

MEMORANDUM OF UNDERSTANDING BETWEEN THE U.S. DEPARTMENT OF ENERGY, OFFICE OF ENVIRONMENTAL MANAGEMENT, LOS ALAMOS FIELD OFFICE AND THE BUCKMAN DIRECT DIVERSION BOARD REGARDING NOTIFICATION OF STREAMFLOW AND WATER QUALITY MONITORING IN LOS ALAMOS AND PUEBLO CANYONS

A. Parties

This Memorandum of Understanding (MOU) is between the Buckman Direct Diversion Board (BDD Board) and the U.S. Department of Energy, Office of Environmental Management, Los Alamos Field Office (EM-LA).

B. Background

The Buckman Direct Diversion (BDD) is designed to divert water from the Rio Grande for use by the City and County of Santa Fe water utilities in the Santa Fe area, and to provide a source for the water supply systems of Santa Fe County, the City of Santa Fe, and the Club at Las Campanas. The diverted water is San Juan-Chama Project water (a U.S. Bureau of Reclamation inter-basin water transfer project) and native New Mexico state waters regulated by the State of New Mexico.

The point of diversion for the BDD is on the east bank of the Rio Grande in northern New Mexico, near the historic Buckman townsite. The point of diversion is approximately 15 miles northwest of the City of Santa Fe and about three miles downstream from the confluence of the Rio Grande and Los Alamos Canyon (where Route 502 crosses the Rio Grande at Otowi Bridge).

The Los Alamos National Laboratory (LANL) is owned and operated by the U.S. Department of Energy (DOE). LANL is located on the Pajarito Plateau above the Los Alamos/Pueblo Canyon watershed. The Los Alamos/Pueblo Canyon stream system infrequently flows to the Rio Grande just below the Otowi Bridge and upstream of the BDD point of diversion. The Los Alamos/Pueblo Canyon watershed contains sediment with contamination from historic releases from LANL, which may be transported downcanyon due to rain events. This sediment may be transported to the Rio Grande upgradient of the BDD intake. EM-LA has implemented measures (including infrastructure installation) to reduce the transport of contaminated sediment. Notification of streamflow from the Los Alamos Canyon watershed to the Rio Grande to support BDD operations is a mutual goal of the Parties.

The New Mexico legislature encouraged the BDD Board and DOE to memorialize their agreement to certain activities relating to the mitigation and monitoring of LANL-origin water quality contaminants. On May 13, 2010, the BDD Board and DOE executed a Memorandum of Understanding acknowledging that water quality management and monitoring are mutual priorities. On January 12, 2015, the BDD Board and DOE executed a second Memorandum of Understanding to further govern operations of the BDD. On November 20, 2017, the BDD Board and DOE executed a third Memorandum of Understanding, which the BDD Board and DOE extended until December 1, 2021. The BDD Board and DOE extended the 2017 Memorandum of Understanding a second time until February 9, 2022. Upon execution of this MOU, the 2017 Memorandum of Understanding will be terminated in accordance with Section J of the 2017 Memorandum of Understanding, and this MOU will constitute the consent of the BDD Board and DOE to the termination.

C. Objectives

This MOU establishes roles and responsibilities for notification between EM-LA (by EM-LA or through its contractor) and the BDD Board regarding streamflow in Los Alamos and Pueblo Canyons and water quality sampling by the BDD staff at the BDD intake for operation of the BDD.

The primary objectives of this MOU are as follows:

1. Enable BDD staff to make decisions regarding facility operations based on notifications from the Early Notification System (ENS);
2. Support water quality monitoring at the BDD intake regarding BDD operations; and
3. Share certain data and documents detailed below in Sections E.5 and F regarding BDD operations.

D. Authorities

The Parties represent that they have the authority to enter into this MOU pursuant to the following authorities.

1. EM-LA is authorized to enter into this MOU pursuant to the Atomic Energy Act, as amended (Title 42 U.S.C. 2011, et seq.).
2. The BDD Board is authorized to enter into this MOU pursuant to the March 7, 2005, Joint Powers Agreement between Santa Fe County and the City of Santa Fe and associated state, county, and municipal laws.

E. Agreement Principles

E.1 Agreements with the Pueblo de San Ildefonso

The Parties recognize that EM-LA must comply with the requirements of the 2014 Memorandum of Agreement between EM-LA, the U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Field Office, and the Pueblo de San Ildefonso (Pueblo), as amended in 2015, and associated Protocols. EM-LA will consult with the Pueblo, as necessary, regarding the use of information gathered pursuant to this MOU.

The Parties further recognize that the BDD Board must comply with the requirements of the 2014 Memorandum of Agreement between the BDD Board and the Pueblo. The BDD Board and BDD staff will consult with the Pueblo, as necessary, regarding access to and use of information gathered pursuant to this MOU.

E.2 Los Alamos / Pueblo Canyons Early Notification System

The ENS will provide real-time streamflow data or visual verification of streamflow to the BDD at the following gaging station locations to enable BDD staff to make decisions regarding facility operations, including temporarily ceasing diversion of water from the Rio Grande. The ENS consists of the following:

1. Gaging Station E050.1 in Los Alamos Canyon above the Pueblo Canyon confluence;
2. Gaging Station E060.1 in Pueblo Canyon above the Los Alamos Canyon confluence;
3. Gaging Station E062 in the narrow canyon below the confluence of Los Alamos and Pueblo Canyons (visual verification of flow only); and
4. Gaging Station E099 in Guaje Canyon on Pueblo property above the confluence of Los

Alamos Canyon (transducer streamflow verification only). Data transmission to the BDD is dependent upon the BDD Board or staff, as appropriate, obtaining an access permit from the Pueblo to receive the data.

ENS Gaging Stations E050.1 and E060.1 will provide primary and secondary streamflow measurement capabilities. They will be equipped with gaging capabilities (streamflow measurement), real-time conveyance of streamflow data (telemetry), and camera capability to act as a visual verification. Streamflow at Gaging Stations E050.1 and E060.1 is measured within a concrete trapezoidal supercritical-flow flume design. The system is capable of a low-flow discharge measurement of 5 cfs.

Secondary streamflow indication at Gaging Stations E050.1 and E060.1 consist of a visual (camera) to confirm streamflows. Gaging Station E099 provides primary streamflow measurement only. EM-LA is responsible for operating and maintaining the streamflow indication equipment at these stations.

Should force majeure destroy or render inoperable some or all of the identified ENS stations, or if operational costs become excessive for some or all of the identified stations, EM-LA may utilize alternative cost-effective techniques to provide the BDD staff with equivalent streamflow data to meet the objective of the ENS.

The Parties will continue discussing installation of a real-time streamflow gaging station near the confluence of Los Alamos Canyon and the Rio Grande. The Parties intend: (1) to work in an expeditious manner to obtain the requisite approvals and install this gaging station; (2) for EM-LA to design and install this station within six months of its approval by the Pueblo; and (3) for EM-LA to operate and maintain this station after the installation for the duration of this MOU. After the new gaging station has been operational and functioning as intended for one full calendar year, and discussed at the subsequent Annual Review, EM-LA will remove Gaging Station E062 from the ENS after providing 60 days notice to the BDD Board.

The Parties will engage with the Pueblo and seek the requisite approvals for this new gaging station, and permission for data transmittals from the new gaging station and Gaging Station E099.

E.3 Rio Grande at BDD Intake Sampling Program

The purpose of the BDD Intake Sampling Program is to provide both base-flow and event-based sampling of the Rio Grande at the BDD Intake when triggered by notification of streamflow in Los Alamos and/or Pueblo Canyons (or as determined by the BDD Board for the purpose of water quality sampling of the Rio Grande) to decide whether to cease diversion from the Rio Grande.

EM-LA will pay up to \$96,000 via grant in sampling and analytical costs per year for each year under this MOU toward the BDD Intake Sampling Program. The BDD Board is responsible for: (1) any additional sampling and analytical costs; and (2) all maintenance, inspection, and repair of the sampling station located at the BDD intake. To obtain this grant, the BDD Board will submit the requisite grant application each year.

E.4 Analysis

The BDD staff will evaluate the BDD Intake Sampling Program results and determine the

operational parameters or criteria on whether or when to cease diverting waters from the Rio Grande.

E.5 Document Sharing

EM-LA will copy the BDD Board on EM-LA's submission to the New Mexico Environment Department (NMED) of the following documents: (1) the annual Monitoring Plan for Los Alamos/Pueblo Watershed Sediment Transport Mitigation Project; and (2) the annual Monitoring Report for Los Alamos/Pueblo Watershed Sediment Transport Mitigation Project. EM-LA will also copy the BDD Board on correspondence from EM-LA to NMED regarding this plan and report.

The BDD Board will provide EM-LA with: (1) the results of all sampling and analysis conducted as part of the BDD Intake Sampling Program at the BDD Intake; (2) an annual report of all instances in which the BDD received notification from the ENS over the previous year (ENS Diversion Report), with such report to be provided to EM-LA at the Annual Review under Section H of the following calendar year; and (3) all records required to be made available consistent with requirements specified in the grant.

The ENS Diversion Report will specify, at a minimum: (1) which ENS notifications resulted in cessation of diversions from the Rio Grande; and (2) when such diversion cessations occurred.

F. BDD Project Data Sharing

EM-LA and its contractors will provide real-time streamflow data and visual verification data from the ENS gaging stations to the BDD, as specified in Section E.2. Analytical results from the BDD intake will be made available to both the BDD Board and EM-LA via the Intellus database.

The BDD Board will make records available to EM-LA consistent with requirements specified in the grant.

Stormwater quality data obtained at Gaging Stations E050.1 and E060.1 will be made available to the BDD Board via the Intellus database and will be included in the annual report specified in Section E.5.

The BDD Board will rely on NMED's stormwater sampling station at E110 for purposes of evaluating water quality in lower Los Alamos Canyon.

G. Coordination

EM-LA and the BDD Board will coordinate and consult, as necessary, with the Pueblo on issues related to this MOU in which the Pueblo has an interest.

Coordination between the Parties will be to the mutual benefit of both Parties and will include data sharing (as above), technical assistance, and data and analysis reviews. Both Parties should allow at least one week for response when requesting technical assistance or data and for analysis reviews.

H. Annual Review

BDD staff (and BDD's contractors) and EM-LA staff (and EM-LA's contractor) will meet annually to review: (1) the ENS, including the ENS Diversion Report; (2) BDD operations and sampling

programs, including the BDD Intake Sampling Program results under Section E.4 for the prior year; (3) reduction of the grant amount under Section E.3; and (4) EM-LA's Los Alamos/Pueblo Watershed Sediment Transport Mitigation Project.

I. Contacts

Notices, correspondence, and communications arising under this MOU will be provided to the representatives listed below. Any such notice, correspondence, or communication is deemed to have been given if mailed (return receipt requested), hand-delivered, or emailed as follows:

- EM-LA**
 Michael Mikolanis
 Manager
 U.S. Department of Energy, Office of Environmental Management, Los Alamos Field Office
 1200 Trinity Drive, Suite 400
 Los Alamos, NM 87544
 Email: michael.mikolanis@em.doe.gov

With copy to:
 John Evans
 EM-LA Counsel
 U.S. Department of Energy, Office of Environmental Management, Los Alamos Field Office
 1200 Trinity Drive, Suite 400
 Los Alamos, NM 87544
 Email: john.h.evans@em.doe.gov

- BDD Board**
 Rick Carpenter
 BDD Facility Manager
 Buckman Direct Diversion
 341 Caja De Rio Road
 Santa Fe, NM 87506
 Email: rrcarpenter@santafenm.gov

With copy to:
 BDD Board Counsel
 Nancy Long
 Long, Komer & Associates
 2200 Brothers Road
 P.O. Box 5098
 Santa Fe, NM 87502
 Email: nancy@longkomer.com

COUNTY OF SANTA FE)
 STATE OF NEW MEXICO) ss
 BUCKMAN DIRECT DIV MEM
 PAGES: 6

I Hereby Certify That This Instrument Was Filed for
 Record On The 10TH Day Of February, 2022 at 11:19:20 AM
 And Was Duly Recorded as Instrument # 1980081
 Of The Records Of Santa Fe County

Witness My Hand And Seal Of Office
 Katharine E. Clark
 Deputy County Clerk, Santa Fe, NM

Destiny Romero



SFC CLERK RECORDED 02/10/2022

J. Period of Agreement, Modification, or Termination

This MOU is effective upon the signature of both Parties and expires on December 10, 2024, unless both Parties agree to extend this MOU for an optional three-year period. The Parties may modify this MOU by written amendment. Either Party may unilaterally terminate this MOU before the expiration date, provided the Party seeking termination gives written notice to the other Party's representative at least 90 days before the termination date.

K. Dispute Resolution

If the Parties disagree over any issue related to this MOU, representatives of the Parties will present their position in writing to the points of contact for the other Party. If the Parties fail to resolve their differences within 30 days, the BDD Project Facility Manager and the EM-LA Manager will prepare a written description of the dispute. The BDD Board Chair and the EM-LA Manager, along with appropriate staff, will then meet in an effort to resolve the dispute.

L. Other Provisions

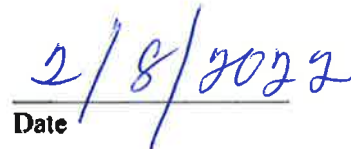
1. Nothing in this MOU is intended to conflict with requirements of the Parties or applicable laws. Any such conflicting terms are invalid, but the remainder of this MOU remains in effect. If a term is deemed invalid, the Parties will take appropriate action, including amendment or termination. The activities described in this MOU are consistent with, and will be carried out subject to, all known policies, regulations, and applicable laws that pertain to the Parties.
2. This MOU in no way restricts the Parties from participating in any activity with other public or private agencies, organizations, or individuals.
3. Activities described in this MOU are subject to the availability of appropriated funds.
4. This MOU is not: (a) a financial obligation that serves as a basis for expenditures; and (b) a fiscal nor a funds obligation document. Nothing in this MOU authorizes or is intended to obligate the Parties to expend, exchange, or reimburse funds, services, or supplies, or transfer or receive anything of value. No provision in this MOU will be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. §1341.
5. This MOU is not legally enforceable and will not be construed to create any legal obligation on the part of either Party. This MOU will not be construed to provide a private right, or cause of action, for or by any person or entity.

M. Signatures


Each of the BDD Board and EM-LA has caused this MOU to be executed and delivered by its duly authorized representatives as of the date below.

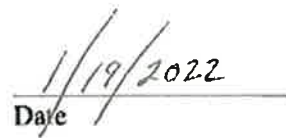
BDD Board


Anna Hansen, BDD Board Chair


Date

EM-LA


Michael Mikolanis, Manager
Environmental Management, Los Alamos Field Office


Date

SEC CLERK RECORDED 02/19/2022