Los Alamos
NATIONAL LABORATORY
EST 1943

ESHID-601717

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Date: AUG 17 2016
Symbol: EPC-DO-16-222
LA-UR: 16-25631
Locates Action No.: N/A

Mr. John E. Kieling, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

Dear Mr. Kieling:

Subject: Transmittal of Revised Procedure for TA-54 Area G Remediated Nitrate Salt Waste Container Monitoring

The purpose of this letter is to transmit a procedure that has been updated from the previous submission to the New Mexico Environment Department (NMED). The *Los Alamos National Laboratory Nitrate Salt-Bearing Waste Containers Isolation Plan, Revision 6 (*or Isolation Plan) requires that all procedures and plans attached to the Isolation Plan be submitted to the NMED upon revision. The Los Alamos National Security, LLC (LANS) and the U.S. Department of Energy (DOE), the Permittees, sent procedure *AREAG-WO-DOP-1246, R.0, IPC-2* to the NMED on May 4, 2016, as Attachment 4 of the Isolation Plan. The revision, *AREAG-WO-DOP-1246, R.1,* is included as Enclosure 1 to this letter. Also, please note that the unlimited release number for this procedure has been revised to LA-UR-16-25631.

If you have comments/questions or would like to meet regarding this submittal, please contact Mark P. Haagenstad at (505) 665-2014 or Karen E. Armijo at (505) 665-7314.

Sincerely,

John P. McCann
Acting Division Leader
Environmental Protection & Compliance Division
Los Alamos National Security, LLC

Sincerely,

Karen E. Armijo
Permitting and Compliance Manager
National Security Missions
Los Alamos Field Office

JPM:KEA:MPH:LVH/ms

Enclosures: (1) AREAG-WO-DOP-1246, R.1: TA-54 Area G Remediated Nitrate Salt Waste Container Monitoring

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RECEIVED AUG 2016

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ENCLOSURE 1

AREAG-WO-DOP-1246, R.1: TA-54 Area G Remediated Nitrate Salt Waste Container Monitoring

EPC-DO-16-222

LA-UR-16-25631

Date: AUG 17 2016

AREAG-WO-DOP-1246, R.1

TA-54 Area G Remediated Nitrate Salt Waste Container Monitoring

Effective Date: July 15, 2016

Next Review Date: July 15, 2019

Hazard Class:	☐	Low	☒	Moderate	☐	High/Complex	
Usage Mode:	☐	Reference	☒	UET	☐	Both UET & Reference	

The Responsible Manager has determined that the following organizations' review is required for initial procedure release as well as subsequent major revisions. Review documentation is contained in the Document History File.

Operations Manager	Engineering
Shift Operations Manager	Quality Assurance
WD-SRS Team Leader	Safety Basis
WD-WPE Group Leader	Industrial Hygiene and Safety
WD Waste Operator SME	Radiation Protection
Criticality Safety	Environmental Protection & Compliance
Fire Protection	

Classification Review: ☒ Unclassified ☐ UCNI ☐ Classified

Teri Tingey	/ 200975	/ /s/ Teri Tingey	/ 7/13/16
Name (print)	Z#	Signature	Date

Responsible Manager, WD-SRS Group Leader

Paul Newberry	/ 112056	/ /s/ Rick Martinez for	/ 7/14/16
Name (print)	Z#	Signature	Date

Working Copy / Information Only (circle one)
Initials / Date: _____ / _____

This document fully satisfies the requirements of P300, Integrated Work Management, in order to systematically describe the work activity, the associated hazards, and the controls that **MUST** be employed to mitigate the risks.

REVISION HISTORY

A comprehensive log of changes made to this procedure, including superseded documents and complete revision descriptions, is accessible through the Electronic Document Management System (EDMS). The following log is abridged to one page and includes only the latest revisions.

Document No./Revision No.	Issue Date	Action	Description
EWMO-AREAG-FO-DOP-1246, R.5	November 03, 2014	Major Revision	Revise procedure to incorporate the ability to use remote temperature indication from thermocouples and to update waste container numbers. This revision is a total rewrite and revisions bars have been omitted. This revision does not introduce any new hazards.
EWMO-AREAG-FO-DOP-1246, R.5 IPC-1	November 17, 2014	IPC	Revise procedure to change the drums in SWB LA00000070503 from "68553 and 69445" to "68540 and 68553". This revision does not introduce any new hazards.
EWMO-AREAG-FO-DOP-1246, R.6	March 26, 2015	Major Revision	Revise procedure to implement Specific Administrative Controls for daily visual inspection and monthly overpack inspection provided in AREAG-ESS-14-002-R3. This revision does not introduce any new hazards.
EWMO-AREAG-FO-DOP-1246, R.7	November 18, 2015	Major Revision	Incorporate a separate Attachment for documenting the daily visual inspection associated with SAC 4. Removed unremediated nitrate salt inspections at TA-54-231. Added section for headspace gas sampling. This revision does not introduce any new hazards. Revision constitutes a total rewrite.
EWMO-AREAG-FO-DOP-1246, R.8	November 30, 2015	Major Revision	Revised procedure to change the container temperature monitoring to once daily. Added Note that allows WR-SRS management to change inspection frequencies in Section 5 and 6. Remove 2nd Ambient temperature from Section 6. Rev bars in the left column display changes in the procedure. No additional hazards were identified in this revision.
AREAG-WO-DOP-1246, R.0	March 30, 2016	Major Revision	Revised procedure to update daily rounds checklist to include drum numbers. Added steps to conduct visual inspection through Perma-Con® window before performing visual inspection inside of Perma-Con®. Updated Attachments to include inspections of RNS drums once SWB lid is removed.
AREAG-WO-DOP-1246, R.0 IPC-1	April 11, 2016	IPC	Modified Attachment 1 to match Step 5.[6]. To properly capture SAC 002 A& B.
AGREAG-WO-DOP-1246, R.0 IPC-2	April 18, 2016	IPC	Revised container temperature response limit from 15°F to 10°F and added ESS driven hydrogen headspace gas limits and response actions. Section 5, Note 1 revised to delete "within 24 hours."
AREAG-WO-DOP-1246, R.0 IPC-3	May 9, 2016	IPC	Revised Step 5.[6] for inspection of drum for a rounded bottom per ESS.
AREAG-WO-DOP-1246, R.1	July 15, 2016	Major Revision	Revised to include inspection of the PRDwSF rupture disc.

TABLE OF CONTENTS

1. PURPOSE

This procedure provides instructions for monitoring remediated nitrate salt (RNS) waste containers.

2. SCOPE

Monitoring of RNS waste containers performed within this procedure includes:

- Daily visual inspections of waste containers in accordance with New Mexico Environment Department (NMED) approvals or the Los Alamos National Laboratory (LANL) Nitrate Salt-Bearing Waste Container Isolation Plan
- Daily visual inspection of the pressure relief device (PRD) rupture disc as a best management practice
- Daily visual inspections of waste containers in accordance with AREAG-ESS-14-002
- Daily temperature readings of waste containers in accordance with LANL Nitrate Salt-Bearing Waste Container Isolation Plan
- Periodic inspection of the Technical Area (TA) 54 East Entrance Road into Area G following significant precipitation
- Periodic evaluation of waste container Headspace Gas Analysis

This procedure applies to LANL Waste Disposition (WD) Division and Environmental and Waste Management Operations (EWMO) personnel who will be monitoring RNS waste containers.

3. PRECAUTIONS AND LIMITATIONS

3.1 General Task Hazards and Controls

- General site hazards and their controls for TA-54 Area G are provided in EWMO-AP-20253, EWMO General Site Hazards and Controls. Personnel performing activities associated with this procedure shall meet facility access criteria, recognize the associated site hazards, and uphold the established controls.

- When a worker observes an unsafe condition or act that may pose an imminent danger or other safety concern/hazard, the worker has the authority and responsibility to inform the person engaged in the work and request that the work activity be paused and/or stopped based on the risk posed to the individual, the employees, the environment, or the facility in accordance with P101-18, Procedure for Pause/Stop Work.

- Abnormal or unexpected conditions encountered during performance of this procedure are documented in the attachments' comment section. Guidance provided by TA-54 Operations Center, as well as follow-on actions, shall also be documented therein.

- If a waste container is discovered with evidence of an imminent thermal runaway (i.e., signs of heating, pressurization, chemical reaction, smoke, or fire), Operators will initiate emergency response actions in accordance with EP-DIV-BEP-20048, EWMO Division Building Emergency Plan. The Person-In-Charge (PIC) will notify the TA-54 Operations Center. Response actions from EP-DIV-BEP-20048 are included as steps within this procedure.

- Personnel shall review and understand the requirements of the Radiological Work Permit (RWP).

- The calibrated infrared thermometer is equipped with a laser that can cause eye injury if the eye is exposed to the beam. Never point beam at eyes.

- In the event of inclement weather or LANL closures, personnel who are not able to report for a planned shift or are required to leave prior to a shift's end shall contact the on-call Shift Operation Manager (SOM) to request guidance. Personnel shall not be placed in a potentially unsafe situation when trying to meet the inspection requirements of this procedure.

3.1 General Task Hazards and Controls (continued)

- Toxic gases/vapors can accumulate over time in RNS container headspaces. These gases/vapors include nitrous oxide (N_2O), carbon monoxide (CO), nitrogen dioxide (NO_2) nitric acid vapor, hydrogen, and volatile organic compounds (VOCs). N_2O and CO may be present in the headspace of an RNS container at levels above occupational exposure limits. VOCs are expected at lower levels. Control is provided by the general enclosure ventilation and the use of powered air-purifying respirators (PAPRs) equipped with organic vapor, acid gas, high-efficiency particulate (OV/AG-HE) cartridges.

3.2 Safety Basis

- Procedure steps marked with the **($)** symbol implement key requirements associated with the facility's safety basis. These steps may <u>not</u> be changed without engineering approval to ensure that the Technical Safety Requirements (TSRs) and other associated requirements are maintained.

- Specific Administrative Controls (SACs) provided in AREAG-ESS-14-002 are unnumbered. To facilitate field implementation of the associated surveillances, numbers have been assigned and are provided in the following bullet.

- Waste Containers inside of TA-54-0375 Perma-Con® **SHALL** be inspected as follows:
  - Closed standard waste box (SWB) and 85-gallon drum overpacks **SHALL** be inspected daily for abnormal conditions (e.g., signs of heat, fire, pressurization, or chemical reaction) (ESS-14-002, SAC 02-A)

  AND
  - RNS drums inside an open overpack (e.g., SWB or 85-gallon) **SHALL** be inspected for abnormal conditions (e.g., signs of heat, fire, pressurization, or chemical reactions), immediately after the overpack lid is removed, and daily thereafter. (ESS-14-002, SAC 02-B)

- Ambient air temperature **SHALL** be verified daily between the hours of 1300 and 1700. (LCO 4.ESS.5.1)

3.3 RCRA and Environmental

- Procedure steps marked with the **(&)** symbol implement key requirements associated with the Resource Conservation and Recovery Act or other environmental regulatory requirements including the LANL Nitrate Salt-Bearing Waste Container Isolation Plan. These steps may not be changed without Environmental Compliance Program approval to ensure that applicable limits are maintained.

4. PREREQUISITE ACTIONS

The listed prerequisite actions may be completed in any order.

4.1 Planning and Coordination

PIC

[1] **ENSURE** that the performance of this procedure has been scheduled on the TA-54 Area G Plan of the Day.

[2] **ENSURE** that the procedure is the latest revision and **IDENTIFY** this document as Working Copy on the Title Page.

[3] **ENSURE** that the following trained and/or qualified personnel are available for the performance of this procedure:

- Two Waste Operators (Sections 5 through 8)
- One Radiological Control Technician (when performing operations within the TA-54-0375 Perma-Con®)

[4] **ENSURE** that AREAG-FO-DOP-1249, TA-54 Area G Dome 375 PermaCon Nitrate Salt Storage Round Sheet, has been completed on the same day and prior to the performance of this procedure.

[5] **IF** a precipitation event occurred since the last performance of this procedure, **THEN CONTACT** the TA-54 Operations Center or the on-call SOM to determine if Section 7, TA-54 Area G East Entrance/Road into Area G Monitoring, needs to be performed.

[6] **IF** abnormal condition or ESS acceptance criteria cannot be or are not met, **THEN STOP** work and **DEVELOP** a recovery plan.

[7] **ENSURE** a pre-job briefing is performed for all personnel involved in the performance of this procedure in accordance with EP-DIV-AP-0112, EWMO Pre-Job Briefings.

4.2 Materials and Equipment

NOTE *These lists are not all inclusive. Additional tools and equipment may be used as needed.*

4.2.1 Tools and Equipment

Waste Operators

[1] **IF** performing Section 5,
THEN ENSURE a mirror on an arm is available to inspect the pressure relief device rupture disc.

[2] **IF** performing Section 6,
AND a calibrated infrared thermometer is to be used to obtain the waste container temperatures,
THEN:

[A] **ENSURE** that a calibrated infrared thermometer within the calibration due date is available.

[B] **RECORD** the following infrared calibration information on the attachments (Attachments 2 through 5) that correspond to the monitoring locations:
- Brand name
- Model number
- Calibration due date
- File number

4.2.2 Personal Protective Equipment (PPE)

NOTE *The following list includes PPE identified in the RWP and the Hazard Analysis. Industrial Hygienists have determined that PAPRs will be worn for this activity. PAPRs have a higher protection factor and will improve worker comfort, thus PAPRs are the default respiratory PPE for this activity.*

Waste Operator

[1] **ENSURE** that the following PPE are available:
- Level 1 PPE specified in RWP
- Full-face PAPR equipped with OV/AG-HE cartridge or equivalent approved by Industrial Hygiene and Safety Representative.

5. INSTRUCTIONS—VISUAL INSPECTIONS OF RNS WASTE CONTAINERS

This section is a stand-alone section and may be performed independently or in conjunction with, other Instructions sections.

The daily visual inspection meets the requirements of AREAG-ESS-14-002 and the LANL Nitrate Salt-Bearing Waste Container Isolation Plan.

Waste Operators entering the Dome 375 Perma-Con® must wear the following PPE:

- Level 1 PPE specified in RWP
- Full-face PAPR

Surveillance inspection must be performed at least once DAILY. This inspection frequency may be increased at the discretion of WD-Waste Storage and Shipping management.

Due to operating restrictions within the Perma-Con®, Waste Operators may convey inspection information to personnel outside the Perma-Con® for recording on attachments.

Waste Operators

[1] **ENSURE** that the prerequisite actions have been completed and **INITIAL** Attachment 1.

[2] **RECORD** the date information and time of the inspection on Attachment 1.

[3] Prior to entering the Perma-Con®, **PERFORM** an initial visual inspection through the windows of TA-54 0375 Perma-Con® looking for evidence of a chemical reaction such as smoke, fire, or release of internal contents to the atmosphere.

[4] **IF** evidence of a chemical reaction is discovered,
THEN PERFORM an emergency response in accordance with EP-DIV-BEP-20048.

[5] **ENTER** the TA-54 0375 Perma-Con®.

5. INSTRUCTIONS—VISUAL INSPECTIONS OF RNS WASTE CONTAINERS (continued)

NOTE *Visual inspections performed in Steps 5.[6] through 5.[10] may be performed concurrently.*

[6] **($) VISUALLY INSPECT** closed SWBs, 85-gallon drum overpacks, and RNS drums inside open overpacks for signs of degradation, indications of an abnormal condition including an internal reaction (e.g., chemical/thermal), and/or loss of container integrity, including:

- Evidence of heating such as discoloration, peeling, or yellowing of the paint
- Evidence of loss of container integrity such as leakage or compromised lid
- Evidence of pressurization such as expansion of side walls, rounded bottom (e.g., container is not level) or rounded top
- Signs of chemical reaction such as smoke or release of contents to atmosphere
- Signs of smoke or fire from a container

and **CHECK** (√) SAT or UNSAT on Attachment 1 for each RNS waste container at the storage location. (ESS-14-002 SAC 02-A and 02-B)

[7] **IF** evidence of a chemical reaction such as smoke, fire, or release of internal contents to the atmosphere, compromised container lid or seam, substantial paint wrinkling, peeling or darkening, or other signs of a chemical/thermal reaction are discovered,
THEN PERFORM an emergency response in accordance with EP-DIV-BEP-20048.

[8] **IF** evidence of rusting, leaking, or other signs of deterioration which does not appear related to a chemical reaction of drum contents are discovered,
THEN PERFORM an abnormal response in accordance with EP-DIV-BEP-20048.

[9] **VISUALLY INSPECT** the pressure relief device rupture disc for sign of damage, degradation, or rupture and **CHECK** (√) SAT or UNSAT on Attachment 1 for each RNS waste container at the storage location.

[10] **IF** rupture disc is damaged, degraded, or ruptured,
THEN PERFORM an abnormal response in accordance with EP-DIV-BEP-20048.

[11] **REPEAT** Steps 5.[6] through 5.[10] for the remaining TA-54 0375 Perma-Con® cells.

[12] **PROVIDE** a description of any unsatisfactory conditions, notifications, and corrective actions in the Comments section of Attachment 1.

[13] **PRINT** name, **SIGN**, and **RECORD** Z#, initials, and date on Attachment 1.

6. INSTRUCTIONS—TEMPERATURE READINGS OF RNS WASTE CONTAINERS

This section is a stand-alone section and may be performed independently or in conjunction with, other Instructions sections.

This section **SHALL** be performed daily between 1300 and 1700 per AREAG-ESS-14-002 Surveillance Requirement 4.ESS.5.1 frequency requirements as recorded on Attachments 2 through 4.

Temperature measurements must be performed at least once daily per LANL Nitrate Salt-Bearing Waste Container Isolation Plan. Temperature measurement frequency of one or more RNS containers may be increased at the discretion of WD-Waste Storage and Shipping management. Attachment 5, TA-54 Area G RNS Waste Container SupplementalTemperature Data Sheet, is use to document these temperature measurements

NOTE 1 *Daily waste container temperature measurements are obtained by entering the TA-54-0375 Perma-Con® and individually measuring and recording the waste container temperatures.*

NOTE 2 *Separate attachments are provided to allow for recording daily waste container temperatures independently as listed below:*

- *Attachment 2, TA-54-0375 Cell 1 RNS Waste Container Daily Temperature Data Sheet*
- *Attachment 3, TA-54-0375 Cell 2 RNS Waste Container Daily Temperature Data Sheet*
- *Attachment 4, TA-54-0375 Cell 3 RNS Waste Container Daily Temperature Data Sheet*

Waste Operators

[1] **ENSURE** that all prerequisite actions have been completed.

[2] **IF** evidence of a chemical reaction such as smoke, fire, or release of internal contents to the atmosphere, compromised container lid or seam, substantial paint wrinkling, peeling or darkening, or other signs of a chemical/thermal reaction are discovered,
THEN PERFORM an emergency response in accordance with EP-DIV-BEP-20048.

[3] **IF** evidence of rusting, leaking, or other signs of deterioration which does not appear related to a chemical reaction of drum contents are discovered,
THEN PERFORM an abnormal response in accordance with EP-DIV-BEP-20048.

6. INSTRUCTIONS—TEMPERATURE READINGS OF RNS WASTE CONTAINERS (continued)

[4] **RECORD** the date and start time on the attachment (Attachment 2 through 5) that corresponds to the monitoring location.

NOTE *The following temperature reading must be obtained between 1300 and 1700 as documented on Attachments 2 through 4.*

[5] **DETERMINE** the ambient air temperature (e.g., the wall of the contamination control enclosure or designated location using an calibrated infrared thermometer or the AMBIENT temperature indication on the TA-54-0375 Perma-Con® Control Room computer), and **RECORD** the ambient temperature (in °F) on the applicable attachment.

[6] **($) VERIFY** the TA-54-0375 Perma-Con® ambient air temperature is ≤ 75°F and **CHECK** (√) SAT or UNSAT on the applicable attachment. (ESS-14-002, SR 4.ESS.5.1)

[7] **($) IF** the cell ambient temperature is >75°F,
THEN NOTIFY the Operations Center of the temperature. (LCO 3.ESS.5)

NOTE 1 *SWBs that <u>were not</u> packaged for Waste Isolation Pilot Plant (WIPP) shipment (<u>without</u> a LASBxxxxx number) identify the location of the RNS waste container inside by the location of the container label on the outside of the SWB.*

NOTE 2 *SWBs that <u>were</u> packaged for WIPP shipment (<u>with</u> a LASBxxxxx number) do <u>not</u> have the location of the RNS waste container identified on the outside of the SWB.*

NOTE 3 *The RNS waste container in a pipe overpack component (POC) is a 12" diameter pipe component that runs vertically down the center of the overpack. Overpacks or drums that contain a POC will have "*" on either side the drum number on the attachment.*

NOTE 4 *In the corresponding attachments, the column labeled "Container ID" has rows with one number which represents both SWB and RNS drum number inside. For rows with two numbers, the number on the left corresponds to the SWB number and the number or numbers on the right side of the column are the RNS drum numbers.*

[8] **IF** the RNS waste container is <u>not</u> in a closed overpack,
THEN MEASURE the temperature (in °F) on the top approximate center of the RNS waste container using a calibrated infrared thermometer and **RECORD** on the applicable attachment.

6. INSTRUCTIONS—TEMPERATURE READINGS OF RNS WASTE CONTAINERS (continued)

[9] **IF** the RNS container is in a closed overpack,
AND the RNS waste container location within the overpack is known,
THEN MEASURE the temperature (in °F) on the top of the overpack lid at the approximate center of each RNS waste container using a calibrated infrared thermometer and **RECORD** the container number (Attachment 5 only) and the temperature on the applicable attachment.

[10] **IF** the RNS waste container location within the overpack is not known,
THEN MEASURE the temperature (in °F) on the top approximate center of each drum in the overpack, through the overpack lid, using an calibrated infrared thermometer, and **RECORD** the container number (Attachment 5 only) and the highest temperature measurement on the applicable attachment.

[11] **IF** a container's temperature is greater than 10°F above the ambient temperature,
THEN EXIT the Perma-Con® and **PERFORM** an emergency response in accordance with EP-DIV-BEP-20048.

[12] **IF** a discrepancy with a container number pre-populated on the attachment is discovered,
THEN SUSPEND operations and **REQUEST** applicable actions from TA-54 Operations Center or SOM.

[13] **REPEAT** Steps 6.[8] through 6.[12] for the current cell until all of the RNS waste container temperatures have been recorded.

[14] **RECORD** the end time and **INITIAL** on the applicable attachment.

[15] **RECORD** N/A for RNS waste container temperature readings that were not recorded and **DOCUMENT** an explanation in the Comments section of the applicable attachment.

[16] **PROVIDE** a description of any unsatisfactory conditions, notifications, and corrective actions in the Comments section of the attachment (Attachment 2 through 5) that corresponds to the monitoring location.

[17] **REPEAT** Steps 6.[1] through 6.[16] for remaining cells of the Perma-Con®.

[18] **PRINT** name, **SIGN**, and **RECORD** Z#, initials, and date on the applicable attachments (Attachments 2 through 5).

7. INSTRUCTIONS—TA-54 AREA G EAST ENTRANCE/ROAD INTO AREA G MONITORING

This section is a stand-alone section and may be performed independently or in conjunction with, other Instructions sections.

This section is performed in response to significant precipitation (rain fall greater than 0.25 inches within 30 minutes or greater than a 0.5 inches in 24 hours of rain fall) that may cause damage or road deterioration of east entrance/road into TA-54 Area G. Weather information may be obtained from TA-54 Meteorological Station or National Oceanic and Atmospheric Administration.

SOM

[1] **DETERMINE** if a significant precipitation event has occurred in the last 24 hours that may have caused damage or road deterioration to the east entrance/road into TA-54 Area G.

[2] **VISUALLY INSPECT** the TA-54 Area G East entrance/road for deterioration (e.g., washout).

[3] **IF** deterioration is observed and the TA-54 Area G East entrance/road is impassable, **THEN:**

[A] **NOTIFY** Emergency Management and Response (EM&R) that the road is impassable.

[B] **NOTIFY** Maintenance and Site Services to repair the deteriorated section of the road.

[C] **NOTIFY** Deployed Environmental Professional of the situation.

[4] **WHEN** the road repairs are complete,
THEN:

[A] **VISUALLY INSPECT** that the road is repaired and passable.

[B] **NOTIFY** EM&R that the TA-54 Area G East entrance/road is passable.

[C] **NOTIFY** Deployed Environmental Professional of road condition and repair activities for stormwater tracking purposes.

8. INSTRUCTIONS—EVALUATION OF HEADSPACE GAS ANALYSIS OF RNS WASTE CONTAINERS

This section is a stand-alone section and may be performed independently of other Instructions sections.

NOTE 1 *The prerequisite actions do not apply to performance of this section.*

NOTE 2 *Headspace gas sampling is performed by Central Characterization Project personnel and analysis is performed by Chemistry Division personnel in accordance with their procedures.*

NOTE 3 *Minimum headspace gas sampling frequencies are defined in the LANL Nitrate Salt-Bearing Waste Container Isolation Plan.*

NOTE 4 *Evaluation of the headspace gas analysis results is performed using a combination of data review, graphical analysis, and statistical analysis. Departure of a headspace gas concentration from expected trends considers the storage temperature and previous concentrations and is primarily indicated by a headspace gas analysis result that is beyond three standard deviations from the mean of a set of previous concentrations.*

Waste Process Engineering Representative

[1] **EVALUATE** the headspace gas analysis results.

[2] **IF** a container's headspace gas hydrogen concentration is greater than or equal to 20,000 parts per million (ppm),
THEN ENSURE that daily headspace gas sampling and analysis have been initiated for that container.

[3] **IF** a container's headspace gas concentration for any gas indicates a departure from expected trends,
THEN:

[A] **DETERMINE** if the departure indicates an adverse condition (i.e., increasing chemical reactivity and a potentially increased hazard).

[B] **DETERMINE** if a resample or change in sampling frequency of the container is warranted and **INITIATE** the resample or change accordingly.

8. INSTRUCTIONS—EVALUATION OF HEADSPACE GAS ANALYSIS OF RNS WASTE CONTAINERS (continued)

[4] **IF** a container's headspace gas hydrogen concentration is greater than or equal to 30,000 ppm or a departure from expected trends indicating an adverse condition,
THEN NOTIFY the Operations Center or SOM to enter AREAG-RM-AOP-1299, 375 Perma-Con Nitrate Salt Waste Container Abnormal Conditions.

[5] **($) IF** a container's headspace gas concentration indicates any of the following conditions AND the container's headspace gas was sampled to support AREAG-ESS-14-002 activities:

- A hydrogen concentration greater than or equal to 10,000 ppm
- A departure from expected trends

THEN ENSURE that the WD-Waste Storage and Shipping Group/Deputy Group Leader is notified that AREAG-ESS-14-002 SAC 05 is not met and that the activity may not proceed.

[6] On a monthly basis, **COMPILE** the previous month's headspace gas analysis results and **SUBMIT** them to Records Management in accordance with EP-AP-10003, Records Management.

9. POST-PERFORMANCE ACTIVITY

9.1 Disposition

SOM

[1] **REVIEW** the applicable attachments (Attachments 1 through 5) for accuracy and completeness.

[2] **PRINT** name, **SIGN**, and **RECORD** Z#, initials, and date on the applicable attachments.

NOTE *Completing a Post-Job Review may be accomplished using the applicable P300, Integrated Work Management, form or online (the preferred method since the institution has access to feedback and lessons learned http://int.lanl.gov/safety/iwmc/ [Click on the Submit IWD Part 4 Post-Job Review]).*

[3] **IF** any of the following occur:

- A new activity was completed for the first time
- A request was made by anyone involved with the performance of this procedure to perform a post-job review
- An abnormal event occurred
- A revision to an existing procedure was issued and it has been determined by the procedure owner or designee that a Post-Job Review is required,

THEN PERFORM a Post-Job Review in accordance with P300.

[4] **IF** the Post-Job Review identified any necessary changes to this procedure, **THEN INITIATE** a revision to this procedure.

[5] **IF** abnormal conditions were identified during the performance of this procedure, **THEN INITIATE** actions to correct the deficiency/discrepancy, such as generating a Nonconformance Report or Performance Feedback and Improvement Tracking System and **DOCUMENT** actions taken in the Comments Section of the applicable attachment.

9.2 Records Processing

Records generated while performing this procedure must be processed and maintained in accordance with EP-AP-10003, Records Management.

Record Name	QA Record	Non-QA Record
Attachment 1, TA-54-0375 Daily Rupture Disc and TSR Visual Inspection of RNS Waste Containers Data Sheet	☒	☐
Attachment 2, TA-54-0375 Cell 1 RNS Waste Container Daily Temperature Data Sheet	☒	☐
Attachment 3, TA-54-0375 Cell 2 RNS Waste Container Daily Temperature Data Sheet	☒	☐
Attachment 4, TA-54-0375 Cell 3 RNS Waste Container Daily Temperature Data Sheet	☒	☐
Attachment 5, TA-54 Area G RNS Waste Container Supplemental Temperature Data Sheet	☒	☐

Records associated with Isolation Plan Implementation are also part of the Operating Record and must be retained accordingly.

10. REFERENCES

AREAG-ESS-14-002, Transuranic (TRU) Waste Drums Containing Treated Nitrate Salts May Challenge the Safety Basis

AREAG-RM-AOP-1299, 375 Perma-Con Nitrate Salt Waste Container Abnormal Conditions

EP-AP-10003, Records Management

EP-DIV-AP-0112, EWMO Pre-Job Briefings

EP-DIV-BEP-20048, EWMO Division Building Emergency Plan (BEP)

EWMO-AP-20253, EWMO General Site Hazards and Controls

AREAG-FO-DOP-1249, TA-54 Area G Dome 375 PermaCon Nitrate Salt Storage Round Sheet

LANL Nitrate Salt-Bearing Waste Container Isolation Plan, Revision 5, March 2016, LA-UR 16-21411

P101-18, Procedure for Pause/Stop Work

P300, Integrated Work Management

P322-4, Laboratory Performance Feedback and Improvement Process

P330-6, Nonconformance Reporting

ATTACHMENT 1
Page 1 of 3

TA-54-0375 DAILY RUPTURE DISC AND TSR VISUAL INSPECTION OF RNS WASTE CONTAINERS DATA SHEET

5.[2] Date: _____ Time: _____

5.[1] Prerequisite actions have been completed (Initials): _____

NOTE *SWB/drum 69417 is no longer considered a RNS drum by LANL or NMED. Containers marked by an (*) are POCs; if no PRDwSF is installed, N/A may be documented for rupture disc inspection.*

TA-54-0375 Cell 1			
Container ID #		($) Visual Inspection of RNS Waste Containers (ESS-14-002, SAC 02-A/B) (5.[6])	Visual Inspection of PRD Rupture Discs on RNS Waste Container (5.[9])
68685		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
LA00000070503	68540	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
	68553	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69445		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69618		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69013		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT ☐ N/A
LASB50522	69076	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
LASB50452	69490	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
LASB50431	69280	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
LASB50069	69208	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
LASB50073	69079	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69636		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69616		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69417		N/A	N/A
69620		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69520		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT ☐ N/A
69641		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69298		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
LASB02203	92669	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT

ATTACHMENT 1
Page 2 of 3

5.[2] Date: _____ Time: _____

TA-54-0375 Cell 2			
Container ID #		($) Visual Inspection of RNS Waste Containers (ESS-14-002, SAC 02-A/B) (5.[6])	Visual Inspection of PRD Rupture Discs on RNS Waste Container (5.[9])
LASB02198	68408	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
68638		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69615		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69635		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69642		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69630		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69633		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
68430		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT ☐ N/A
68631		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69634		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
68567		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
94227		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
LASB50442	68648	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69644		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
LASB50443	69183	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69638		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
68624		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
68507		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT ☐ N/A
69568		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69553		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69598		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT ☐ N/A
LASB50559	92472	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
	92459	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69015		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT ☐ N/A
69639		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69637		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT

ATTACHMENT 1
Page 3 of 3

5.[2] Date: _____ Time: _____

TA-54-0375 Cell 3			
Container ID #		($) Visual Inspection of RNS Waste Containers (ESS-14-002, SAC 02-A/B) (5.[6])	Visual Inspection of PRD Rupture Discs on RNS Waste Container (5.[9])
69519		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT ☐ N/A
69645		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
94068		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
93605		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69548		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69604		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT ☐ N/A
LASB50529	68665	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
LASB50418	69595	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69036		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
LASB50451	69361	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
69559		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
LASB50448	69491	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
87827		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT ☐ N/A
87826		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT ☐ N/A
87823		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT ☐ N/A
87825		☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT ☐ N/A

Comments: _____

_____

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5.[13] Performed by: _____ / _____ / _____ / _____ / _____
Waste Operator (print) Signature Z # Initials Date

9.1[2] Reviewed By: _____ / _____ / _____ / _____ / _____
SOM (print) Signature Z # Initials Date

ATTACHMENT 2
Page 1 of 3

TA-54-0375 CELL 1 RNS WASTE CONTAINER DAILY TEMPERATURE DATA SHEET

NOTE *SWB/drum 69417 is no longer considered a RNS drum by LANL or NMED. Containers marked by an (*) are POCs.*

	Monday 6.[4] Date & Start Time:	Tuesday 6.[4] Date & Start Time:	Wednesday 6.[4] Date & Start Time:	Thursday 6.[4] Date & Start Time:	Friday 6.[4] Date & Start Time:	Saturday 6.[4] Date & Start Time:	Sunday 6.[4] Date & Start Time:
TA-54-0375 Cell 1							
Calibrated infrared thermometer (4.2.1[2][B])	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[5])	_____°F	_____°F	_____°F	_____°F	_____°F	_____°F	_____°F
($) Temperature ≤ 75°F SR 4.ESS.5.1 (6.[6])	□ SAT □ UNSAT	□ SAT □ UNSAT	□ SAT □ UNSAT	□ SAT □ UNSAT	□ SAT □ UNSAT	□ SAT □ UNSAT	□ SAT □ UNSAT
Container ID #	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])
68685							
LA00000070503	68540						
	68553						
69445							
69618							
69013							
LASB50522	69076						
LASB50452	69490						
LASB50431	69280						
LASB50069	69208						
LASB50073	69079						
69636							

ATTACHMENT 2
Page 2 of 3

Container ID #	Monday Temp (°F) (6.[8]/6.[9]/6.[10])	Tuesday Temp (°F) (6.[8]/6.[9]/6.[10])	Wednesday Temp (°F) (6.[8]/6.[9]/6.[10])	Thursday Temp (°F) (6.[8]/6.[9]/6.[10])	Friday Temp (°F) (6.[8]/6.[9]/6.[10])	Saturday Temp (°F) (6.[8]/6.[9]/6.[10])	Sunday Temp (°F) (6.[8]/6.[9]/6.[10])
TA-54-0375 Cell 1 (continued)							
69616							
69417	N/A	N/A	N/A	N/A	N/A	N/A	N/A
69620							
69520							
69641							
69298							
LASB02203 | 92669							
End Time (6.[14])	_____	_____	_____	_____	_____	_____	_____
6.[14]	WO: _____ WO: _____	WO: _____ WO: _____	WO: _____ WO: _____	WO: _____ WO: _____	WO: _____ WO: _____	WO: _____ WO: _____	WO: _____ WO: _____

Comments:

ATTACHMENT 2
Page 3 of 3

6.[18] Performed by:

Waste Operator (print)	Signature	Z#	Initials	Date
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Waste Operator (print)	Signature	Z#	Initials	Date
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Waste Operator (print)	Signature	Z#	Initials	Date
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Waste Operator (print)	Signature	Z#	Initials	Date
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Waste Operator (print)	Signature	Z#	Initials	Date
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Waste Operator (print)	Signature	Z#	Initials	Date
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Waste Operator (print)	Signature	Z#	Initials	Date
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Waste Operator (print)	Signature	Z#	Initials	Date
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Waste Operator (print)	Signature	Z#	Initials	Date
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Waste Operator (print)	Signature	Z#	Initials	Date

9.1[2] Reviewed by:

SOM (print)	Signature	Z#	Initials	Date
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ATTACHMENT 3
Page 1 of 3

TA-54-0375 CELL 2 RNS WASTE CONTAINER DAILY TEMPERATURE DATA SHEET

NOTE *Containers marked by an (*) are POCs.*

	Monday 6.[4] Date & Start Time:	Tuesday 6.[4] Date & Start Time:	Wednesday 6.[4] Date & Start Time:	Thursday 6.[4] Date & Start Time:	Friday 6.[4] Date & Start Time:	Saturday 6.[4] Date & Start Time:	Sunday 6.[4] Date & Start Time:
TA-54-0375 Cell 2							
Calibrated infrared thermometer (4.2.1[2][B])	Brand: _____ Model: _____ Cal. Due Date: _____ File Number _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number _____	Brand: _____ Model: _____ Cal. Due Date: _____ File Number _____
Ambient Temperature (6.[5])	_____°F	_____°F	_____°F	_____°F	_____°F	_____°F	_____°F
($) Temperature ≤ 75°F SR 4.ESS.5.1 (6.[6])	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
Container ID #	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])
LASB02198 68408							
68638							
69615							
69635							
69642							
69630							
69633							
68430							
68631							
69634							
68567							
94227							
LASB50442 68648							
69644							
LASB50443 69183							
69638							

ATTACHMENT 3
Page 2 of 3

Container ID #	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])
TA-54-0375 Cell 2 (continued)							
68624							
68507							
69568							
69553							
69598							
LASB50559 92472							
LASB50559 92459							
69015							
69639							
69637							
End Time (6.[14])	_____	_____	_____	_____	_____	_____	_____
6.[14]	WO: _____ WO:_____	WO: _____ WO:_____	WO: _____ WO:_____	WO: _____ WO:_____	WO _____ WO:_____	WO: _____ WO:_____	WO: _____ WO:_____

Comments: _____

ATTACHMENT 3
Page 3 of 3

6.[18] Performed by:

Waste Operator (print)	Signature	Z#	Initials	Date
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9.1[2] Reviewed by:

SOM (print)	Signature	Z#	Initials	Date
	/	/	/	/

ATTACHMENT 4
Page 1 of 3

TA-54-0375 CELL 3 RNS WASTE CONTAINER DAILY TEMPERATURE DATA SHEET

NOTE *Containers marked by an (*) are POCs.*

	Monday 6.[4] Date & Start Time:	Tuesday 6.[4] Date & Start Time:	Wednesday 6.[4] Date & Start Time:	Thursday 6.[4] Date & Start Time:	Friday 6.[4] Date & Start Time:	Saturday 6.[4] Date & Start Time:	Sunday 6.[4] Date & Start Time:
TA-54-0375 Cell 3							
Calibrated infrared thermometer (4.2.1[2][B])	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[5])	_____°F	_____°F	_____°F	_____°F	_____°F	_____°F	_____°F
($) Temperature ≤ 75°F SR 4.ESS.5.1 (6.[6])	□ SAT □ UNSAT	□ SAT □ UNSAT	□ SAT □ UNSAT	□ SAT □ UNSAT	□ SAT □ UNSAT	□ SAT □ UNSAT	□ SAT □ UNSAT
Container ID #	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])
69519							
69645							
94068							
93605							
69548							
69604							
LASB50529 68665							
LASB50418 69595							
69036							
LASB50451 69361							
69559							
LASB50448 69491							

ATTACHMENT 4
Page 2 of 3

Container ID #	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])
TA-54-0375 Cell 3 (continued)							
87827							
87826							
87823							
87825							
End Time (6.[14])	_____	_____	_____	_____	_____	_____	_____
6.[14]	WO: _____ WO: _____	WO: _____ WO: _____	WO: _____ WO: _____	WO: _____ WO: _____	WO: _____ WO: _____	WO: _____ WO: _____	WO: _____ WO: _____

Comments:

ATTACHMENT 4
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6.[18] Performed by:

Waste Operator (print)	Signature	Z#	Initials	Date
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	/	/	/	/

Waste Operator (print)	Signature	Z#	Initials	Date
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	/	/	/	/
	/	/	/	/
	/	/	/	/

9.1[2] Reviewed by:

SOM (print)	Signature	Z#	Initials	Date
	/	/	/	/

ATTACHMENT 5
Page 1 of 3

TA-54 AREA G RNS WASTE CONTAINER SUPPLEMENTAL TEMPERATURE DATA SHEET

6.[4] Location: _____

	6.[4] Date & Start Time:	6.[4] Date & Start Time:	6.[4] Date & Start Time:	6.[4] Date & Start Time:	6.[4] Date & Start Time:	6.[4] Date & Start Time:	6.[4] Date & Start Time:	6.[4] Date & Start Time:	6.[4] Date & Start Time:	6.[4] Date & Start Time:	6.[4] Date & Start Time:	6.[4] Date & Start Time:	6.[4] Date & Start Time:	6.[4] Date & Start Time:
Calibrated infrared thermometer (4.2.1[2][B])	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number	Brand: Model: Cal. Due Date: File Number
Ambient Temperature (6.[5])	_____°F	_____°F	_____°F	_____°F	_____°F	_____°F	_____°F	_____°F	_____°F	_____°F	_____°F	_____°F	_____°F	_____°F
($) Temperature ≤ 75°F SR 4.ESS.5.1 (6.[6])	□ SAT □UNSAT	□ SAT □UNSAT	□ SAT □UNSAT	□ SAT □UNSAT	□ SAT □UNSAT	□ SAT □UNSAT	□ SAT □UNSAT	□ SAT □UNSAT	□ SAT □UNSAT	□ SAT □UNSAT	□ SAT □UNSAT	□ SAT □UNSAT	□ SAT □UNSAT	□ SAT □UNSAT
Container ID #	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) ((6.[8]/6.[9]/6.[10])

ATTACHMENT 5
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6.[4] Location: _____

Container ID #	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])	Temp (°F) (6.[8]/6.[9]/6.[10])
End Time (6.[15])	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

ATTACHMENT 5
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6.[4] Location: _____

Comments: _____

6.[18] Performed by:

Waste Operator (print)	Signature	Z#	Initials	Date
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9.1[2] Reviewed by:

SOM (print)	Signature	Z#	Initials	Date
	/		/ /	/