



Buckman Direct Diversion Project

*A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.*

October 8, 2009

George Rael  
National Nuclear Security Administration  
U.S. Department of Energy, Los Alamos Area Office  
528 35th Street, MS A316  
Los Alamos, New Mexico 87544

Subject: Request for DOE/LANL Memorandum of Understanding with the BDD Project Describing the DOE and LANL Commitments with Regard to the BDD Board's Six Requested Action Items

Dear Mr. Rael:

Thank you for your continued support of the Buckman Direct Diversion (BDD) project. We have appreciated the participation of both DOE and LANL staff in meetings with the BDD Project Manager and project consultants related to problems created by the Los Alamos National Laboratory's (LANL) historical discharges and releases of radioactive and toxic waste to the environment.

The Memorandum of Understanding requested by the BDD Board's March 22, 2009 letter remains unaddressed. We acknowledge that DOE, LANL and BDD project staff and consultants have spent significant time discussing various technical issues related to environmental monitoring, including the very informative tour that LANL provided for the BDD Board and State Rep. Jeanette Wallace, and the Independent Peer Review. Six of seven meetings subsequent to my March 22, 2009 letter were held in March and April. Progress was made and some agreements were reached. DOE/LANL has met some of its agreed commitments but has not met others. One of the BDD Board's six action requests made by the November 2007 BDD Board letter to you—paying for river water quality and BDD Project drinking water quality monitoring during project operations that, but for LANL's history of pollution, would not be necessary—has not been substantively addressed in negotiations. Three of the requested actions require completion of discussions to define the agreed approach, and DOE and LANL implementation commitments including the schedule.

Thank you for the award of the DOE grant to the BDD Board for the Independent Peer Review. The grant award completes one of the six BDD Board action requests. The BDD Board in cooperation with the New Mexico Environment Department completed another of the six actions in 2008.



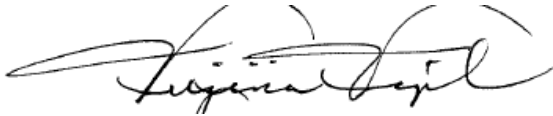
LANL has not met its oral commitments to BDD Project representatives regarding completion of agreed components of the Early Notification System. We both need the Memorandum of Understanding to set forth commitments and schedule of completion of the DOE and LANL commitments with regard to the six actions requested by the BDD Board's November 1, 2007 letter (Subject: LANL contamination of water resources in Santa Fe County).

Please see the attached more detailed update provided by staff regarding the current status of the six actions. I also enclose copies of our prior correspondence for your convenient review.

I request your response to this letter at your earliest convenience, followed by a meeting between us to discuss your response. I would like to meet with you as soon as possible if you have questions or issues that require discussion prior to your response.

On behalf of the other elected officials acting for the City of Santa Fe and Santa Fe County as members of the BDD Board, and our constituents, I ask your cooperation to conclude this process promptly. BDD Project construction is now more than 55% complete. I remind you that neither design nor construction had commenced at the time of the BDD Board's November 2007 request to you.

Sincerely,



---

BDD Board Chair

#### Attachments

1. Staff September 22, 2009 Update Regarding Six Actions
2. Prior correspondence from the BDD Board related to this letter

c: Dr. Inez Triay, Ass't Secretary for Environmental Management, DOE  
DOE Secretary Steven Chu  
Senator Bingaman  
Senator Udall  
Congressman Lujan  
Congressman Heinrich  
Congressman Teague  
Governor Richardson  
NMED Secretary Curry  
Los Alamos National Laboratory Oversight Committee, NM Legislature  
Santa Fe County House and Senate delegation, NM Legislature

cc: 2009 New Mexico Legislative Interim Water & Natural Resources  
Committee.



Buckman Direct Diversion Project

A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.

## MEMORANDUM

July 6, 2009

[Updated Sept. 22, 2009](#)

TO: Buckman Direct Diversion Board

FROM: Norm Gaume, P.E., BDD Project Consultant  
Rick Carpenter, BDD Project Manager

SUBJECT: Status of Six Action Steps BDD Board Asked of DOE and LANL to Protect BDD Source Water Quality

In November 2007, the BDD Board sent a letter to the US Department of Energy (DOE) and Los Alamos National Laboratory (LANL) asking they take six specific action steps to address BDD water quality issues.

In early 2009, the BDD Board requested assistance from the New Mexico delegation to the U.S. Congress and from the New Mexico Legislature to obtain additional cooperation from DOE and LANL. Significant progress has been made subsequently, although the DOE/LANL response to one action item and some aspects of others remain in negotiation.

The status of each request is summarized below. One is complete. Four are in progress. Three of these have aspects that remain to be negotiated. One action step has no agreement to date. This status is as of the beginning of July 2009. [There are no changes to this general status as of Sept. 22, 2009. One general meeting between BDD Project staff and DOE/LANL staff occurred on Sept 2, 2009.](#)

Stop migration of LANL contaminants to the Rio Grande and groundwater.  
Action Step 1. STATUS: In Progress.

The U.S. Environmental Protection Agency and the New Mexico Environment Department (NMED), under applicable federal and state law, have ordered DOE to implement numerous improvements to reduce contaminated storm water runoff to the Rio Grande, before the BDD begins operations. Both agencies requirements include



performance monitoring and subsequent preventive actions where additional monitoring indicates additional steps are necessary to meet explicit and stringent limitations. These regulatory requirements satisfy the BDD Board's request for actions to stop the migration of contaminants. A memorandum to the BDD Board dated February 24, 2009, describes these new regulatory requirements in more detail.

No significant actions have yet resulted from this request with regard to the groundwater pathway. However, that has been a major focus of the NMED Consent Order.

*Sept 22, 2009 Update:*

*The July report erroneously stated that EPA's requirements are in place. They are not. EPA has stayed the NPDES permit requirements due to an appeal that seeks to make the requirements more stringent.*

Properly monitor the transport of legacy contaminants in both the surface water and groundwater flow systems.

Action Step 2: STATUS: In Progress

Monitoring is a major component of the regulatory requirements described under Action Step 1 and the Early Notification System, Action Step 4. LANL also has undertaken significant voluntary monitoring of a comprehensive suite of contaminants from paired samples collected six times per year at the Otowi Bridge, which is upstream from the mouths of canyons that drain LANL, and at the Buckman Diversion site. NMED's DOE Oversight Bureau is conducting a sampling program this summer to collect samples from the Rio Grande at five locations when stormy weather has caused runoff to the Rio Grande. NMED also is conducting an infrequent but routine water quality survey of the northern Rio Grande. NMED is collecting an extra gallon of water for each mainstem Rio Grande sample. NMED will analyze for the radionuclide screening parameters "gross alpha" and "gross beta." If either of these screens is elevated, the BDD Project has indicated it will pay for additional specific radionuclide analyses.

In the aggregate, these different monitoring programs adequately address the BDD Board's requested action "to properly monitor" transport of contaminants in surface water.

Additionally, LANL has orally indicated its interest in evaluating existing monitoring wells in the immediate vicinity of the Rio Grande and the western area of the Buckman well field. Intensive water level monitoring of different wells in conjunction with Los Alamos County and Buckman well fields pumping may provide additional knowledge of the complex hydrogeologic groundwater flow system linking LANL, the Rio Grande, and the Buckman wells.

No significant actions have yet resulted with regard to groundwater transport monitoring.

Sept 22, 2009 Update:

Danny Katzman, LANL, met with BDD Board and Water Division staff to discuss Mr. Katzman's thinking regarding technical plans for storm water quality monitoring in Los Alamos and Pueblo Canyons. LANL is required to submit a storm water quality monitoring plan to the NMED under the Consent Order. Staff discussed their recommendations with Mr. Katzman.

Danny Katzman, LANL, met with City Water Division staff regarding use of existing infrastructure at the Buckman well field to gain additional knowledge of the groundwater flow system.

None of the river samples collected to date by NMED as part of their comprehensive Upper Rio Grande monitoring program have exceeded the screening level for radionuclides that would trigger additional analyses paid for by the BDD Board.

Measure the radioactive and toxic contamination of buried sediments at and upstream of the BDD diversion site.

Action Step 3. STATUS: Completed

NMED and the BDD Board designed, funded and completed this work in 2008. The U.S. Forest Service, who required this work, approved it.

Completion of this work was reported to the BDD Board in May 2008 and is the subject of an NMED report posted on the BDD web site. LANL legacy contaminants in areas to be disturbed by construction were either not detected or were indistinguishable from the background levels of uncontaminated sediments from Canada Ancha.

Provide an early notification system so the BDD can temporarily stop diversions of any water from the Rio Grande when the Rio Grande is expected to contain elevated levels of contaminants of LANL origin.

Action Step 4. STATUS: In Progress. Construction has begun; some details remain in negotiation.

As the result of negotiations held in March, LANL and BDD Board representatives have agreed that LANL will rebuild three stream gages in Los Alamos and Pueblo Canyons and transmit the information to the BDD Project control room in near-real-time. LANL in cooperation with the BDD Project Manager have secured the written permission of the Pueblo of San Ildefonso to rebuild the LANL gage at the mouth of Los Alamos Canyon and that work has begun. LANL in 2009 will reconstruct the gages on Los Alamos and Pueblo Canyons above their confluence. LANL also will install automatic samplers that will collect samples at times of storm water runoff flow at these gages and will perform analyses of contaminants.

The BDD Project Manager has requested that DOE/LANL provide additional features for the early notification system. These remain in negotiation. Nonetheless, the agreements to date represent a significant step toward completion of the Early Notification System.

*Sept. 22, 2009 Update:*

*The July 6 report incorrectly stated that LANL had begun construction of the LANL gage at the mouth of Los Alamos Canyon. LANL had previously stated that this work would be completed by the end of June. We were unable to obtain an update for the preparation of the July 6 report and incorrectly assumed that construction had commenced.*

*Danny Katzman informed BDD Board staff by email today, in response to our inquiry, that design is ongoing and construction has not started, but that his goal is to complete the Early Warning System design, construction, and communications by October 31, 2009.*

*No discussions have been held regarding the additional Early Notification System features requested by BDD Board staff.*

Monitor LANL Contaminants in BDD Diversions, Sand Return, Residuals, and Drinking Water.

Action Step 5. STATUS: In negotiation

DOE/LANL and BDD Project representatives discussed this requested action during reinvigorated negotiations held earlier this year. BDD Project representatives offered the alternate, simpler request per the title above, explained that these analyses would not be required or needed but for LANL historical waste discharges. One to two years of initial monitoring is required for quality assurance, safe drinking water compliance, and public confidence.

DOE and LANL have not yet made any commitment regarding this requested action. BDD Project Representatives have compiled a detailed description of the needed monitoring.

*Sept. 22, 2009 Update:*

*No change.*

Provide funding for the BDD Board to retain independent peer review by qualified persons with regard to matters of LANL-origin contamination of the public drinking water resources of Santa Fe County and the City of Santa Fe.

Action Step 6. STATUS: Oral agreement reached. In progress.

DOE/LANL and BDD Project representatives have reached agreement on the scope of services for an Independent Peer Review for the BDD Board, as set forth in a request for proposals to be issued by the City of Santa Fe for the BDD Board. The RFP will be



advertised in early July 2009. DOE/LANL will have no further role in the BDD Board's selection of or contract with the Independent Peer Reviewer.

The Independent Peer Reviewer, based on existing information, data, and studies, will prepare an independent risk assessment regarding LANL contaminants with exposure through the drinking water pathway. That exposure and risk will be compared to other pathways of exposure to LANL contamination and public exposure to radiation and radionuclides of other origins, including natural background. The RFP scope-of-services emphasizes public risk communication and includes a series of at least three public meetings.

The first public meeting will be held in 2009. Its purpose is for the Independent Peer Reviewer to solicit public questions and concerns. The Independent Peer Review will be concluded in 2010.

Pursuant to these negotiations, the BDD Project has submitted a draft grant application to the DOE for \$200,000. The grant application budget indicates that the BDD Board will expend approximately \$50,000 for in-kind services and management of this effort. A recent oral description of the grant status indicated that the application is complete and that funding is expected within two months.

If the BDD Board has additional or unanswered questions or concerns at the conclusion of the work as described in the RFP and the resulting professional services agreement with the selected independent peer reviewer, that work can be accomplished under an amendment to the initial agreement that DOE and LANL have agreed to fund.

*Sept. 22, 2009 Update: The BDD Board has received a \$200,000 DOE grant agreement to fund the independent peer review work. Three proposals were received on Sept. 18 in response to the BDD Project's RFP for the independent peer reviewer.*

We look forward to addressing any questions or concerns that BDD Board members may have regarding these matters.



**City of Santa Fe**



**New Mexico**



**BUCKMAN DIRECT DIVERSION BOARD**

George Rael  
National Nuclear Security Administration  
U.S. Department of Energy, Los Alamos Area Office  
528 35th Street, MS A316  
Los Alamos, New Mexico 87544

March 11, 2009

Dear Mr. Rael:

Thank you for your continued support of the Buckman Direct Diversion (BDD) project. We have appreciated the participation of both DOE and LANL staff in meetings with BDD project staff and consultants related to problems created by the Los Alamos National Laboratory's (LANL) historical discharges and releases from waste disposal sites of radioactive and toxic waste to the environment.

Although DOE, LANL and BDD project staff and consultants have spent significant time on technical issues related to environmental monitoring, we have started and now stopped efforts on a Memorandum of Understanding that would have addressed the issues raised by the BDD Board's November 1, 2007 letter (Subject: LANL contamination of water resources in Santa Fe County). Our understanding is that these negotiations on a draft MOU have stopped because DOE has now indicated their unwillingness to enter into an MOU on these issues. Furthermore, it is our concern that this sort of delay will only serve to erode credibility and public approval of your programs in our greater community.

The Buckman Direct Diversion Board requests that you immediately reconsider your decision and commit adequate resources and staff to a process that will result in a Memorandum of Understanding on these important issues. We look forward to your written response before April 2, 2009. Please contact Rick Carpenter, BDD Project Manager at 505-955-4206 if you have any questions.

Sincerely,

---

BDD Board Chair

cc: Senator Bingaman  
Senator Udall  
Congressman Lujan  
Congressman Heinrich  
Congressman Teague  
Governor Richardson  
NMED Secretary Curry  
DOE Secretary Chu  
Los Alamos National Laboratory Oversight Committee, NM Legislature  
Santa Fe House and Senate delegation, NM Legislature

**City of Santa Fe**



**New Mexico**



**BUCKMAN DIRECT DIVERSION BOARD**

George Rael, Assistant Manager  
for Environmental Programs  
National Nuclear Security Administration  
U.S. Department of Energy  
528 35th Street, MS A316  
Los Alamos Area Office  
Los Alamos, New Mexico 87544

Susan Stiger, Associate Director  
for Environmental Programs  
Los Alamos National Laboratory  
P. O. Box 1663, MS M991  
Los Alamos, New Mexico 87545

---

Subject: LANL Contamination of water resources in Santa Fe County

Dear: Mr. Real and Ms. Stiger:

Thank you for the participation of Paul Huber and Danny Katzman at the Buckman Direct Diversion Board's meeting on October 4, 2007, regarding problems created by the Los Alamos National Laboratory (LANL) historical discharges and releases from waste disposal sites of radioactive and toxic waste to the environment. Thank you also for LANL and DOE staff cooperation with the Buckman Direct Diversion (BDD) project team.

We request commitment and look forward to continued cooperation from the Department of Energy (DOE), LANL, and Los Alamos National Security, LLC, to stop the continued migration of LANL-origin waste to the environment, mitigate the impacts of wastes that have escaped the LANL boundaries and are in the environment at the location of the planned BDD, and otherwise reduce the burdens and costs that these wastes place on our regional drinking water project. We appreciate DOE's and LANL's acknowledgement of these problems, their recognition of the need for and validity of the BDD, and their recognition that the actions we are requesting are appropriate.

For your information, the Buckman Direct Diversion Board was created to govern the Buckman Direct Diversion Project by a State-of-New Mexico approved Joint Powers

Agreement between the City of Santa Fe (City) and Santa Fe County (County). The Board consists of four elected officials and one member of the public. The City and the County are the project owners. The Board directed at its October 4, 2007 meeting that this letter be sent to you. The purpose of the BDD is to provide clean, safe, and reliable drinking water on a sustainable basis to residents of the City of Santa Fe and Santa Fe County. Certain water quality issues, however, that are related to LANL, must be addressed if the BDD Board is to achieve the aforementioned purpose.

### **Issues**

Three different pathways have been identified to date by which LANL-origin contaminants pollute the ground and surface water resources used by the City and County to produce drinking water for their public water system customers. These include:

1. Buried transuranic and other radiological contaminants, such as plutonium, in the Rio Grande sediments deposited in the 1940s through the 1960s in the former river channel (slough) located immediately upstream of the BDD river diversion site;
2. Contaminants in the waters of the Rio Grande, including transuranics, other radiological contaminants, and other toxic wastes, from historical and current releases and waste discharges. Significant amounts of "legacy" contaminants reside in sediments in canyons on the Pajarito Plateau with watersheds that include LANL facilities, waste disposal areas, and historical and current outfalls. We understand that some of the canyon sediment beds and banks are not stable and that the contaminants are mobilized and transported to and down the Rio Grande and thence to the BDD diversion location with water is flowing from Los Alamos Canyon at its confluence with the Rio Grande; and
3. Contaminants that have flowed downward and reached the regional aquifer that underlies LANL and provides water to the Buckman well field.

### **The BDD Board requests the following LANL actions and programs**

The BDD Board voted unanimously at its October 4, 2007 meeting to request that DOE and LANL fund and implement six actions or specific programs to protect public drinking water supplies. Each of these six is generally stated and described below:

1. Stop migration of LANL contaminants to the Rio Grande and to groundwater. We request that LANL stop radioactive and toxic contaminants from flowing into the Rio Grande through the construction of additional sediment barrier and containment systems, improved waste treatment and disposal practices, stabilization and clean-up of sediment beds and banks in the Rio Grande tributary canyons that have received LANL waste discharges, and other appropriate management actions. We believe it is

essential that DOE and LANL stop the further migration to the environment from waste disposal areas of any of the vast mass of dangerous wastes that DOE and LANL have buried or are temporarily storing within LANL boundaries. We acknowledge the discussion by New Mexico Environment Department and LANL representatives at our October 4, 2007 meeting regarding the limits of what may be possible with respect to stopping migration via vadose zone and groundwater pathways of contaminants that have previously been discharged or that have escaped waste disposal or containment areas.

2. Properly monitor the transport of legacy contaminants in both the surface water and groundwater flow systems. We appreciate the review and recommendations that LANL sought and that the National Academy of Sciences provided through the newly published report entitled *Plans and Practices for Groundwater Protection at Los Alamos National Laboratory, Final Report (2007)* many of which address the need for improved monitoring. We understand LANL has taken the position that implementation of some of the recommendations is funding-contingent but we think it is essential that the entire set of recommendations be implemented, at once. We ask that you set an especially high priority on improvements in monitoring the transport of contaminants in the regional groundwater flow toward the Buckman well field and implementation of the recommendations addressing surface water and transport of contaminants from LANL property.
3. Measure the radioactive and toxic contamination of buried sediments containing higher concentrations of post-World War II LANL legacy contaminants now buried in the slough upstream of the BDD diversion site. Determine, through core sampling and analysis of sediment layers near areas where construction will take place, whether or not portions of the BDD diversion facilities as currently aligned will intersect areas with elevated concentrations of these contaminants. Help us determine if minor realignment of project facilities could avoid these discrete areas of contaminated slough sediments. Help us assure that construction worker or public exposure to these radionuclides and other contaminants will not exceed or violate any regulatory requirements.
4. Provide an early warning system so that the BDD can temporarily cease diversion of any water from the Rio Grande when the Rio Grande is expected to contain elevated levels of contaminants of LANL origin. This action has been suggested by LANL staff and has been publicly affirmed by NMED Secretary Curry.
5. Monitor the mass of any LANL-origin contaminants diverted with BDD raw water supplies and account for that mass in water treatment plant residuals and treated drinking water.

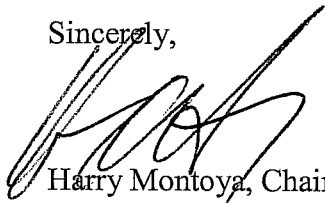
6. Provide funding for the BDD Board to retain independent peer review by qualified persons with regard to matters of LANL-origin contamination of the public drinking water resources of Santa Fe County and the City of Santa Fe.

BDD technical staff representing the BDD will continue to cooperate and work on these issues with NMED and LANL staff. BDD technical staff also will continue to meet with and discuss these issues with interest groups and concerned citizens.

Credibility of these efforts with the public water system customers that will be served by the BDD is very important to the BDD Board. We think that credibility will be fostered by conducting all monitoring and measurement programs with total public transparency extending from development of the monitoring plans to public availability of all the monitoring results. Review and oversight of these efforts including some independent peer review and quality assurance work by the NMED and BDD project resources also is important.

Thank you for your consideration of these requests. We look forward to receipt of your reply and discussion with you to reach agreement on DOE and LANL acceptance and commitment to implement these requests.

Sincerely,



Harry Montoya, Chair  
Buckman Direct Diversion Board

c: BDD Board Members  
City of Santa Fe Mayor, David Coss  
Paul Huber  
Danny Katzman  
New Mexico Environment Department Cabinet Secretary, Ron Curry  
BDD Project Manager, Rick Carpenter