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December 12, 2022

Robert Macfarlane, Program Manager
Environmental, Safety and Health
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Arturo Q. Duran
Office of Quality and Regulatory Compliance
U.S. Department of Energy
Environmental Management
Los Alamos Field Office
1200 Trinity Drive, Suite 400
Los Alamos, New Mexico 87544

RE: Corrective Action Plan Response and Further Action Required, Los Alamos National Laboratory Underground Injection Control Wells, DP-1835

Dear Robert Macfarlane and Arturo Duran:

On September 30, 2022, the Ground Water Quality Bureau (GWQB) of the New Mexico Environment Department (NMED) received a Corrective Action Plan from the U.S. Department of Energy Environmental Management Los Alamos Field Office (DOE/EM-LA) and Newport News Nuclear BWXT-Los Alamos (N3B) (collectively the Permittees) for the above referenced facility. The information submitted partially satisfies the requirements of Condition 19 of Discharge Permit 1835 (DP-1835), dated August 31, 2016.

According to the submitted Corrective Action Plan, on June 6, 2022, NMED GWQB issued a Notice of Violation to the Permittees based on increased concentrations of total dissolved chromium in the regional aquifer at well R-45 screen 2 that exceed the 20.6.2.3103 New Mexico Administrative Code groundwater standard of 0.050 mg/L. Condition 19 of DP-1835 requires the Permittees to propose measures to ensure that the exceedance of the standard or the presence of a toxic pollutant will be mitigated by submitting a Corrective Action Plan to NMED for approval. Condition 19 of DP-1835 also requires that the Corrective Action Plan include a description of the proposed actions to control the source of the contamination and a completion schedule for the proposed corrective actions.

The Permittee has proposed the following corrective actions:

1. DOE/EM-LA and N3B will perform qualitative and quantitative analyses examining the cause for concentration increases at regional aquifer monitoring well R-45 screen 2 and predicted trends.

2. DOE/EM-LA and N3B will execute a simulation plan for identifying alternative extraction and injection rates to decrease chromium concentrations below the 0.050 mg/L standard at R-45 screen 2.
3. DOE/EM-LA and N3B will install new regional aquifer monitoring wells, one downgradient of R-45 (R-80) and one located in the northeastern region of the plume (R-79).
4. DOE/EM-LA and N3B will continue monitoring to evaluate plume mass movement within the regional aquifer using the existing well network.

The corrective actions proposed are acceptable to NMED as described in the R-45 Corrective Action Plan; however, the Corrective Action Plan does not identify the actions that the Permittees will take to control the cause of the contamination migration and prevent further migration of the contamination plume. NMED therefore requires the Permittees to take further corrective actions. By April 1, 2023, the Permittees shall cease all injections authorized under DP-1835 to prevent any potential further migration of chromium contamination. Cessation shall include all injection activities until the Permittees complete the proposed corrective actions and can definitively prove through qualitative and quantitative analyses, simulations, monitoring well installation, and continued monitoring that further migration is not occurring. Cessation of all injection activities does not inhibit the Permittee from the continued operation of the ion exchange treatment system by utilizing a different treated groundwater disposal option. The Permittee shall not resume injections until NMED agrees that the Permittee has proven that further migration of the contamination plume will not occur. When the Permittee has provided sufficient evidence NMED will provide written agreement and approval to the Permittees to resume injections.

NMED may require additional corrective actions if information becomes available indicating that the corrective actions proposed are inadequate and/or groundwater contamination occurs as a result of the described discharge. NMED may require the Permittee to abate water pollution pursuant to Sections 20.6.2.4000 through 20.6.2.4115 NMAC, if the Corrective Action Plan will not result in compliance with the standards and requirements set forth in Section 20.6.2.4103 NMAC within 180 days of confirmation of groundwater contamination.

If you have any questions regarding these issues, please contact Andrew Romero at (505) 660-8624 or Jason Herman, Program Manager of the Pollution Prevention Section, at (575) 649-3871 or submit an email to pps.general@env.nm.gov.

Sincerely,

Justin Ball

Digitally signed by Justin Ball
Date: 2022.12.12 14:30:10 -07'00'

Justin D. Ball, Chief
Ground Water Quality Bureau

JB: AR

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