATTENDANCE

October 2023 through September 2024 (FY 2024)

Name	11/8/23	1/17/24	2/21/24	4/17/24	7/17/24	9/11/24	Max Term
<b>MEMBERS</b>							
Erik Anderson	√						2028
Joycelyn Austin-Mabe	√						2028
Lisa Blandi	E						2028
John Cole	√						2028
Bill Dolan	E						2026
Gary Elgort	√						2026
Anthony Graham	√						2024
Mark Hilton	√						2026
Bruce Jabbour	√						2026
Dan Peterson	√						2026
Janice Six	√						2024
Kevin Trainor	√						2028
Favil West	√						2026
Eddie Williams	√						2028
<b>LIAISONS</b>							
Clark County	√						
Consolidated Group of Tribes & Organizations	E						
Elko County Commission (limited)							
Esmeralda County Commission (limited)	√						
Lincoln County Commission	U						
Nye County Commission	√						
Nye County Emergency Management	√						
Nye Co. Natural Resources and Federal Facility	E						
State of NV Division of Env Protection	√						
U.S. Natl Park Service (limited)							
White Pine County Commission	U						

KEY: √ - Present    E - Excused    V - Vacant    U - Unexcused

# Low-Level Waste (LLW) Facility Evaluations Work Plan Item #3



**Marilew Bartling, RWAP Manager**  
Navarro, Contractor to the  
U.S. Department of Energy (DOE)  
Environmental Management (EM) Nevada Program  
January 17, 2024



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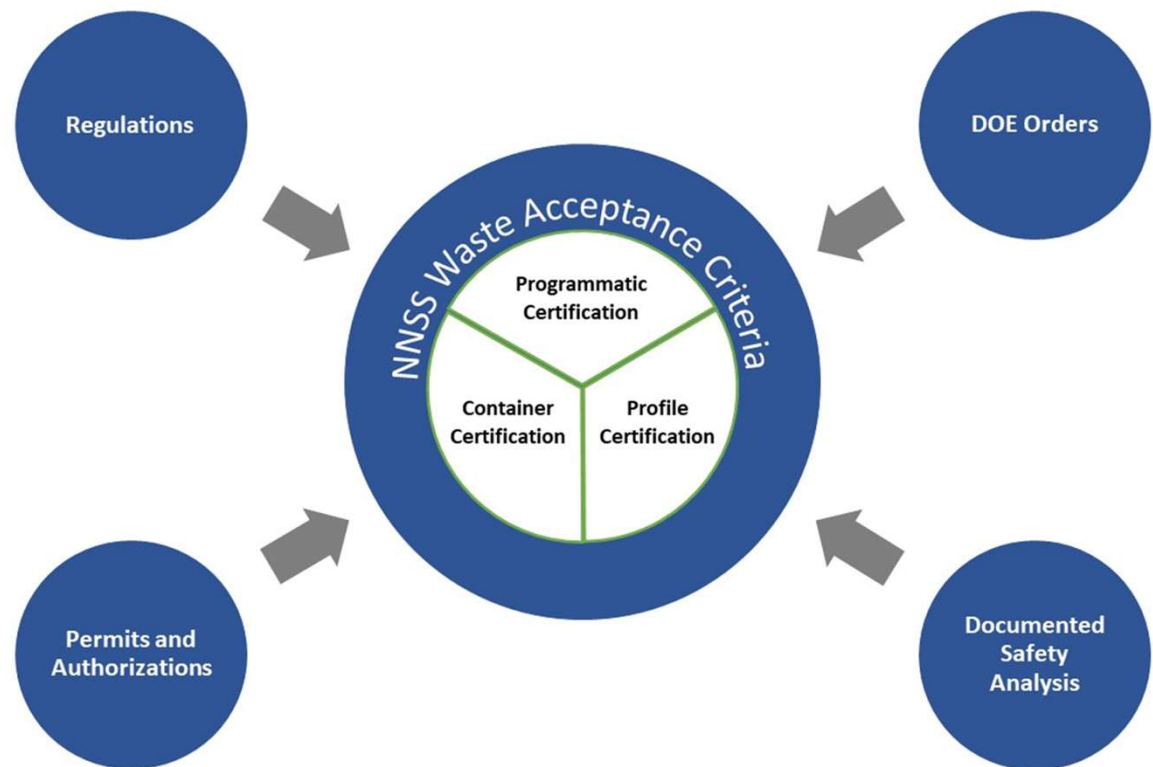
*safety – performance – cleanup – closure*



ID 3338 – 1/17/2024  
Log No: EMRP-2024-091

# NNSS Waste Acceptance Program

- Wastes eligible for disposal in Nevada must be certified under an approved Waste Certification Program and independently reviewed to confirm compliance with the Nevada National Security Sites Waste Acceptance Criteria (NNSSWAC)
- Three key focuses of the Radioactive Waste Acceptance Program (RWAP)
  - **Program Verification**
  - Profile Verification
  - **Container Verification**



# Verification Overview – Waste Certification Program

- Review of waste generator's written Work Control Documentation
- Perform **facility evaluation** to confirm waste generator's implementation of written Work Control Documentation
- Review Independent Assessment Reports
- Review reportable incidents at the waste generator's sites



# Verification Overview – Profile Verification

- All waste is profiled, and each profile is reviewed by subject matter experts chartered as the Waste Acceptance Review Panel (WARP)
- Key information reported and reviewed includes radionuclide content, chemical and physical characteristics, package types
- Each container shipped is compared to key profile information prior to acceptance



WARP weekly meeting



# Verification Overview – Container Verification

- Generator certifies each container
- Independent verification of containers by RWAP
  - Visual verification
  - Real time radiography
  - Split sampling
  - Other



# NSSAB - Work Plan Item #3

- From a community perspective, the Nevada Site Specific Advisory Board (NSSAB) will provide recommendations for how the RWAP **facility evaluations** could be enhanced





# NSSAB - Work Plan Item #3 (continued)

- Background: RWAP conducts facility evaluations at generator sites throughout the country. These **facility evaluations** evaluate the generator's waste certification program to verify continued implementation of the NNSWAC.
- Up to two NSSAB members are invited to observe RWAP conducting a **facility evaluation** and present their observations to the Full Board during the NSSAB Meeting on July 17, 2024.
- NSSAB recommendation is due in July 2024.



# Facility Evaluations Defined

- What is a facility evaluation?
  - A documented, in-depth review of written controls and evidence of implementation to assess a waste generator's program adherence to the requirements of the NNSWAC
  - A facility evaluation is categorized as either an audit or surveillance
    - An audit assesses all five key program areas: radiological characterization; chemical characterization; waste traceability; quality assurance; packaging and transportation
    - A surveillance generally assesses two of the key program areas or is targeted to review a specific waste or assess implementation of corrective actions



# Facility Evaluations Purpose

- Why does the NNS conduct facility evaluations?
  - To ensure a periodic review of waste generator's written controls (e.g., work plans and procedures) is conducted to ensure alignment with the requirements of the NNSWAC
  - To periodically assess evidence that written work controls are being implemented through the observation of the work, interviews with waste generator staff including technical specialists, work floor personnel and support staff
  - To perform periodic on-site review of records, documenting work is completed in accordance with written controls (e.g., laboratory analysis reports, fill sheets documenting waste container contents, procurement and inspection sheets for purchased containers, calibration records, shipping papers)



# Facility Evaluations Frequency

- What is the frequency of facility evaluations?
  - Generally, a facility evaluation is performed at each active generator annually
  - RWAP seeks to perform an audit at each facility every three years although audits are assigned primarily based on the risk rankings
    - Risk rankings consider any issues the facility has had, the volume of waste shipped, the activities performed at the generator site and the radiological hazards associated with the site
    - On average seven audits are conducted per year
    - Remaining facility evaluations are conducted as surveillances and an average of 20 surveillances are conducted per year



# Facility Evaluations Personnel

- Who performs facility evaluations?
  - Assessors are subject matter experts in the five key areas and are members of RWAP
    - Assessors must be free from organizational conflicts of interest
  - Invited specialists for areas of interest based on specific wastes or operations
  - Observers routinely include DOE federal and contractor (Mission Support and Test Services, LLC - MSTs) staff and State of Nevada Division of Environmental Protection (NDEP) personnel
  - Other observers if approved by DOE EM Nevada Program manager



# Facility Evaluations Documentation

- How is a facility evaluation documented?
  - Each subject matter expert completes a standard checklist that verifies each applicable NNSWAC requirement is implemented through written work controls and there is evidence of implementation
  - Documentation reviewed is catalogued
  - Personnel interviewed are identified
  - RWAP produces a final report that captures all critical information and supports with narrative documentation
  - Reports and supporting documentation are retained as records



# Key Messages – Facility Evaluations

- Assesses both the adequacy of the waste generator's written work controls and evidence of their implementation in the field
- Allows for the potential to identify issues, including systematic issues not evident on individual profiles or verifications
- Structured to assign audits based on risk and use surveillances for low-risk facilities
- Documentation is standardized and comprehensive



# Questions on Facility Evaluations



RWAP team conducting facility evaluation in West Valley, NY

EM Nevada Program Subject Matter Expert (SME):  
Jhon Carilli

Navarro SME:  
Marilew Bartling





# NSSAB Path Forward – Work Plan Item #3

- From a community perspective, the NSSAB will provide recommendations for how RWAP's **facility evaluations** could be enhanced
- Up to two NSSAB members invited to observe RWAP conducting a **facility evaluation**
- NSSAB members report their observations to the Full Board at the NSSAB Meeting on July 17, 2024
- NSSAB recommendation is due in July 2024



# Proposed RWAP Facility Evaluations for NSSAB Observations

- To foster NSSAB understanding of waste generator missions and the depth of RWAP **facility evaluations**, EM Nevada is offering an opportunity for up to two NSSAB members to observe RWAP conducting a facility evaluation:

Date	Generator	Location
04/23-24/2024	UT-ORNL (surveillance)	Oak Ridge, TN
06/11-12/2024	Portsmouth Gaseous Diffusion Plant (surveillance)	Piketon, OH
06/25-26/2024	Idaho Cleanup Project (surveillance)	Idaho Falls, ID

- Selected modules assessed: quality assurance, radiological characterization, chemical characterization, traceability, and transportation
- Two-day surveillances with two auditors plus two days travel for out-of-state generators



# LLW Visual Verification Work Plan Item #2



**Marilew Bartling, RWAP Manager**  
Navarro, Contractor to the  
DOE EM Nevada Program



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ID 3338 – 1/17/2024  
Log No: EMRP-2024-091

# NSSAB - Work Plan Item #2

- From a community perspective, the NSSAB will provide recommendations for how the RWAP **visual verifications** could be enhanced



# NSSAB - Work Plan Item #2

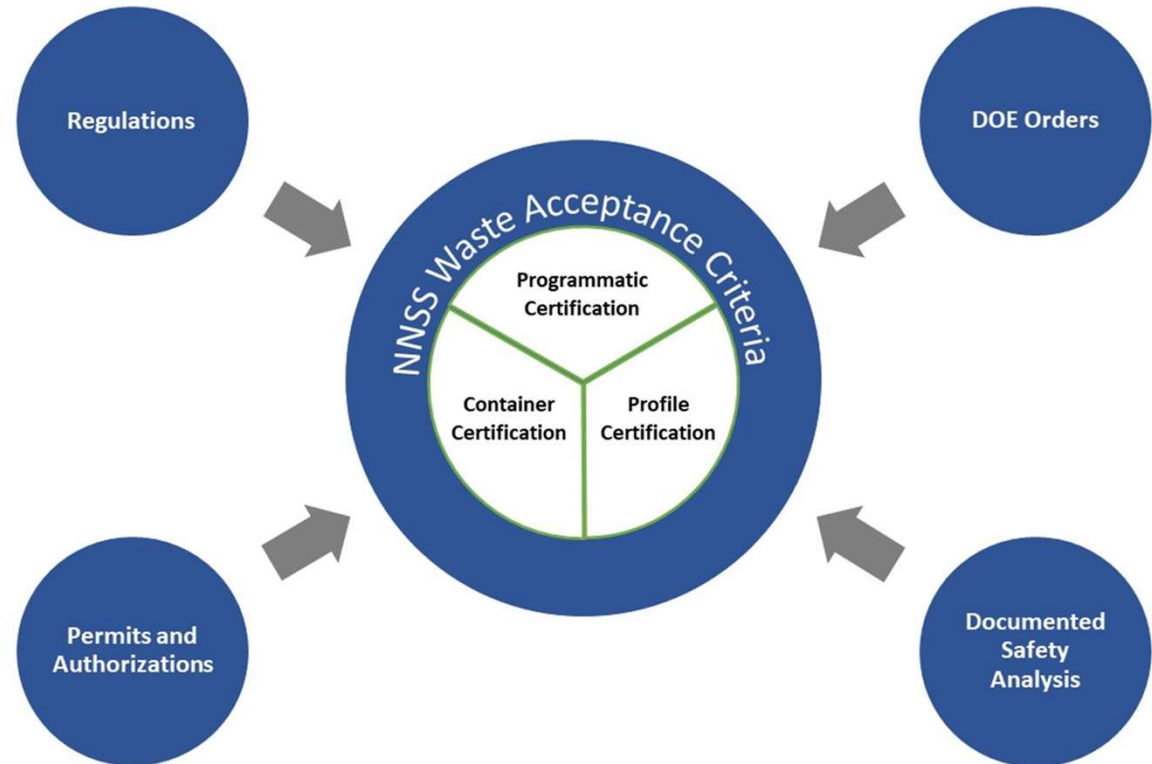
## (continued)

- Background: RWAP conducts different types of verifications at generator sites throughout the country. This includes **visual verifications** which focus on the packaging of waste into the shipping containers to ensure the waste is consistent with the waste profile and does not have any NNSWAC prohibited items.
- Up to two NSSAB members are invited to observe RWAP conducting a **visual verification** and present their observations to the Full Board during the NSSAB Meeting on July 17, 2024.
- NSSAB recommendation is due in July 2024.



# NNSS Waste Acceptance Program

- Wastes eligible for disposal in Nevada must be certified under an approved Waste Certification Program and independently reviewed to confirm compliance with the NNSSWAC
- Three key focuses of RWAP
  - Program Verification
  - Profile Verification
  - **Container Verification**



# On-Site Visual Verification Defined

- What is a visual verification?
  - Usually an in-person observation of the packaging, closure, securement, and labeling of a package to be shipped to the NNSC that is scheduled based on the planned date of generation of the waste
  - Occasionally through review of videos/photos of packaging and closure due to hazards (e.g., asbestos, elevated dose)



# On-Site Visual Verification Purpose

- Why does NNSC verify containers?
  - Satisfies NDEP-issued permits
  - Provides assurance that generators are implementing written work controls when filling and securing containers
  - Provides a unique opportunity to talk with generators to understand any waste challenges or potential issues prior to shipment





# On-Site Visual Verification Frequency and Personnel

- What is the frequency of verification?
  - Minimum of ten percent (10%) for waste disposed in the Hazardous Waste Permitted cell based on the profile population unless otherwise approved by WARP
- Who performs visual verifications?
  - RWAP members
  - Trained federal local on-site staff



# On-Site Visual Verification Documentation

- How is a visual verification documented?
  - Standard checklist is completed for all containers verified
  - Relevant evidence is attached to the checklist
- Documented information
  - General information to ensure traceability to the containers reviewed is captured including site and generator identification; verifier and organization; associated waste profile; container number; container type
  - Specific information regarding the waste is recorded, including regulatory classification (e.g., Low-Level Radioactive Waste, Hazardous waste (radioactive or non-radioactive), security classification; type of waste (e.g., debris, soil, sludge, concrete or equipment) and confirmation content aligns with waste profile; confirmation container is free from prohibited items (e.g., free liquids, unpunctured aerosol cans, certain batteries, circuit boards)



# On-Site Visual Verification Documentation (continued)

- Container loading information, such as evidence of a pre-use inspection of the container; estimation of void space; addition of absorbents if required; closure in accordance with manufacturer's instructions; application of tamper indication devices
- Description of treatment if conducted (e.g., macroencapsulation, stabilization with concrete)
- Approval signatures
  - Each visual verification checklist is signed by the verifier with their recommendation for acceptance or rejection
  - RWAP manager or designee conducts final reviews of the checklist and approves



# Key Messages – Visual Verifications

- The execution of visual verifications is a useful tool for assessing a subsample of the waste received at the NNSC and interacting with the generators
- Allows for the potential to identify issues prior to shipment
- Completion of visual verifications supports compliance with the NDEP-issued permits
- Documentation is standardized, comprehensive and traceable to the specific container verified



# Questions on **Visual Verifications**



NSSAB observation of visual verification activities

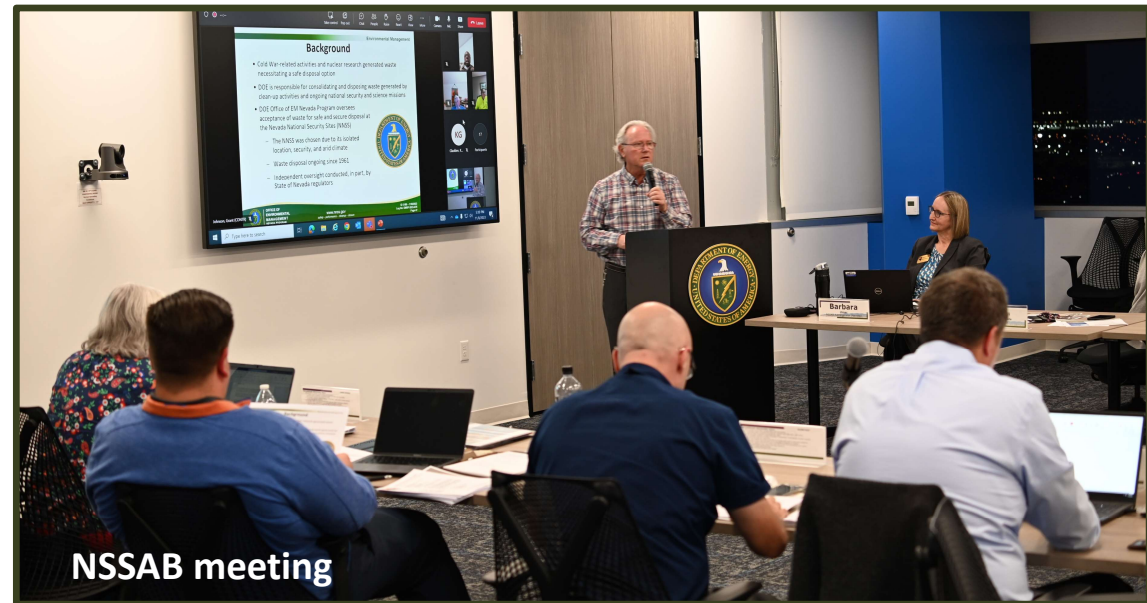
EM Nevada Program SME:  
Jhon Carilli

Navarro SME:  
Marilew Bartling



# NSSAB Path Forward – Work Plan Item #2

- From a community perspective, the NSSAB will provide recommendations for how RWAP's **visual verifications** could be enhanced
- Up to two NSSAB members invited to observe RWAP conducting a LLW **visual verification**
- NSSAB members report their observations to the Full Board at the NSSAB Meeting on July 17, 2024
- NSSAB recommendation is due in July 2024



NSSAB meeting



# Real Time Radiography Operations at the Area 5 Radioactive Waste Management Complex (RWMC) Work Plan Item #4



**Byron Smith, RWAP RTR Verification Technician**  
Navarro, Contractor to the  
DOE EM Nevada Program



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# NSSAB - Work Plan Item #4

- From a community perspective, the NSSAB will provide recommendations for how the RWAP **real time radiography (RTR)** operations could be enhanced





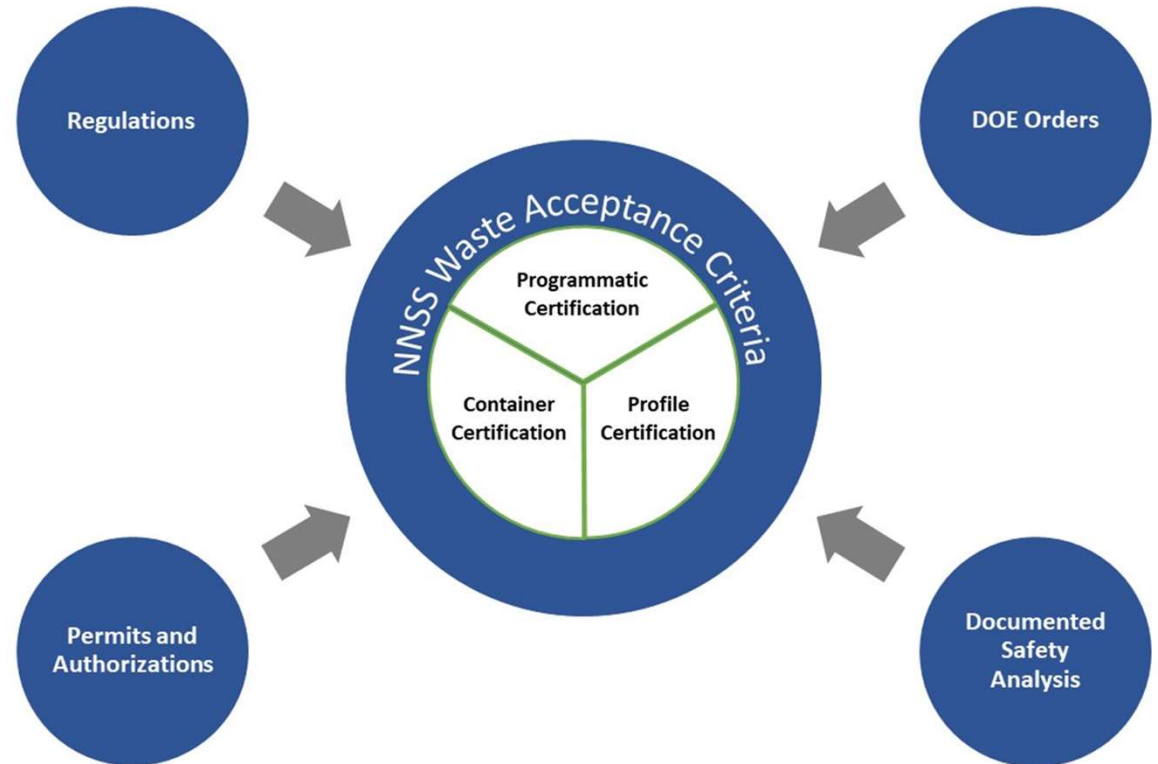
# NSSAB - Work Plan Item #4 (continued)

- Background: RWAP conducts RTR (essentially x-ray technology) on waste containers received by generators across the DOE complex at the Area 5 RWMC. RTR examinations are used to verify that waste matches the profile description, and no indeterminate items are identified prior to disposal at the NNSS.
- Up to two NSSAB members (due to the size of the facility only one member at a time can observe) are invited to observe RWAP conducting an RTR evaluation and present their observations to the Full Board during the NSSAB Meeting on July 17, 2024.
- NSSAB recommendation is due in July 2024



# NNSS Waste Acceptance Program

- Wastes eligible for disposal in Nevada must be certified under an approved Waste Certification Program and independently reviewed to confirm compliance with the NNSSWAC
- Three key focuses of RWAP
  - **Program Verification**
  - Profile Verification
  - **Container Verification**



# RTR Defined

- What is RTR?
  - Nondestructive test method where an image is produced electronically rather than on film
  - X-rays penetrate a target area to give a positive image of objects being inspected



# RTR Purpose

- Why does NNSC verify containers?
  - To provide monitoring data for a select number of containers to ensure the packaged waste aligns with the profile
  - To examine containers for the presence of indeterminate items
  - To assess the amount of void space in a container to monitor compliance with NDEP-issued permit requirements



# RTR Highlights

- What is the frequency of verification using RTR?
  - No prescribed frequency requirement
  - Over the past two years, 24 RTR events per year were required to satisfy the Settlement Agreement signed with NDEP resulting from the Y-12 incident
  - An RTR event is defined as a random visual inspection of packaged waste shipped associated with a given generator profile prior to burial in the cell
  - In fiscal year 2023, 47 total containers were subjected to RTR, representing 8 generators and 19 profiles
  - RTR is primarily used to ensure that 10 percent of all waste containers destined for the solid waste cell are verified

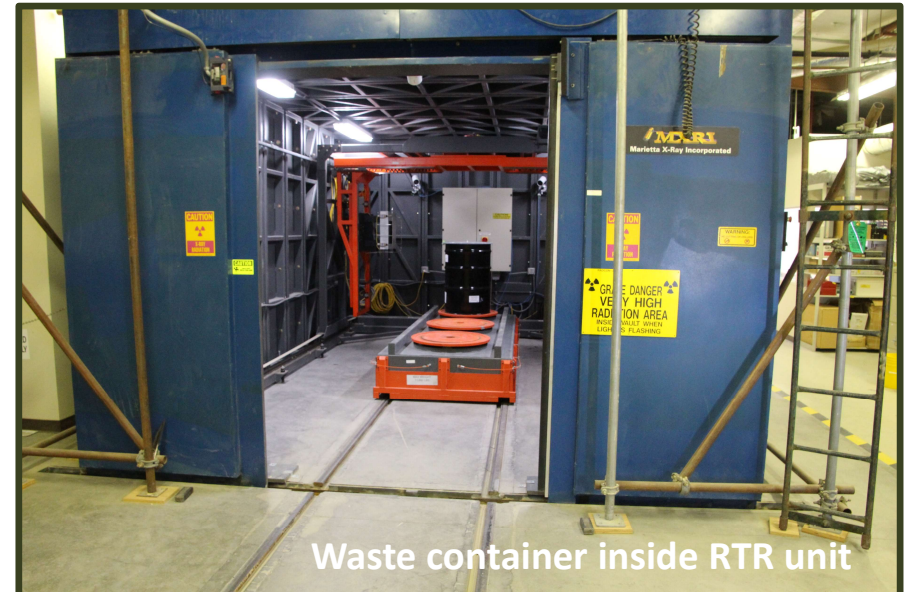


# RTR Personnel

- Who verifies RTR?
  - Operator trained for operating the RTR unit
  - Trained independent verifier
  - Note: Some generators have RTR capability and provide videos for review, which is helpful for shielded high dose containers



RTR personnel in control room



Waste container inside RTR unit



# RTR Documentation

- How is RTR documented?
  - A Container RTR Verification checklist is completed for each container with a recommendation for further review or disposal
  - A RTR Verification Review is completed by RWAP and the waste generator upon receipt of an indeterminate item(s)
  - Recordings of each RTR event are maintained by Mission Support and Test Services, LLC (NNS Management and Operating contractor)
  - The RWAP manager reviews and approves all RTR forms



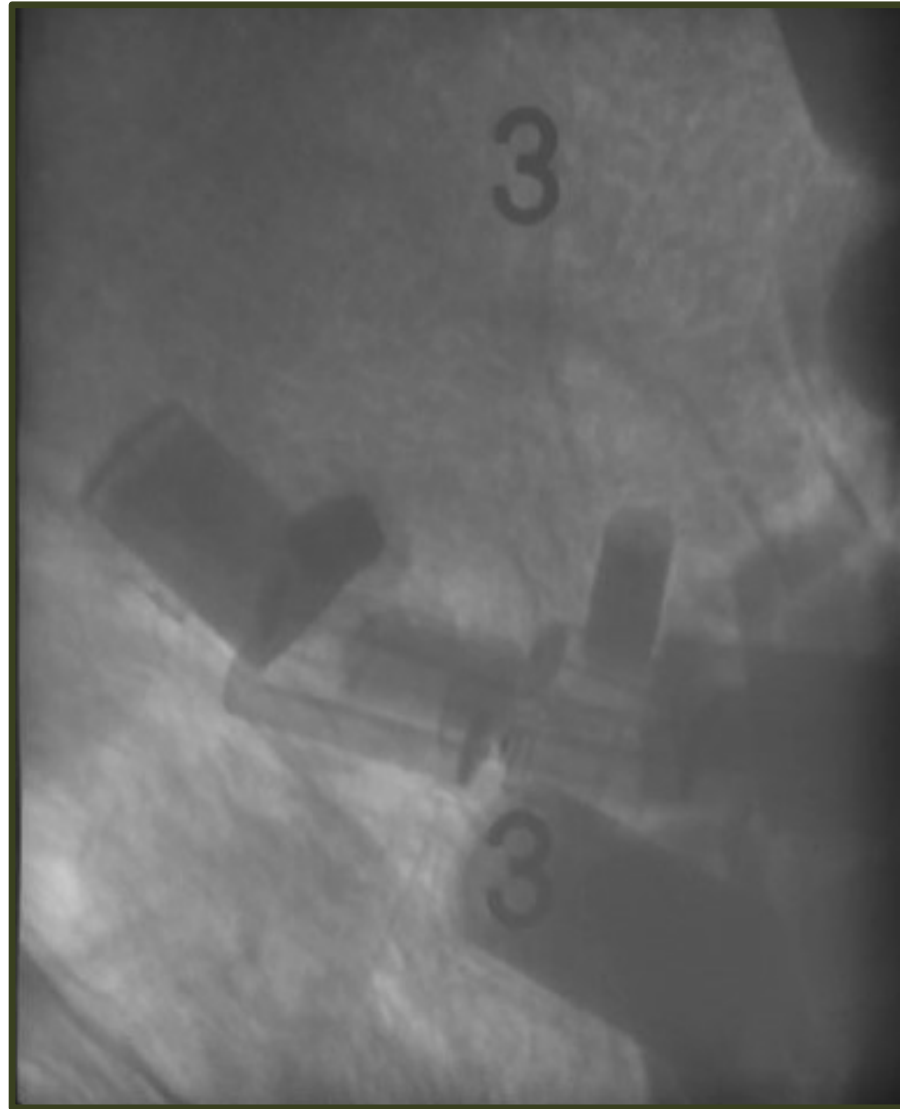
# RTR – Indeterminate Items

- What if an item is suspected to be indeterminate?
  - RWAP
    - Contacts the generator
    - Reviews any information provided by the generator
    - Makes a recommendation to the EM Nevada Program whether to dispose or return to the generator





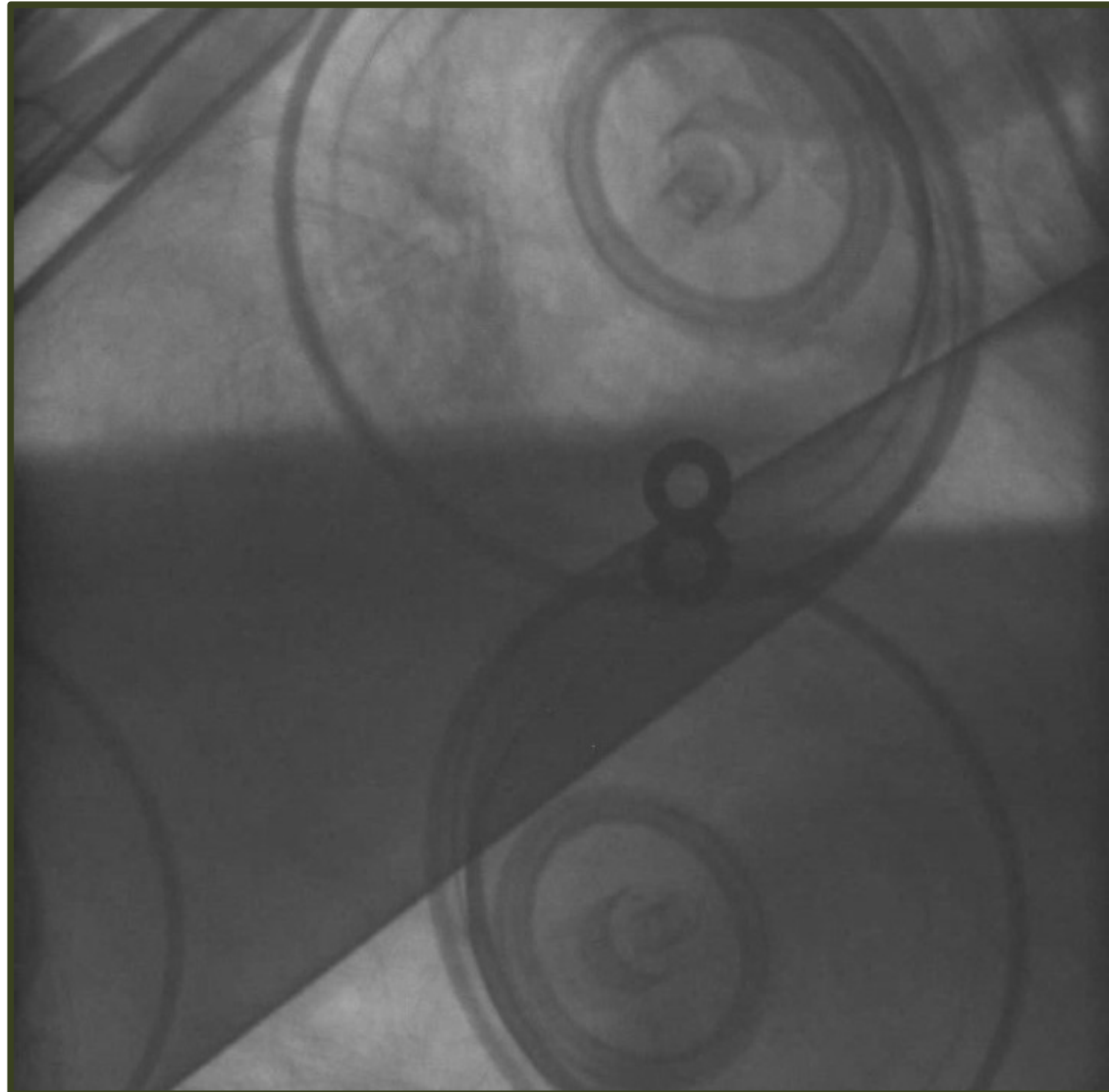
# RTR – Indeterminate Items (continued)



# RTR – Indeterminate Items (continued)



# RTR – Indeterminate Items (continued)



# RTR Equipment

- What equipment is used?
  - Existing equipment
    - Built-in shielded vault with trolley system that views both drums and boxes
  - Planned equipment
    - Drive-through truck portal system that views various sized waste containers



# Key Messages - RTR

- Provides a mechanism for verifying profile compliance for individual containers
- A highly controlled operation with auditable records produced
- Used to satisfy NDEP permit requirements
- Capabilities are to be expanded with the new truck portal system



# Questions on RTR



NSSAB receives tour of the RTR control room

EM Nevada Program SME:  
Jhon Carilli

Navarro SMEs:  
Marilew Bartling and Byron Smith



# NSSAB Path Forward – Work Plan Item #4

- From a community perspective, the NSSAB will provide recommendations for how RWAP's RTR operations could be enhanced
- Up to two NSSAB members (due to the size of the facility only one member at a time can observe) invited to observe RWAP conducting an RTR evaluation
- NSSAB members report their observations to the Full Board at the NSSAB Meeting on July 17, 2024
- NSSAB recommendation is due in July 2024



# Proposed RWAP Visual Verifications for NSSAB Observations

- To foster NSSAB understanding of waste generator missions and the depth of RWAP **visual verifications**, EM Nevada is offering an opportunity for up to two NSSAB members to observe RWAP conducting a visual verification
  - Two-day surveillances with two auditors plus two days travel for out-of-state generators
  - RWAP receives about two weeks' notice before a generator plans to package waste





# Proposed RWAP **RTR** Evaluations for NSSAB Observations

- To foster NSSAB understanding of waste generator missions and the depth of RWAP **RTR** evaluations, EM Nevada is offering an opportunity for up to two NSSAB members to observe RWAP conducting an RTR evaluation
  - Location will be at the Area 5 RWMC on the NNSS
  - Scheduled in April – May 2024 to ensure that weather is favorable based on availability of the NSSAB members who observe



**General Information**

Start Date – date the visual verification was completed. In the case of containers being filled over multiple days, each date that visual verification of the waste is made should be noted in the date line.

Number – this number (example SRV-24-006-PERM) is assigned in the RWAP SharePoint. If an external (non-RWAP) Verification Representative (VR) will be completing the visual verification, RWAP personnel will provide the number.

Verification Representative (VR) – name of the individual(s) completing the visual verification. Include the name(s) of personnel completing On the Job Training (OJT). If an external VR will be completing the visual verification, identify the name and the name of the RWAP VR providing support and review of the checklist.

VR Organization – name of the organization / company the VR(s) is/are associated with.

**Generator Information**

Generator Facility – name and acronym of the generator facility where the visual verification was completed.

Profile Name – name of the waste profile related to the waste container being verified.

NNSS Profile Identification Number – number of the waste profile related to the waste container being verified.

Profile Revision Number – revision number of the waste profile related to the waste container being verified.

Profile Revision Date – revision date of the waste profile related to the waste container being verified.

Shipment Number – if applicable, will be provided by the generator facility, document as N/A if not applicable.

Container ID – unique identity of the waste container being verified. The container number(s) is/are provided by the generator. If this is for a macroencapsulated container identify the outer container ID (e.g., the MacroBag ID). If the verification is for multiple containers of the same waste, same container type, then list all containers in this section and add a statement “See attached spreadsheet for details” An attachment template is available

Container Type– type of the waste container (e.g., drum or box) being verified

Container Size – document the size of the waste container being verified

**Visual Verification – Pre-job Information and Container Contents**

Steps 1-6. Check the appropriate box and add requested information. If any prohibited items, indeterminate items, or items of concern to the NNSS observed, contact the RWAP Manager immediately for guidance on path forward. Not all items listed are prohibited, but knowledge of them prior to receipt at the NNSS is valuable.

## Container Loading and Closure

Steps 7-11. Check the appropriate box and add requested information

Step 12. TID(s) must ensure the container cannot be reopened unless the TID(s) is broken and cannot be reattached. TID(s) must meet the following criteria:

- Uniquely identified and controlled
- Not contain lead
- Placed to ensure protection from damage during transport

If possible, ensure TID(s) are placed on the container prior to the container leaving site of the VR; otherwise, photographs may be acceptable.

Step 13. If the visual verification is for a large cargo container and is not being completely filled, then check the appropriate box and add requested information.

If the VR discovers any issues with container loading and closure, they should contact the RWAP Manager immediately for guidance on path forward.

## Waste Treatment

Step 14. Only applicable to MLLW. Check appropriate box and add requested information.

If the VR discovers any issues with waste treatment, they should contact the RWAP Manager immediately for guidance on path forward.

## Notes

This section can be used to record references to photographs or videos collected, or any other item that supports the visual verification. The VR can record any information that may benefit RWAP. Add names of generator personnel in attendance supervising, supporting, or observing the verification. Add information if a pre-job briefing was conducted and the procedure/process used to perform the work.

## Status

The status is completed after the visual verification and checklist are completed. The VR electronically signs and submits the checklist to the RWAP Manager. The checklist should note if there were any issues detected and whether the container is recommended for disposal. The RWAP Manager electronically signs the checklist indicating approval.

Check "No, container(s) Passes: (No Issues or Discrepancies)" A container passes if no issues are identified, or if potential issues have been adequately resolved.

Check "Yes, container(s) on HOLD" if the container is placed on hold while a potential issue is under review.

Check “Yes, container(s) REJECTED” if the container fails visual inspection because any of the following is found:

- 1) undocumented or improperly packaged waste/material,
- 2) prohibited articles or materials,
- 3) material not consistent with the applicable waste/material profile (i.e., waste/material form),
- 4) void space greater than 10 percent (MLLW only), or
- 5) free liquids.

**General Information**

Start Date:
Number:
Verification Representative (VR):
VR Organization:

**Generator Information**

Generator Facility:
Profile Name:
NSS Profile Identification Number:
Profile Revision Number:
Profile Revision Date:
Shipment Number:
Container ID(s):
Container Type:
Container Size:

**Visual Verification – Pre-job Information and Container Contents**

1.	<p>Is this a remote verification using RTR tapes, operational videos, digital recordings, photos of waste/material treatment, and/or packaging?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes, describe:</p>
2.	<p>Was a pre-job briefing for the visual verification conducted and documented?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Did not assess</p> <p>If Yes, describe the time, what operating procedure is used for the work, who conducted the pre-job, and who was in attendance)</p>
3.	<p>Category of waste:</p> <p><input type="checkbox"/> Low-Level Waste (LLW) <input type="checkbox"/> Mixed Low-Level Waste (MLLW) <input type="checkbox"/> Radioactive Hazardous Classified Waste <input type="checkbox"/> Non-Radioactive Hazardous Classified Waste <input type="checkbox"/> Non-Radioactive Non-Hazardous Classified Waste</p>
4.	<p>Type of waste:</p> <p><input type="checkbox"/> Debris <input type="checkbox"/> Homogeneous Solid (e.g., soil, sludge, concrete) <input type="checkbox"/> Other</p> <p>If Other, describe:</p>
5.	<p>Are the waste contents consistent with the description provided in the associated waste profile?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If No, describe:</p>

### Visual Verification – Pre-job Information and Container Contents

6.	<p>Were any prohibited items, indeterminate items, or items of concern to the NNSS observed in the container(s):</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes, identify below:</p>
	<p><input type="checkbox"/> Free liquids for LLW</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> exceed one percent of the waste volume when the waste is in a disposal container, OR</li> <li><input type="checkbox"/> exceed 0.5 percent of the volume of the waste processed to a solidified form (e.g., grouted waste or absorbed liquids)</li> </ul> <p><input type="checkbox"/> Free liquids for MLLW</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> free liquids are present</li> </ul> <p><b>Note:</b> ONLY containerized free liquids such as ampules (small articles that contain free liquids required for the article to function [e.g., batteries or capacitors]) are acceptable in MLLW</p> <p><input type="checkbox"/> Compressed gases (e.g., aerosol cans, gas bottles, or cylinders) not properly vented</p> <p><b>Note:</b> Compressed gas containers clearly punctured, crushed, or having had the stem valves removed are acceptable</p> <p><input type="checkbox"/> Potentially Hazardous waste (e.g., circuit boards, batteries, leaded gloves)</p> <p><input type="checkbox"/> Leaking equipment</p> <p><input type="checkbox"/> Battery</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Other type of battery (e.g., lead acid, nickel cadmium)</li> </ul> <p><b>Note:</b> Any battery detected, the generator must provide information detailing the type of battery if not specifically noted on the waste profile</p> <p><input type="checkbox"/> Closed containerized items (e.g., paint cans, plastic bottles, buckets)</p> <p><input type="checkbox"/> Potentially incompatible wastes (e.g., wastes labelled corrosives, peroxides, oily rags)</p> <p><input type="checkbox"/> Wastes with biohazard markings</p> <p><input type="checkbox"/> Explosives or Pyrophorics</p> <p><input type="checkbox"/> Any other items the VR wants to note</p> <p><b>Note:</b> Not all items listed are prohibited; however, the NNSS wants to be aware prior to acceptance. If the answer to any are Yes, please contact RWAP to discuss.</p> <p>If any of these items are present, describe:</p>

**Container Loading and Closure**

7.	<p>Was a documented pre-use inspection completed?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Did not assess</p> <p>If Yes, please attach documentation of pre-use inspection If No, was a receipt inspection completed for this container?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes, what procedure is followed for the completion of this inspection?</p> <p>Procedure, Revision, and date: _____</p> <p>If No, provide explanation for the basis of acceptable use of container:</p>
8.	<p>For LLW, is the waste container loaded to ensure that the interior volume is as efficiently and compactly loaded as practical to minimize void space?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p>If No, please record the rationale for the loading (e.g., weight limits, irregular shaped items, criticality safety limits):</p>



### Container Loading and Closure

9.	<p>For MLLW, are containers (a) at least 90 percent full when placed in the landfill; or (b) crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If No, please record the rationale for the loading:</p>
10.	<p>Was absorbent used?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes, provide:</p> <p>Absorbent type: _____</p> <p>Volume / weight used: _____</p> <p>Is there an absorbent requirements worksheet available?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes, please attach documentation of absorbent requirements If No, provide explanation for the basis for the absorbent selected and amount used</p> <p>Is absorbent added solely to address potential condensation?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
	<p>For MLLW, are absorbents used non-biodegradable?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p>

## Container Loading and Closure

11.	<p>Was container closure witnessed?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes, answer the following:</p> <p>For single-use containers (e.g., B-25 style boxes, drums), were the manufacturer's instructions available or flowed down into the work instructions?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Was the container closed in accordance with the manufacturer's instructions?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Was equipment required for closure, such as torque wrenches, current with calibration?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Did not assess</p> <p>If Yes, please record:</p> <p>Equipment type: _____          Identification: _____          Date of Calibration / Calibration Due Date: _____          Any Limitation: _____</p> <p>If the container(s) was weighed, was the scale used current with calibration?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes, provide:</p> <p>Identification: _____          Date of Calibration / Calibration Due Date: _____          Any Limitation: _____</p>
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**Container Loading and Closure**

12.	<p>Were TIDs applied to the container(s)?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes, provide the TID number(s):</p> <p>TID #: _____  TID #: _____  TID #: _____  TID #: _____</p>
13.	<p>Was the verification completed on an in-process waste container(s) (e.g., cargo container)?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes, provide waste log(s) used for adding waste to the container, and describe the process to ensure the integrity of the waste container(s) is not compromised.</p>

**Waste Treatment**

14.	<p>For MLLW, was treatment performed?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA</p> <p>If Yes, describe treatment (e.g., macroencapsulation, amalgamation, stabilization):</p>
-----	--

**Notes**

A large, empty rectangular box with a black border, intended for handwritten notes.

**Status**

Are there any issues and / or discrepancies with the container(s)?

- No, container(s) Passes: (No Issues or Discrepancies)
- Yes

If Yes, please describe:

VR Name, Signature and Date

Date Submitted to RWAP Manager:

Recommended for disposal at the NNSS?

- Yes
- No

If No, describe:

RWAP Manager Name, Signature and Date

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM  
REAL TIME RADIOGRAPHY [RTR] VERIFICATION REVIEW**

**SECTION A: TO BE COMPLETED BY RWAP REAL TIME RADIOGRAPHY PERSONNEL**

Date Completed	Verification Representative [VR] Name	Shipment Number	Waste Profile Number	Rev #	Revision Date

Waste Generators RWMC Code, Company Name & Location

#	Container Identification Number	Container Type & Size	Waste Type	# of images attached
1				
2				
3				
4				
5				

**Detailed Description of the Indeterminate Item[s]**  
NOTE: If additional room is needed for the description, check the checkbox at the bottom of the block and include as addendum.

See attachment

**SECTION B: TO BE COMPLETED BY WASTE GENERATING SITE PERSONNEL**

Provide an explanation of the indeterminate item – include as necessary a description of the item in question, its characteristics, the characteristics of the waste stream, and controls in place to ensure that no prohibited items are included in waste certified for disposal at the NNSS.  
If Mixed Low-Level Waste, include the actions taken to ensure container was filled to 90% or greater.

See attachment

NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM  
REAL TIME RADIOGRAPHY [RTR] VERIFICATION REVIEW

#	List Attachments [waste inventory sheets, training records, photographs, etc.]
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

**Waste Certification Official Declaration of Compliance [Check the appropriate boxes]**

<input type="checkbox"/> I certify that based on the information reviewed that the indeterminate item[s] identified by RTR are not prohibited items and the container is compliant with the requirements of the NNSSWAC. <input type="checkbox"/> I certify package was filled and managed to maintain 90% fill to the best of the site's ability. <input type="checkbox"/> I request the above identified package[s] containing the indeterminate item[s] be returned for further inspection. <input type="checkbox"/> I request the above identified shipment containing the indeterminate item[s] be returned for further inspection.	<b>Waste Certification Official or Designee Signature &amp; Date</b>

**SECTION C: TO BE COMPLETED BY RWAP & NNSS PERSONNEL**

- Confirmation has been received from the waste generating site for the above referenced package/shipment, the generator has confirmed that no prohibited items are present, and the package/shipment can be dispositioned by RWMC personnel.
- Generator has requested the above referenced package be returned for further inspection.
- Generator has requested the above referenced shipment be returned for further inspection.

**Contractor RWAP Manager and/or NNSS M&O Contractor Comments**

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<b>Contractor RWAP Manager or Designee Signature &amp; Date</b>	<b>NNSS M&amp;O Contractor Designee Signature &amp; Date</b>

**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM  
CONTAINER REAL TIME RADIOGRAPHY VERIFICATION CHECKLIST**

**SECTION 1: GENERAL INFORMATION**

Profile Number	Profile Revision	Profile Date	Profile Name
<b>Generator Facility - RWMC Code</b>			
Verification Date	Generator		
RWAP Verification Representative (VR)			
Verification Organization	Navarro	Shipment Number	
For multiple containers, complete Section 5 <i>Container Table and Notes</i> as required			
Container Identification Number	Container Type	TID(s)	RTR Recording Reference Number

**SECTION 2: RTR Equipment / Operator**

<b>A.</b>	<input type="checkbox"/> Verified MSTs warm-up the RTR instrument and completion of resolution check (this can be verified by examining the RTR logbook)	<b>Operator Name</b>	
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**SECTION 3: Waste Category**

<b>A.</b>	<p><b>Category of Waste:</b></p> <input type="checkbox"/> Low-Level Waste (LLW) <input type="checkbox"/> Mixed Low-Level Waste (MLLW) <input type="checkbox"/> Radioactive Hazardous Classified Waste <input type="checkbox"/> Non-Radioactive Hazardous Classified Waste <input type="checkbox"/> Non-Radioactive, Non-Hazardous Classified Waste <input type="checkbox"/> PCB Waste Requiring Disposal in a Permitted Hazardous Waste Landfill <input type="checkbox"/> Regulated Asbestiform Low-Level Waste (RALLW) Requiring Disposal in Solid Waste Permit 532 Cell
<b>B.</b>	<p><b>Physical State/Description of Waste:</b></p> <input type="checkbox"/> Solid <input type="checkbox"/> Soil <input type="checkbox"/> Sludge <input type="checkbox"/> Powder/Dust <input type="checkbox"/> Debris <input type="checkbox"/> Filters <input type="checkbox"/> Dry Active Waste <input type="checkbox"/> Batteries <input type="checkbox"/> Light Bulbs  <input type="checkbox"/> Other, describe:



**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM  
CONTAINER REAL TIME RADIOGRAPHY VERIFICATION CHECKLIST**

**SECTION 4: RTR Verification – Container Contents**

<b>A.</b>	Are the waste contents consistent with the description provided in the associated waste profile? If No, complete NNSC Real Time Radiography (RTR) Verification Review Form (RWAP-FR-014)	
<b>B.</b>	Are free liquids present? <b>NOTE:</b> If MLLW, only small ampules of free liquids, i.e., articles that contain free liquids required for the article to function [e.g., batteries or capacitors] are acceptable. LLW may be present if it is less than 1% of the container volume. If No, complete NNSC Real Time Radiography (RTR) Verification Review Form (RWAP-FR-014)	
<b>If yes, describe including an estimate of volume:</b>		
<b>C.</b>	Are any of the following prohibited items suspected? If prohibited items are suspected, complete NNSC Real Time Radiography (RTR) Verification Review Form (RWAP-FR-014) <ul style="list-style-type: none"> <li><input type="checkbox"/> Intact aerosol cans or cylinders (i.e., no visual indication of puncture, crushing or stem removal)</li> <li><input type="checkbox"/> Potentially Hazardous waste (e.g., circuit boards, leaded gloves) unless contained in a MLLW package.</li> <li><input type="checkbox"/> Batteries unless identified on the profile as non-Haz or contained in a MLLW package.</li> <li><input type="checkbox"/> Light bulbs unless identified on the profile as non-Haz or contained in a MLLW package.</li> <li><input type="checkbox"/> Other, describe:</li> </ul>	
<b>D.</b>	If MLLW, is the container 90% full? If No, evaluate in accordance with February 15, 2023, NDEP letter. If waste does not meet void space criteria, complete NNSC Real Time Radiography (RTR) Verification Review Form (RWAP-FR-014)	

**SECTION 5: Container Table and Notes**

#	Container Identification Number	Container Type	TID(s)	RTR Recording Reference Number	Pass/Hold
1					
2					
3					
4					
5					
6					
7					
8					
9					

If an indeterminate or prohibited item is observed, please indicate location applicable Box or Drum Diagram.

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**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM**  
**CONTAINER REAL TIME RADIOGRAPHY VERIFICATION CHECKLIST**

**SECTION 6: Verification Representative Notes**

Empty area for Verification Representative Notes.

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**CONTAINER REAL TIME RADIOGRAPHY VERIFICATION CHECKLIST**

**Standard Box**

B12       B25       Other, please specify:      Container ID:

Front

	1	2	3	4	5	6	7	8	9	10	11
A											
B											
C											
D											
E											
F											
G											
H											

Reverse

	11	10	9	8	7	6	5	4	3	2	1
A											
B											
C											
D											
E											
F											
G											
H											

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**CONTAINER REAL TIME RADIOGRAPHY VERIFICATION CHECKLIST**

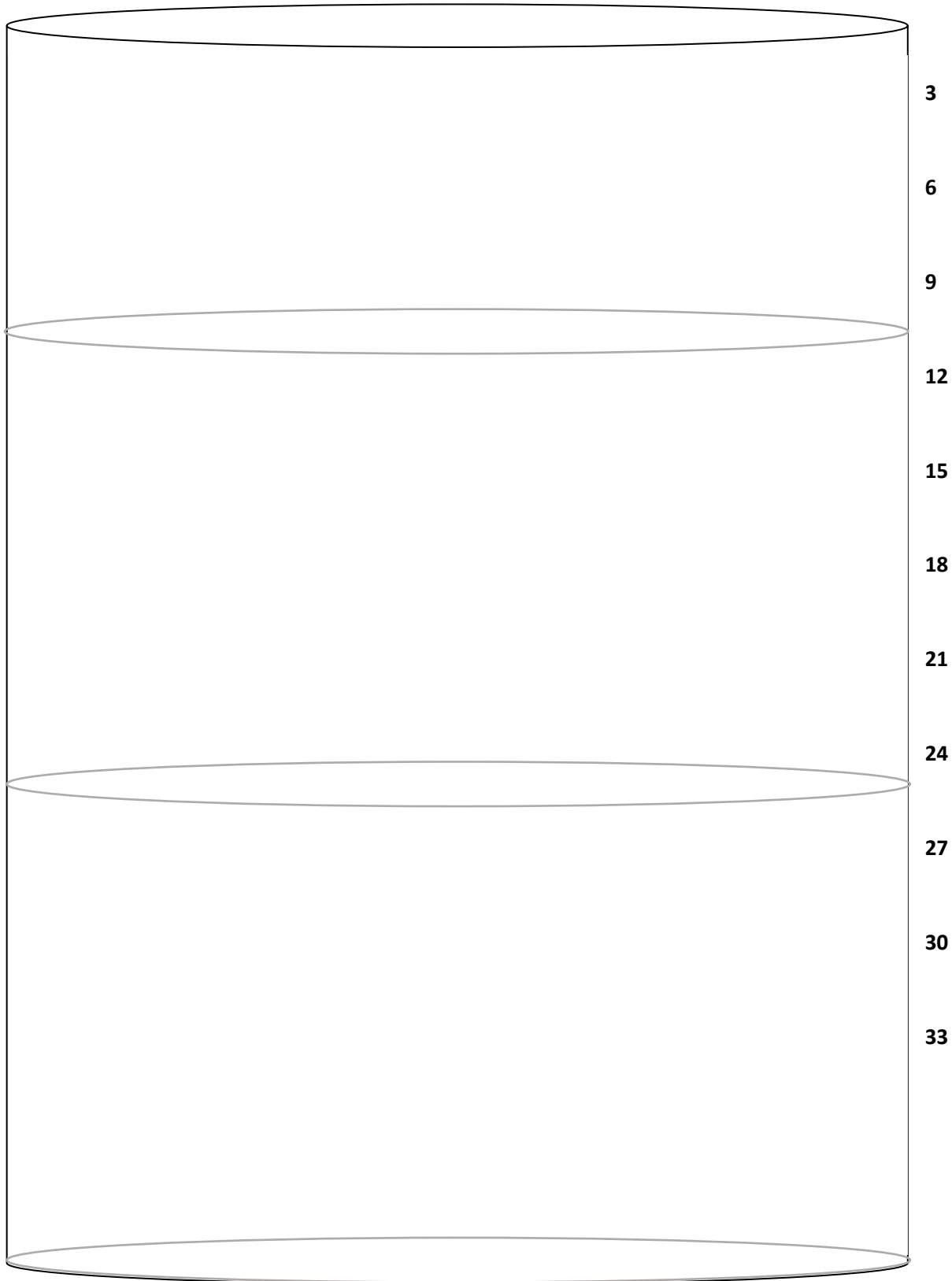
**Standard Drum**

55 Gallon

85 Gallon

Other, please specify size:

Container ID:



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**CONTAINER REAL TIME RADIOGRAPHY VERIFICATION CHECKLIST**

**SECTION 7: Review Status**

<b>A.</b>	<p><b>Initial Review Determination:</b></p> <p><input type="checkbox"/> <b>PASS (No Issues or Discrepancies, recommended for disposal)</b></p> <p><input type="checkbox"/> <b>HOLD</b></p> <p><b>If HOLD, attach the Nevada National Security Site Real Time Radiography (RTR) Verification Review form (RWAP-FR-014); Complete Section 5, Box 2 upon final resolution.</b></p>
<b>B.</b>	<p><b>Post-Verification Review Form Determination – REQUIRED ONLY IF SECTION 4: RTR VERIFICATION-CONTAINER CONTENTS IDENTIFIED INDETERMINATE ITEM(S)</b></p> <p><input type="checkbox"/> <b>Recommend for disposal</b></p> <p><input type="checkbox"/> <b>Return to Generator</b></p> <p><b>If previously ‘Held’ for determination of indeterminate items the Generator, each the Navarro RWAP Manager, MSTs Manager, Environmental Management and Compliance must sign the Nevada National Security Site Real Time Radiography (RTR) Verification Review form (RWAP-FR-014) prior to recommending disposal at the RWMC.</b></p>
<b>C.</b>	<p><b>RWAP Verification Representative Name, Signature and Date</b></p>
<b>D.</b>	<p><b>RWAP Manager Name, Signature and Date</b></p>

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**CONTAINER REAL TIME RADIOGRAPHY VERIFICATION CHECKLIST**  
**CONTAINER REAL TIME RADIOGRAPHY VERIFICATION CHECKLIST INSTRUCTIONS**

**SECTION 1: General Information**

Profile Number – Enter waste profile number related to the waste container(s) being verified by RTR.

Profile Revision Number – Select revision number.

Profile Revision Date – Enter date of the waste profile.

Profile Name – Enter waste profile name.

Verification Date – Enter the date the RTR verification was completed.

Generator Facility-RWMC Code – Select Waste Generator (WG) name with Radioactive Waste Management Complex (RWMC) code identified.

RWAP Verification Representative (VR) – Select the name of the individual conducting the RTR verification. Add name(s) of RWAP personnel completing On the Job Training.

Verification Organization – Select organization / company the VR is associated with.

Shipment Number – Enter shipment number for the waste container(s).

Container ID Number – Enter waste container number. Complete **Container Table** for multiple containers being verified in Section 5.

Container Type – Select waste container type. Complete **Container Table for multiple containers being verified** in Section 5.

Tamper Indicating Device (TID) – Enter TID number(s). Ensure TID(s) are not broken or reattached. TID(s) must meet the following criteria:

- Uniquely identified and controlled
- Not contain lead
- Placed to ensure protection from damage during transport

RTR Recording Reference Number – Record reference number used by MSTs.

**NOTE:** If the VR discovers any issues with container TID(s), they should contact the RWAP Manager immediately for guidance on the path forward.

**SECTION 2: RTR Equipment / Operator**

Check the box indicating RTR unit was warmed-up and a resolution check was completed. Examine the RTR logbook.

Enter the M&O RTR Operator name.

**SECTION 3: Waste Category**

**Step A.** Check appropriate box(s) to identify category of waste being verified.

**Step B.** Check appropriate box(s) to identify the type of waste being verified. Add other types of waste if necessary.

**SECTION 4: RTR Verification - Container Contents**

**Step A.** Check box indicating waste contents are consistent with the waste profile.

If any prohibited or indeterminate items, and any other item(s) of concern to the NNSS are observed, fill out form **Nevada National Security Site Real Time Radiography (RTR) Verification Review (RWAP-FR-014)** or contact the RWAP Manager immediately for guidance on path forward. **NOTE: Not all items listed are prohibited, but knowledge of them prior to receipt at the NNSS is valuable.**

**Step B.** Check box indicating no free liquid. If yes, describe and estimate volume and whether compliant with the NNSSWAC criteria.

**Step C.** Check box(s) for suspected prohibited items. For any item(s) marked, describe and complete Nevada National Security Site Real Time Radiography (RTR) Verification Review Form (RWAP-FR-014)

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**NNSS RADIOACTIVE WASTE ACCEPTANCE PROGRAM**  
**CONTAINER REAL TIME RADIOGRAPHY VERIFICATION CHECKLIST**

**Step D.** For MLLW, check box indicating greater than 90% full. Prior to subjecting the container to RTR, a grid or measuring strip will be affixed to the box or drum, respectively. The RTR representative will use the grid to assess the fill level of the container. The fill level is recorded on the box diagram and with the top half of "A" on the box grid and "3" on the drum grid.

If the fill level cannot be ascertained or the container does not meet the criteria in the February 15, 2023, letter from NDEP, initiate a Real Time Radiography (RTR) Verification Review Form (RWAP-FR-014) for submission to Waste Generator.

**SECTION 5: Container Table and Notes**

Enter information for multiple containers verified in the table and add notes, if necessary.

**SECTION 6: VR Notes.** Note if there were any issues detected using the Box or Drum Diagram, also note the RTR Recording Reference Number.

**Box or Drum Diagram**

**Standard Box** Check box type. Document the contents of the box that is scanned (Front and Reverse) using the RTR. Identify, as extensively as possible, what is seen in the RTR screening.

**Standard Drum** – Check the drum size. Document the contents of the drum that is scanned using the RTR. Identify, as extensively as possible, what is seen in the RTR screening.

**SECTION 7: Review Status**

**Step A. Check the box indicating initial review determination. If marked HOLD, attach Nevada National Security Site Real Time Radiography (RTR) Verification Review form (RWAP-FR-014).**

**Step B.** Post-Verification Review Form Determination. Check box indicating status for containers that were reviewed for indeterminate items as identified in Section 4

**RWAP VR electronically signs the checklist.**

**RWAP Manager or designee reviews and approves the checklist by electronically signing the checklist.**