



Environmental Compliance Programs Group

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National Nuclear Security Administration

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Symbol: EPC-DO: 22-315

Date: November 21, 2022

LA-UR: 22-31666

Locates Action No.: U2200542

Justin Ball, Chief
Ground Water Quality Bureau
New Mexico Environment Department
Harold Runnels Building, Room N2261
Santa Fe, NM 87502

Subject: DP-1132, Condition No. 14, Damage to Structural Integrity, Radioactive Liquid Waste Treatment Facility, South Treated Effluent Tank – Updated Corrective Action Plan

Dear Mr. Ball:

On August 31, 2022, personnel at the Technical Area 50 Radioactive Liquid Waste Treatment Facility (RLWTF) discovered an issue with the south treated effluent tank located inside the RLWTF. Treated effluent contained within the tank was observed weeping on the exterior of the tank, but no effluent was found to have leaked onto the underlying floor or from the facility. Upon discovery of the issue, the tank was taken out of service, and the New Mexico Environment Department (NMED) was verbally notified on August 31, 2022.

In accordance with DP-1132 Permit Condition No. 14, the U.S. Department of Energy, National Nuclear Security Administration (NNSA) and Triad National Security, LLC (Triad) submitted a corrective action plan (EPC-DO: 22-264) to NMED on September 30, 2022, which detailed steps to repair and replace the south treated effluent tank. However, RLWTF personnel have continued evaluation of the south treated effluent tank since the issue was initially discovered and have identified additional protective measures that can be taken to more effectively restore the integrity of the tank prior to ultimate replacement. Attachment 1 contains the updated corrective action plan for NMED's review. The south treated effluent tank will remain out of service until the corrective action plan is approved by NMED.

Please contact Karen E. Armijo at (505) 665-7314 or karen.armijo@nnsa.doe.gov, or contact Brian M. Iacona at (505) 500-6038 or biacona@lanl.gov if you have questions regarding this notification or the attached updated corrective action plan.

Sincerely,

**STEVEN
STORY**
(Affiliate)

Digitally signed by
STEVEN STORY
(Affiliate)
Date: 2022.11.10
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Steve Story
Group Leader
Environmental Compliance Programs
Triad National Security, LLC

Sincerely,

**KAREN
ARMIJO**

Digitally signed by
KAREN ARMIJO
Date: 2022.11.18
17:59:19 -07'00'

Karen E. Armijo
Permitting and Compliance Program Manager
National Nuclear Security Administration
U.S. Department of Energy

Attachment: Attachment 1 Updated Corrective Action Plan – RLWTF South Treated Effluent Tank

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ATTACHMENT 1

DP-1132, Condition No. 14, Damage to
Structural Integrity, Radioactive Liquid Waste
Treatment Facility, South Treated Effluent
Tank-Updated Corrective Action Plan

EPC-DO: 22-315

LA-UR: 22-31666

Date: November 21, 2022

Discharge Permit DP-1132

Updated Corrective Action Plan – RLWTF South Treated Effluent Tank

Radioactive Liquid Waste Treatment Facility (RLWTF) South Treated Effluent Tank Background

Treated effluent from the RLWTF is stored within two 20,000 gallon stainless steel tanks inside Technical Area 50 Structure 1 until being discharged from the facility in accordance with DP-1132. Operation of two separate treated effluent storage tanks is critical to continuity of operations to allow for discharges from one treated effluent tank while continuing to operate the facility by utilizing the other treated effluent tank. On August 31, 2022, RLWTF operations personnel determined the south treated effluent tank was weeping treated effluent from a section on the tank. Treated effluent was identified on the exterior of the tank but did not drip or leak onto the floor and did not leave the building. In accordance with DP-1132 Permit Condition No. 14, Damage to Structural Integrity, NMED was verbally notified of the issue on August 31, 2022.

The south treated effluent tank was taken out of service as quickly as possible once the issue was identified and will not be returned to service until corrective actions, approved by NMED, are implemented. Ultrasonic testing of the south treated effluent tank was completed on September 7, 2022, and revealed thinning of the tank near the location where the weeping effluent was identified. A corrective action plan was submitted to NMED on September 30, 2022, (EPC-DO: 22-264). However, additional protective measures have been identified and are included in **Step 2** below, that can be taken to more effectively restore the integrity of the tank prior to replacement of the tank. The following updated corrective action plan and proposed schedule have been developed to repair and replace the south treated effluent tank.

Corrective Action Plan

1. Apply Belzona epoxy resin to the thinning area of the tank. This product is specifically formulated for use on metal tanks and will reinforce the tank section to prevent future weeping. A leak test, using treated RLWTF effluent, will be completed following application of the epoxy resin to ensure the repair was successful.

Estimated completion date: January 31, 2023

RLWTF proposes to return the south treated effluent tank to service once the epoxy resin is applied to the tank and a successful leak test is completed. The tank will then be operated at a reduced capacity, less than 8,000 gallons, below the level of the identified tank thinning determined by the ultrasonic testing completed on September 7, 2022. The reinforced south treated effluent tank would continue to be used to allow continuity of operations at RLWTF.

2. Apply an additional welded patch to the thinning area of the tank to enhance the structural integrity of the south treated effluent tank. An additional leak test, using treated RLWTF effluent, will be completed following the installation of the welded patch to ensure the repair was successful.

Estimated completion date: April 30, 2023

RLWTF proposes to utilize the south treated effluent tank at normal operating capacity once the welded patch is applied to the tank and a successful leak test is completed. The tank will then be utilized until it is taken out of service (**Step 4 below**).

3. Install new treated effluent flow meters. The current three treated effluent flow meters are located near the south treated effluent tank and must be removed prior to removal of the south treated effluent tank (**Step 4**) from RLWTF due to the current configuration of the piping within the facility. The new treated effluent flow meters will be installed prior to removal of the south treated effluent tank and removal of the existing flow meters. This will ensure metering of treated effluent from RLWTF is uninterrupted. The new flow meters will be used to measure all treated effluent flows discharged from RLWTF in accordance with DP-1132.

Estimated completion date: May 30, 2023

4. Take the south treated effluent tank out of service and remove the tank from the RLWTF.

Estimated completion date: June 30, 2023

5. Install two new 10,000 gallon treated effluent tanks to replace the existing 20,000 gallon south treated effluent tank. Installation of the two new effluent tanks will not change the existing effluent storage capacity at RLWTF. Two smaller volume tanks have been selected to enable installation without facility modification due to current configuration of the facility.

Estimated completion date: September 30, 2023