
Memorandum

Date: January 31, 2025
To: Buckman Direct Diversion Board
From: Brad Prada (BDD Facilities Manager)
Jay Lazarus, Peter Hunt, Glorieta Geoscience (GGI)
Nancy R. Long (BDD General Counsel)
Kyle Harwood (Harwood Pierpont)
Subject: Rio Grande Water Quality Calendar Year 2025 Workplan pursuant to BDDDB
Resolution No. 2022-2

This memorandum is provided pursuant to Buckman Direct Diversion Board ("BDDDB") Resolution No. 2022-2, to set forth the anticipated water quality issues for the BDDDB in Calendar Year 2025.

These issues are ranked according to their priority to the BDDDB. Tier 1 is top priority with immediate attention required and impending actions. Tier 2 has future actions anticipated and ongoing monitoring. Tier 3 issues require no action at present but may require attention and actions in the future.

A copy of Resolution No. 2022-2 is attached to this memo for reference.

TIER 1 ISSUES:

1. Memorandum of Understanding ("MOU") with the U.S. Department of Energy ("DOE")

The BDDDB and DOE (collectively, the "Parties") entered a fourth MOU in February 2022 that memorializes their respective commitments through December 1, 2024, concerning stormwater and sediment migration from the Los Alamos National Laboratory ("LANL") to the Rio Grande above the Buckman Direct Diversion. Both BDDDB and LANL have agreed to extend the term of the current MOU to April 10, 2025, to finalize negotiations on the renewal and modification of the MOU.

Issues addressed in 2024 included:

- Ongoing operation and maintenance of the Early Notification System ("ENS"), including resolution of data transmission issues.
- Inspection of the flow measurement station (known as E110.7) in the falloff 2024 in lowermost Los Alamos Canyon installed in July 2022 and inundated in 2023 by mainstem Rio Grande flood flows.
- Ongoing sampling, data collection, and data sharing with DOE and the New Mexico Environment Department ("NMED").

- Conducting an Annual Review meeting with the Parties in June 2024, September 2024, and a field visit with LANL and San Ildefonso to E110.7.
- Discuss issues including ENS operation, replacement of E110.7, sediment and stormwater sampling studies conducted by DOE and its contractors in the Los Alamos and Pueblo Canyon watersheds, and sampling and analysis by the parties in the Rio Grande.
- Interaction with the Pueblo de San Ildefonso concerning monitoring and maintenance of existing ENS stations on Pueblo lands in accordance with the 2014 MOU.

Recommendations for 2025: Continue to negotiate the terms of the new MOU with LANL for approval by the BDDB. Continue to work with DOE in accordance with the terms of the current/extended MOU to monitor discharges of stormwater from the LANL property to the Rio Grande and finalize negotiations between BDD and LANL on the 2025 MOU. BDD General Counsel, BDD Facilities Manager, and GGI will participate in the Annual Review (anticipated to occur in May). BDD General Counsel, BDD Facilities Manager, and GGI will continue to work with DOE as operation, maintenance, and data transmission issues arise. The BDD Intake Sampling Program will continue, and BDD General Counsel, Facilities Manager and GGI will work on ENS and grant issues as necessary. The primary goal for the 2025 calendar year will be to renegotiate and execute a new MOU to replace the agreement expiring December 1, 2024.

Leads: BDD General Counsel, BDD Facilities Manager, GGI

2. Hexavalent Chromium ("Cr-VI") Water Rights Protest

DOE and Los Alamos County filed an application ("the Application") with the New Mexico Office of the State Engineer ("OSE") to transfer water rights from existing points of diversion to extraction, injection, and monitoring wells along with piezometers used in the remediation Interim Measure ("IM") for the Cr-VI groundwater plume. In 2020, the BDDB protested the application asserting that, among other deficiencies, DOE failed to provide information about impacts to the Rio Grande. Although two settlement conferences occurred in 2022, the protest is still pending. Also, in 2022, NMED took several regulatory actions that could affect the factual basis of the Application, including directives to cease injection of treated water at the current locations under the IM, and to consider land application or an alternative injection site outside of the plume for treated water under strict conditions. The outcome of these directives could affect the factual basis of the Application, potentially leading to its modification or even withdrawal.

In December 2023, Environmental Management-Los Alamos (EM-LA) issued its responses to comments on the *Draft Chromium Interim Measure and Final Remedy Environmental Assessment* ("Interim Measure"). Options 1 and 2 of the Interim Measure require a diversion of 1688 ac-ft/yr which greatly exceeds the original application to the OSE for 679 ac-ft/yr and will require filing a new permit. The BDDB has prepared and submitted comments on the draft Environmental Assessment (EA), describing its preferred remediation alternatives, including requiring DOE to specifically test and list results for Cr VI, and advocating for land application of treated water to create a cone of depression to

achieve hydraulic and hydrologic control of the Cr VI plume. In addition, the BDDDB has requested as a condition of any groundwater pumping that all impacts to the Rio Grande from that pumping be offset.

In December 2023, the U.S. Department of Energy (DOE) Office of Environmental Management Los Alamos Field Office (DOE-EM-LA), together with the State of New Mexico Environment Department (NMED), prepared a letter requesting that an independent technical review be conducted of actions taken by EM-LA to characterize, model, and contain the hexavalent chromium [Cr(VI)] plume at Los Alamos National Laboratory (LANL) (the LANL Chromium Plume Site [the site]) and the efficacy of chromium plume control interim measures (IM) taken to prevent plume migration offsite. The Independent Technical Review report was released in December 2024 and the report's conclusions are in agreement with GGI's previous assessment that the chromium plume boundaries have not been adequately defined.

Recommendations for 2025: Monitor the regulatory actions and, if appropriate, engage with the EM-LA and NMED in their resolution. The BDDDB will continue its protest of this 679 ac-ft/yr application and protest the new application (not currently submitted) to insure EM-LA offsets depletion effects on the Rio Grande.

Leads: BDD General Counsel, BDD Facilities Manager, and GGI

3. **PFAS**

In January 2024, the LANL NPDES permittees submitted the second Annual Data Report for per- and polyfluoroalkyl substances ("PFAS") as required by the settlement agreement with the DOE. As in 2022, three of the 15 locations proposed to be sampled were in the Los Alamos Canyon watershed, none of which were sampleable due to lack of triggering events (i.e., sufficient flow). One location - outside of the Los Alamos Canyon watershed - was sampled in 2023, with various PFAS detected. In the two years of monitoring under this program, no samples have been collected in sites in the Los Alamos Canyon watershed. The BDDDB has also approached NMED to adopt surface water standards for PFAS.. LANL has committed to continue PFAS sampling of ground water.

It is important to note that the Granular Activated Carbon (GAC) which is part of the BDD treatment train, is very effective in removing PFAS from water and if PFAS is present in the source water, the GAC will effectively treat it.

Recommendations for 2025: Potentially expanding the sampling scope at the BDD intake and upstream during times when the ENS is triggered to assess PFAS contaminant contributions during intake curtailments. Sample source water after the falling limb of the ENS 5 cubic feet per second (cfs) threshold to assess contaminants present when intake resumes. Continue outreach to NMED to stay apprised of amendments to state groundwater and surface water standards that may involve PFAS.

Leads: GGI, BDD Facilities Manager

4. New Mexico NPDES Primacy

New Mexico is one of three states that does not have authority from the federal government to implement the NPDES permitting program under the Clean Water Act. Consequently, NPDES permits in New Mexico are issued by the USEPA. The BDDB has expressed its support for state primacy, including in two meetings with NMED leadership in 2023. Senate Bills 21 and 22, introduced in the 2025 Legislative Session, propose funding and proposed outlines for new NM Water Quality Control Commission rules for development of a State-run NPDES permitting program. In these bills, NMED has requested funding for new staff to support a permitting program currently. If SB 21 and SB 22 are approved by the Legislature and Governor, NMED will propose permitting rules to the Water Quality Control Commission (WQCC) in the near future.

Recommendations for 2025: Follow the progress of SB 21 and SB 22 and continue to interface with NMED as appropriate to track development of the permitting program both as it may affect permitting at LANL and BDD's current NPDES permit for sediment return to the Rio Grande.

Leads: GGI, BDD General Counsel

TIER 2 ISSUES:

5. LANL National Pollutant Discharge Elimination System (NPDES) Permits

The BDDB provided comments to NMED in 2020 on the State certification of LANL's surface water permits for its industrial outfalls (NPDES Permit No. NM002835) and stormwater discharges (NPDES Permit No. NM0030759). The Board's comments centered on technical aspects of the permits, and how they relate to the cleanup activities for legacy pollution at LANL. The LANL operators petitioned for review of the State certification of the two permits and conditions imposed in the certification process, and hearings were granted although not scheduled. In a Settlement Agreement of the petition the parties agreed to address per- and polyfluoroalkyl substances ("PFAS") monitoring as described above in Issue #3.

In the wake of *Sackett v. USEPA*, the USEPA appears to continue its enforcement of NPDES permits issued for areas where outfall or stormwater discharges into intermittent streams where there is a confluence with a WOTUS (e.g., the Rio Grande). As part of its analyses of Jemez Mountain streams, USEPA determined that Los Alamos Canyon is a WOTUS and should be regulated under NPDES permitting.

Recommendations for 2025: Monitor these and other LANL permits, particularly when LANL is required to seek renewals or seeks to modify the existing permits. Monitoring results collected from Los Alamos and Pueblo Canyons and their tributaries under the Agreement will be reviewed. Monitor NMED's progress to obtain NPDES primacy and how NMED will regulate surface water discharges from LANL.

Leads: BDD Facilities Manager, GGI

6. DOE's Sitewide Environmental Impact Statement ("SWEIS") for LANL

In January of 2025, the U.S. Department of Energy, National Nuclear Security Administration and Los Alamos National Laboratory published a Draft Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory.

The BDDB's primary concern is contaminants originating from Los Alamos and Pueblo Canyons and their tributaries and groundwater discharge to the Rio Grande upstream of the BDD intake. The SWEIS, however, does not specifically address Los Alamos and Pueblo Canyons but presents a wide range of issues that LANL will address. The SWEIS broadly addresses the Hexavalent Chromium plume, PFAS contamination and water rights.

Recommendations for 2025: Continue review of the SWEIS and develop and submit comments on the SWEIS that focus on BDD's concerns regarding the Hexavalent Chromium plume, PFAS contamination and water rights and groundwater discharge to the Rio Grande.

Leads: GGI, BDD Facilities Manager

TIER 3 ISSUES:

7. NMED/LANL Consent Order

In August 2024, to avoid lengthy and costly litigation, NMED and LANL entered into a Settlement Agreement on the Consent Order. The general purposes of this Consent Order are to: provide a framework for current and future actions to implement regulatory requirements, establish an effective structure for accomplishing work on a priority basis through cleanup Campaigns with achievable milestones and targets, drive toward cost-effective work resulting in tangible, measurable environmental clean-up, minimize the duplication of investigative and analytical work and documentation and ensure the quality of data management, set a structure for the establishment of additional cleanup Campaigns and milestones as new information becomes available and Campaigns are completed, facilitate cooperation, exchange of information, and participation of the Parties, provide for effective public participation; and define and clarify its relationship to other regulatory requirements.

Recommendation for 2025: Work with NMED to track progress on the Settlement agreement and pursue BDD interests.

Leads: GGI, BDD General Counsel

8. CWA §303(d)/305(b) Integrated Report and List of Impaired Waters ("Integrated Report")

NMED prepares an Integrated Report every two years in compliance with Sections 303(d) and 305(b) of the Clean Water Act. The Integrated Report serves as a source of information on water quality and pollution control programs as well as how NMED assesses surface water quality data against water quality standards. The BDDDB has provided comments to NMED on the last three (2020, 2022, and 2023) Integrated Reports. The BDDDB's comments on the 2024-2026 Integrated Report centered on NMED's delays in implementing Total Maximum Daily Loads ("TMDLs") to address impairment of the Rio Grande and streams on the Pajarito Plateau, as well as assessing the entirety of Los Alamos Canyon and its tributaries in 2024 for its suitability as a Public Water Supply ("PWS"). NMED stated in the March 12, 2024, WQCC meeting that it did not intend to assess LA Canyon and its tributaries as a PWS. The WQCC voted unanimously to send the current 303d list and 305b report on to the USEPA.

NMED submitted the final Draft Integrated Report to USEPA on April 1, 2024. NMED plans to address TMDL data needs for the Rio Grande (Cochiti Reservoir to San Ildefonso boundary) in 2025, with TMDLs to follow the data assessments in 2027 at the earliest.

Recommendations for 2025: No action required for 2024. The next draft of the Integrated Report for 2026-2028 should be released for public comment in late 2025.

9. Los Alamos County Municipal Separate Storm Sewer System ("MS4") Permit

Prior to 2022, the USEPA was in the process of drafting a NPDES MS4 permit for Los Alamos County, the New Mexico Department of Transportation, and DOE to regulate stormwater discharges in Los Alamos County outside of LANL, which is covered by its own stormwater discharge permit. A significant portion of these discharge locations are in the Los Alamos Canyon watershed. In December 2023, the USEPA gave notice that it intends to determine that stormwater discharges from small MS4s located in the Los Alamos Urban Area as defined by the latest decennial Census and MS4s located on LANL property within Los Alamos and Santa Fe Counties, New Mexico require NPDES permit coverage because the discharges are contributing to violations of New Mexico Water Quality Standards in waters of the United States.

Recommendations for 2025: Monitor the development of this permit as it will cover numerous uncontrolled discharges that are in addition to those covered by the LANL stormwater NPDES permit. Prepare to develop comments on the draft permit, if released, for the BDDDB's consideration.

Leads: BDD Facilities Manager, BDD General Counsel, GGI.

10. Triennial Review of State Surface Water Quality Standards

In January 2024, the Board provided comments to NMED on the draft 2024-2026 State of New Mexico Clean Water Act (CWA) §303(d)/305(b) Integrated List of Assessed Surface Waters. The BDD has requested over the years for NMED to provide special provisions and assessments for stream segments from the Pajarito Plateau and the Rio Grande at the BDD intake in State Standards.

Recommendations for 2025: The next Triennial Review process will begin in 2025, when the public will be invited to review and comment on NMED's surface water quality standards. BDD will participate and comment on NMED's proposed standards for the Pajarito Plateau and Rio Grande as appropriate.

Leads: GGI