

1 *MEMORANDUM OF UNDERSTANDING BETWEEN THE*  
2 *U.S. DEPARTMENT OF ENERGY AND THE BUCKMAN DIRECT DIVERSION BOARD*  
3 *REGARDING NOTIFICATION AND WATER QUALITY MONITORING*

4 **A. Parties**

5 The Parties to this MOU are the Buckman Direct Diversion Board (BDD Board) and the U.S. Department  
6 of Energy (DOE).

7 **B. Background**

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

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

17 The Los Alamos National Laboratory (LANL) is owned and operated by DOE and is located on the Pajarito  
18 Plateau above the Los Alamos/Pueblo Canyon watershed. The Los Alamos/Pueblo Canyon system  
19 intermittently and infrequently flows to the Rio Grande just below the Otowi Bridge and upstream of  
20 the BDD Project point of diversion. The Los Alamos/Pueblo Canyon watershed contains sediments with  
21 LANL-origin contamination from historic releases from LANL. Rain events may cause the transport of  
22 sediments, and these sediments have in the past and may in the future be transported to the Rio  
23 Grande and then to the BDD intake. The Los Alamos/Pueblo system has been investigated under the  
24 2005 Compliance Order on Consent between DOE and the State of New Mexico Environment  
25 Department and which has been superseded by the 2016 Compliance Order on Consent. Measures  
26 have been implemented (including infrastructure installation) to reduce the transport of contaminated  
27 sediment.

28 The New Mexico legislature encouraged the BDD Board and DOE to memorialize their agreement to  
29 certain activities relating to the mitigation and monitoring of LANL-origin water quality contaminants.  
30 The BDD Board requested a written agreement with LANL and DOE in 2007 and the New Mexico  
31 legislature passed resolutions in 2009 and 2010 that ultimately resulted in the Memorandum of  
32 Understanding that was executed on May 13, 2010 (the 2010 MOU). The 2010 MOU represented an  
33 agreement between the Parties that water quality management and monitoring are mutual priorities  
34 and that the activities described were consistent with, and would be carried out subject to, the policies,  
35 regulations, and applicable laws that pertain to the Parties. On January 12, 2015, the parties executed a  
36 second and renegotiated MOU to further govern operations of the BDD Project. Upon the execution of

37 this MOU, the 2015 MOU will be terminated in accordance with Section J of that 2015 MOU and this  
38 MOU shall evidence the consent of the Parties to the termination.

### 39 **C. Objective**

40 This MOU establishes roles and responsibilities with regard to coordination of notification activities by  
41 the DOE and their contractor in Los Alamos and Pueblo Canyons and with regard to water quality  
42 sampling by the BDD at the BDD intake in relation to operation of the BDD Project. The primary  
43 objectives of this MOU include the following:

- 44 1. To continue the relationship developed between DOE and the BDD, and
- 45 2. To maintain the Early Notification System (ENS) to enable BDD staff to make decisions regarding  
46 facility operations, and
- 47 3. To support water quality surveillance monitoring at the BDD Project location as part of its  
48 sampling program.

### 49 **D. Authorities**

50 The Parties represent that they have the authority to enter into this MOU and are able to meet the  
51 respective commitments herein to the extent permitted by law.

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

### 57 **E. Agreement Principles**

#### 58 **E.1 Memorandum of Agreement and Protocols between DOE and the Pueblo** 59 **de San Ildefonso**

60 The Parties recognize that DOE must comply with the requirements of the 2014 Memorandum  
61 of Agreement between DOE and the Pueblo de San Ildefonso (Pueblo), as amended in 2015, and the  
62 associated *Protocols for Access to Pueblo Lands and for Protecting Confidential Pueblo Information*  
63 pertaining to activities on, and information gathered by, DOE on Pueblo property. DOE will consult with  
64 the Pueblo as necessary regarding the use of information gathered pursuant to this MOU, and provide  
65 an update to BDD Project Staff.

#### 66 **E.2 Los Alamos / Pueblo Canyons Early Notification System**

67 The ENS will continue to provide real time stream flow data or visual verification of flow to the BDD at  
68 the following gage station locations to enable the BDD staff to make decisions regarding facility

69 operations, including temporarily ceasing diversion of water from the Rio Grande. The ENS includes the  
70 following parts:

- 71 • LANL Gage Station E050.1 in Los Alamos Canyon above the Pueblo Canyon confluence,
- 72 • LANL Gage Station E060.1 in Pueblo Canyon above the Los Alamos Canyon confluence,
- 73 • Station E062 in the narrow canyon below the confluence of Los Alamos and Pueblo Canyons  
74 (visual verification of flow only), and
- 75 • Station E099 in Guaje Canyon on Pueblo property above the confluence of Los Alamos canyon  
76 (transducer flow verification only). Date transmission to BDD is dependent upon BDD obtaining a  
77 permit from the Pueblo to receive the data.

78 LANL ENS stations E050.1 and E060.1 will be equipped with gaging (flow measurement) capabilities,  
79 real-time conveyance of stream-flow data (telemetry), and camera capability to act as a visual  
80 verification and backup (or secondary flow indication) for the gaging capabilities. Flows at the LANL  
81 gage stations E050.1 and E060.1 are measured within a trapezoidal supercritical-flow flume design as  
82 reported in "Techniques of Water-resources Investigations of the United States Geological Survey,  
83 Chapter A14, Use of Flumes in Measuring Discharge" (F.A. Kilpatrick and V.R. Snyder, 1983), and  
84 between approximately 1 and 350 cubic feet per second (cfs). The system shall be capable of a low flow  
85 trigger stage of 5 cfs (adjustable).

86 Secondary flow indication at stations will consist of either a visual (camera) or transducer signal as  
87 confirmation of storm water flows. Note that stations E062 and E099 provide primary flow verification  
88 only. Maintenance of the flow indication equipment shall be the responsibility of DOE.

89 Should force majeure destroy or render inoperable some or all of the identified ENS stations, or if  
90 operational costs become excessive for some or all of the identified stations, DOE shall have the  
91 prerogative to utilize the most cost effective and technologically advanced techniques to provide BDD  
92 with equivalent flow data to meet the objective of the ENS.

93 The BDD Board will, at its discretion, consult with the Pueblo regarding the installation of a real-time  
94 flow indicator(s) at the lower Los Alamos Canyon and the Rio Grande and to obtain permission for data  
95 transmittals from ENS station E099.

### 96 **E.3 Rio Grande at BDD Project Location Sampling Program**

97 The purpose is to provide both base-flow and event-based sampling of the Rio Grande when triggered  
98 by notification of flows in Los Alamos and/or Pueblo Canyons or as determined by the BDD Board for the  
99 purpose of water quality sampling of the Rio Grande at BDD in the search for operational criteria for  
100 ceasing diversion (BDD Project Location Sampling Program).

101 DOE shall pay up to \$96,000 in sampling and analytical costs per year for each of the three (3) years  
102 under this MOU (2018, 2019, and 2020) toward the BDD Project Location Sampling Program at the BDD  
103 intake. The BDD Board shall be responsible for any additional sampling and analytical costs, and the  
104 BDD Board is responsible for all maintenance, inspection and repair of the sampling station located at

105 the BDD intake. DOE will seek funding via a grant to the BDD Board for the sampling and analytical costs,  
106 and provide an update to the BDD Project Staff.

#### 107 **E.4 TREAT Study**

108 BDD Board will fund a continuation of the Contaminant Fate Analysis that was started under the 2010  
109 MOU under "The Removal Efficiency and Assessment of Treatments" (TREAT) Study. The TREAT Study  
110 will continue to examine the treatment efficiency of the conventional and advanced treatments at the  
111 BDD with respect to contaminants in order to help determine the BDD operational criteria for diversion  
112 from the Rio Grande. The TREAT Study will focus on the capabilities of the BDD with respect to removal  
113 of contaminants as they are found to occur in the Rio Grande at the BDD intake.

#### 114 **E.5 Analysis**

115 The BDD Board will evaluate the BDD Project Sampling Program results and TREAT data and make a  
116 determination on operational parameters or criteria on whether or when to cease diverting waters from  
117 the Rio Grande.

### 118 **F. BDD Project Data Sharing**

119 Real-time flow data and visual verification data from the ENS stations shall be provided by DOE and their  
120 contractors to BDD Project as specified in Section E.2. Analytical results from the BDD intake will be  
121 made available to both the BDD Board and DOE via the Intellus database as soon as they are available.

122 The BDD Board will make records available to the DOE consistent with requirements specified in the  
123 grant.

### 124 **G. Coordination**

125 DOE and the BDD Board will coordinate as necessary with the Pueblo on any issues related to the  
126 implementation of this MOU, and will engage in any consultation required to accomplish the purposes  
127 of this MOU.

128 Coordination between the Parties shall be to the mutual benefit of both Parties and shall include data  
129 sharing (as above), technical assistance, and data and analysis reviews. Both Parties should allow at  
130 least one week for response when requesting technical assistance or data and for analysis reviews.  
131 Additional coordination will occur on an as needed basis.

### 132 **H. Contacts**

133 All notices, correspondence, and communications arising under this MOU shall be provided to the  
134 representatives listed below and any notice, demand, request, or information authorized of related to  
135 this MOU shall be deemed to have been given if mailed (return receipt requested), hand-delivered, or  
136 faxed (with confirmation of transmission) as follows:

- 137       • **DOE**  
138           Douglas E. Hintze  
139           Manager  
140           DOE, Environmental Management  
141           Los Alamos Field Office  
142           1900 Diamond Drive, MSM984  
143           Los Alamos, NM 87544  
144           Phone: 505-665-5658  
145           Cell: 505-695-5103  
146           Email: [douglas.hintze@em.doe.gov](mailto:douglas.hintze@em.doe.gov)  
147  
148           With copy to:  
149           DOE Counsel  
150           Ben Underwood  
151           Phone: 505-667-4995  
152           Email: [ben.underwood@em.doe.gov](mailto:ben.underwood@em.doe.gov)  
153  
154       • **BDD Board**  
155           Charles Vokes  
156           BDD Facility Manager  
157           Buckman Direct Diversion  
158           341 Caja De Rio Road  
159           Santa Fe, NM 87506  
160           Phone: 505-955-4507  
161           Email: [cmvokes@ci.santa-fe.nm.us](mailto:cmvokes@ci.santa-fe.nm.us)  
162  
163           With copy to:  
164           BDD Board Counsel  
165           Nancy Long  
166           Long, Komer & Associates  
167           2200 Brothers Road  
168           P.O. Box 5098  
169           Santa Fe, NM 87502  
170           Cell: 505-470-2158  
171           Email [nancy@longkomer.com](mailto:nancy@longkomer.com)  
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### 173           **I. Period of Agreement, Modification or Termination**

174           This MOU is effective upon the signature of the BDD Board and DOE as shown below. This agreement is  
175           intended to address 2018, 2019 and 2020 and shall expire on December 1, 2020, UNLESS both Parties

176 agree to extend this MOU for an optional three (3) year period. This optional extension may be  
177 executed by a re-signed copy of the signature page by the respective authorized parties to this MOU.

178 The Parties may modify this MOU by written amendment and in the same manner as this MOU was  
179 executed. Either Party may unilaterally terminate this MOU before the date of expiration, provided the  
180 Party seeking termination provides written notice to the other Party's representative 90 days before the  
181 intended termination date.

## 182 **J. Dispute Resolution**

183 If the Parties disagree over any issue related to this MOU, representatives of the Parties shall present  
184 their differences in writing to the Points of Contact for the other Party. If the Parties fail to resolve their  
185 differences within 30 days, the BDD Project Facility Manager and the DOE, Environmental Management,  
186 Los Alamos Field Office (EM-LA) Manager shall prepare a written description of the dispute and the BDD  
187 Board Chair and the DOE EM-LA Manager, along with appropriate staff, shall meet to reconcile the  
188 dispute. These representatives shall use alternative dispute resolution methods such as negotiation,  
189 facilitation, and mediation to resolve the dispute.

## 190 **K. Other Provisions**

191 Nothing in this MOU is intended to conflict with requirements of the Parties or applicable laws. Any  
192 such conflicting terms shall be invalid, but the remainder of this MOU shall remain in effect. If a term is  
193 deemed invalid, the Parties shall take appropriate action, including amendment or termination. The  
194 activities described in this MOU are consistent with, and will be carried out subject to, all known  
195 policies, regulations, and applicable laws that pertain to the Parties.

196 This MOU in no way restricts the Parties from participating in any activity with other public or private  
197 agencies, organizations, or individuals.

198 Activities described in this MOU are subject to the availability of appropriated funds. Both the BDD  
199 Board and DOE EM-LA Manager shall make the appropriations of funds for the activities described in this  
200 MOU a priority when seeking regular or project specific funding requests.

201 This MOU describes the basis on which the Parties will cooperate on the topics described herein. This  
202 MOU is NOT a financial obligation that serves as a basis for expenditures, and any financial obligations  
203 necessary to carry out the activities described herein shall be addressed in other documents internal to  
204 each Party. Expenditure of funds, human resources, equipment, supplies, facilities, training, public  
205 information, and technical expertise will be provided by each Party as necessary to fulfill its obligations  
206 under this MOU.

207 This MOU is neither a fiscal nor a funds obligation document. Nothing in this MOU authorizes or is  
208 intended to obligate the parties to expend, exchange, or reimburse funds, services, or supplies, or  
209 transfer or receive anything of value. Any requirement for the payment or obligation of funds by DOE

210 established by the terms of this MOU shall be subject to availability of funds and Secretarial discretion,  
211 and no provision herein shall be interpreted to require obligation or payment of funds in violation of the  
212 Anti-Deficiency Act, 31 U.S.C. §1341.

213 This MOU is not legally enforceable and shall not be construed to create any legal obligation on the part  
214 of either Party. This MOU shall not be construed to provide a private right, or cause of action, for or by  
215 any person or entity.

### 216 L. Signatures

217 NOW, each of the BDD Board and DOE has caused this MOU to be executed and delivered by its duly  
218 authorized representatives as of the last date shown below,

219

220 BDD Board

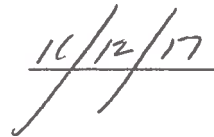
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Henry Roybal, BDD Board Chair

Date



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228 DOE

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Douglas E. Hintze, Manager

Date



233 Environmental Management, Los Alamos Field Office

234 This Memorandum of Understanding expires on December 1, 2020.

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