

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.

Date: November 20, 2013
To: Buckman Direct Diversion Board
From: Gary C. Durrant, Chief Operator BDD
Re: Update on BDD Operations for the month of November 2013

1. This memo is intended to update the BDD Board on BDD operations during the month of November. BDD diversions and deliveries have averaged, in Million Gallons Daily (MGD) as follows:
 - a) Raw water diversions: 3.090 MGD Average
 - b) Finished Drinking water deliveries through Booster Station 4A: 1.196 MGD Average
 - c) Finished Drinking water deliveries through Booster Station 5A: 1.583 MGD Average
 - d) Raw water delivery to Las Campanas at BS2A: 2.271 MG Total.
2. The BDD is currently providing approximately 50 percent of the water supply to the City and County for the month.
3. On Peak Pumping: The BDD has been pumping an average of 1.25 hours of each day on peak to deliver the requested volume of water.
4. The BDD gave notice that we would start diverting native water again on September 25th. In October 72.92 Acre Feet of native water was used. See following page.
5. Please see the following pages from the Monthly report to the Office of the State Engineer (OSE) for the month of October for accurate information about totals for October and year to date.



**Monthly Diversions under SP-2847-E, SP-4842, and SP-2847-N-A
October 2013**

BDD Diversion of San Juan-Chama Water	af	mg
Total SJC water arrived at the BDD diversion site	256.53	83.59
Total SJC diverted at BDD	256.53	83.59
Total SJC available for offsetting depletions under RG-20516.	0	0.00

Total BDD water diverted from all water rights	af	mg
BDD Current Monthly Total	329.45	107.35
<i>SJC Diversion under Permit SP-2847-E</i>	<i>213.87</i>	<i>69.69</i>
<i>City of Santa Fe</i>	<i>213.87</i>	<i>69.69</i>
<i>Santa Fe County</i>	<i>0.00</i>	<i>0.00</i>
<i>SJC Diversion under SP-2847-N-A (CLCI)</i>	<i>42.66</i>	<i>13.90</i>
<i>Rio Grande native water rights (SP-4842;SFCountry)</i>	<i>72.92</i>	<i>23.76</i>

Metered Diversions under Permit SP-2847-E and SP-4842					
Meter Serial Number	OSE Meter Number	Current Month Meter Reading	Previous Month Meter Reading	Diversion by Meter	
				ac-ft	mg
CC004816000-Diversion	14113	1805.73	1750.9553	168.10	54.77
CC004916000-Diversion	14114	1840.542	1791.3474	150.97	49.19
CC004A16000-Diversion	14115	1808.193	1787.7817	62.64	20.41
CC000A16000-Return	14255	166.6723	149.6447	52.26	17.03
Total Metered Diversions				329.45	107.35

Buckman Direct Diversion Monthly SJC and Native Diversions

October 2013

Month	Total SJC Release (AF)	SJC Conveyance Losses (AF)	Total SJC Available at BDD (AF)	SJC Diversion, SP-2847-E (AF)	SJC Diversion, SP-2847-N-A (AF)	Total Native Rio Grande Diversion SP-4842 (AF)	Release of SJC in Elephant Butte (AF)	Total BDD Surface Diversion (all permits)	SJC from SP-2847-E used to offset Buckman Wells RG-20516 (AF)	SJC from SP-2847-N used to offset Buckman Wells RG-20516 (AF)
JAN	439.04	4.24	441.79	441.79	0	44.09	0	485.88	0	0
FEB	261.03	2.47	257.94	257.94	0	10.49	0	268.42	0	0
MAR	353.69	3.30	343.57	343.57	0	75.66	0	419.23	0	0
APR	680.73	6.34	661.33	661.33	0	89.47	0	750.80	0	0
MAY	1045.27	9.88	1030.46	1030.46	0	22.86	0	1053.32	0	0
JUN	817.91	7.85	818.00	734.56	83.44	260.03	0	1078.03	0	0
JUL	606.85	5.90	614.73	397.47	78.83	0.00	0	476.30	83.70	54.73
AUG	108.68	0.91	95.34	41.68	36.91	0.00	0	78.59	5.58	11.18
SEP	136.77	1.43	149.29	63.86	53.76	0.00	0	117.61	25.36	6.32
OCT	255.24	2.46	256.53	213.87	42.66	72.92	0	329.45	0	0
NOV										
DEC										
TOTAL	4705.21	44.78	4668.98	4186.52	295.59	575.51	0.00	5057.62	114.64	72.23

Source of SJC releases in reporting month. Includes conveyance losses.

Month	ABIQUIU			
	Total Release (AF)	City of Santa Fe (AF)	Santa Fe County (AF)	Club at Las Campanas (AF)
JAN	439.04	439.04	0	0
FEB	261.03	261.03	0	0
MAR	353.69	353.69	0	0
APR	680.73	680.73	0	0
MAY	1045.27	1045.27	0	0
JUN	817.91	729.30	0	88.60
JUL	606.85	473.27	0	133.58
AUG	108.68	65.21	0	43.47
SEP	136.77	83.87	0	52.90
OCT	255.24	211.15	0	44.09
NOV				
DEC				
TOTAL	4705.21	4342.55	0.00	362.65

Buckman Direct Diversion Monthly SJC and Native Diversions

December 2012

Month	Total SJC Release SP-2847-E (AF)	Conveyance Losses (AF)	Total SJC Available at BDD Diversion (AF)	Total SJC Diversion SP-2847-E (AF)	Total Native Rio Grande Diversion SP-4842 (AF)	Release of SJC in Elephant Butte (AF)	Total BDD Surface Diversion SP-2847-E plus SP-4842 (AF)	SJC used to offset Buckman Wells RG-20516 (AF)
JAN	448.09	4.06	447.00	411.56	5.02	0	416.59	35.44
FEB	210.29	1.97	216.94	208.13	32.21	0	240.34	8.81
MAR	335.75	2.94	323.61	312.85	59.21	0	372.06	10.76
APR	528.63	4.72	519.90	519.90	108.61	0	628.51	0.00
MAY	660.18	6.24	651.05	651.05	145.51	0	796.55	0.00
JUN	722.36	6.79	692.21	692.21	120.92	0	813.12	0.00
JUL	152.03	2.23	191.75	157.16	0.00	0	157.16	34.60
AUG	86.08	0.58	60.90	60.90	239.96	0	300.87	0.00
SEP	637.17	6.05	630.92	630.92	110.07	0	740.99	0.00
OCT	747.21	7.14	744.87	744.87	50.82	0	795.69	0.00
NOV	479.19	4.63	482.65	482.65	120.91	0	603.56	0.00
DEC	442.67	4.17	434.71	434.71	119.44	0	554.15	0.00
TOTALS	5449.67	51.53	5396.51	5306.90	1112.67	0.00	6419.57	89.61

Source of SJC Releases in reporting month. Includes conveyance losses.

Month	Total Release (AF)	HERON		EL VADO		ABIQUIU	
		CITY	COUNTY	CITY	COUNTY	CITY	COUNTY
JAN	448.09	0.00	0.00	0.00	0.00	448.09	0.00
FEB	210.29	0.00	0.00	0.00	0.00	210.29	0.00
MAR	335.75	0.00	0.00	0.00	0.00	335.75	0.00
APR	528.63	0.00	0.00	0.00	0.00	528.63	0.00
MAY	660.18	0.00	0.00	0.00	0.00	660.18	0.00
JUN	722.36	0.00	27.21	0.00	0.00	695.15	0.00
JUL	152.03	0.00	21.42	0.00	0.00	130.61	0.00
AUG	86.08	0.00	0.00	0.00	0.00	86.08	0.00
SEP	637.17	0.00	0.00	0.00	0.00	637.17	0.00
OCT	747.21	0.00	0.00	0.00	0.00	747.21	0.00
NOV	479.19	0.00	0.00	0.00	0.00	479.19	0.00
DEC	442.67	0.00	0.00	0.00	0.00	442.67	0.00
TOTALS	5449.67	0.00	48.63	0.00	0.00	5401.04	0.00

Note: Grey fields indicate revisions to previous monthly report

Buckman Direct Diversion End of Month Report

December 2011

Month	Total SJC Release SP-2847-E (AF)	Conveyance Losses (AF)	Total SJC Available at BDD Diversion (AF)	Total SJC Diversion SP-2847-E (AF)	Total Native Rio Grande Diversion SP-4842 (AF)	Release of SJC in Elephant Butte (AF)	Total BDD Surface Diversion SP-2847-E plus SP-4842 (AF)	SJC used to offset Buckman Wells RG-20516 (AF)
JAN	247.17	4.94	242.23	221.46	37.55	0.00	259.98	20.77
FEB	320.95	6.42	314.53	269.13	36.61	0.00	305.74	45.86
MAR	352.04	7.04	345.00	335.37	46.09	0.00	381.46	9.62
APR	585.11	11.70	573.40	573.40	56.64	0.00	630.04	0.00
MAY	568.22	11.36	556.86	440.02	49.23	0.00	488.87	116.84
JUN	765.87	15.32	750.55	655.89	80.66	0.00	736.55	94.67
JUL	641.81	12.84	628.97	407.40	49.86	0.00	457.26	221.58
AUG	182.98	2.07	168.97	86.23	0.00	0.00	86.23	82.75
SEP	568.78	6.83	537.05	515.86	0.00	0.00	515.86	21.19
OCT	555.90	4.85	570.81	555.66	0.00	0.00	555.66	15.16
NOV	431.29	3.93	433.26	433.26	14.60	0.00	447.86	0.00
DEC	437.57	3.90	429.46	450.42	0.00	0.00	450.42	-20.96
TOTALS	5657.68	91.21	5551.11	4944.10	371.25	0.00	5315.94	607.47

January 1, 2011: 1050.8 acre-feet of native Rio Grande water rights in SP-4842; not all are available for diversion- some transfers include leaseback provisions.

As of May 30, 2011: 330 ac-ft under SP-4842 A


Correction to Oct Total of SJC Available at BDD. The incorrect value used calculated the SJC released from upstream reservoirs, not that amount that arrived at BDD for diversion.

Source of SJC Releases for BDD diversion in reporting month. Includes conveyance losses.

Month	Total Release (AF)	Conveyance Losses (AF)	HERON		EL VADO		ABIQUIU	
			CITY	COUNTY	CITY	COUNTY	CITY	COUNTY
JAN	247.17	4.94	247.17	0.00	0.00	0.00	0.00	0.00
FEB	320.95	6.42	320.95	0.00	0.00	0.00	0.00	0.00
MAR	352.04	7.04	352.04	0.00	0.00	0.00	0.00	0.00
APR	585.11	11.70	585.11	0.00	0.00	0.00	0.00	0.00
MAY	568.22	11.36	568.22	0.00	0.00	0.00	0.00	0.00
JUN	765.87	15.32	765.87	0.00	0.00	0.00	0.00	0.00
JUL	641.81	12.84	641.81	0.00	0.00	0.00	0.00	0.00
AUG	182.98	2.07	0.00	43.56	0.00	0.00	133.47	5.95
SEP	568.78	6.83	0.00	150.50	0.00	0.00	418.28	0.00
OCT	555.90	4.85	0.00	0.00	0.00	0.00	555.90	0.00
NOV	431.29	3.93	0.00	0.00	0.00	0.00	431.29	0.00
DEC	437.57	3.90	0.00	0.00	0.00	0.00	437.57	0.00
TOTALS	5657.68	91.21	3481.16	194.06	0.00	0.00	1976.51	5.95

MEMORANDUM

TO: City of Santa Fe Public Utilities Committee
City of Santa Fe Water Conservation Committee
Buckman Direct Diversion Board

FROM: Rick Carpenter, Water Resources and Conservation Manager 

VIA: Nick Schiavo, Acting Public Utilities Department and Water Division ^{NSA}
Director

DATE: November 20, 2013

SUBJECT: Update on Drought, Monsoon, and Water Resource Management

CURRENT UPDATE – GENERAL WATER RESOURCE MANGEMENT

As the Committee/Board is aware, our region is still suffering through a severe drought. Our region has gone through two consecutive years of record drought and heat. It is now apparent that we are wrapping up a third consecutive year of severe drought and abnormal heat which will present significant challenges to all water purveyors, utilities, and irrigators going forward into next year. Even though much of the State and our region have received moderate monsoonal rains overall in July and August, and with much of the state receiving record high monsoonal rains in September, most of the state of New Mexico remains in “severe to extreme” drought conditions. New Mexico appears to be the epicenter of the western U.S. drought. Weather prediction models indicate that, at least through January of this year, drought conditions in the southwest (especially Arizona and New Mexico) should be neutral to below average precipitation (snow) and above average temperatures, therefore, overall drought conditions will likely still persist at least through the beginning of next year. Runoff into regional river basins and reservoirs is expected to be normal to below normal.

This current drought is extreme, but what sets it apart from previous extreme droughts is that, absent significant winter snow the rest of this year, the region will enter into next spring and summer without very much carry-over water in regional reservoirs – they are at low levels (except for the local McClure reservoir in Santa Fe). For example, Heron reservoir (San Juan-Chama Project water) is currently at 30% of capacity. This condition could make next year much more challenging than the current year has been. However, the City of Santa Fe has invested in a robust and diverse portfolio of four distinct water supply sources that allows for flexibility in meeting demand: Buckman well field, City well field, Canyon Road Water Treatment Plant on the Upper Santa Fe River, and the Buckman Direct Diversion on the Rio Grande.

Earlier this year, BoR/USACoE models indicated the probability of critically low flows in the Rio Grande at Otowi Gage, and they were correct - the last few months have seen flows as low as about 350 cubic feet per second (CFS). In a “normal” year flow ought to be around 1,000 cfs or more. However, during the prolonged rains of September 10th – 17th, the record-breaking rains produced flows exceeding 8,000 cfs at times at Otowi Gage. Flows over the last two or three weeks have been in the range of 1,000 cfs (+/-).

Over the last few weeks, given that river flows in the Rio Grande and upper Santa Fe River have been up and since turbidity and solids have been down, CRWTP and BRWTP have been providing much more of the water supply to meet demands when compared to the previous summer months.

LOCAL CONDITIONS

Source of Supply Utilization Summary

October 2013

City Wells	48.36mg	148.42af
Buckman Wells	104.11mg	319.51af
CRWTP	14.88mg	45.67af
BRWTP	86.81mg	266.41af
<i>Other Wells(Osage, MRC, etc)</i>	<i>3.62mg</i>	<i>11.12af</i>

Upper Santa Fe River/CRWTP

	Total Combined Reservoir Level	Santa Fe Snow Gage	Reservoir Inflow
October 23, 2013	67.1%	12.0 inches	3.00 MGD
5-Year Average This Date (2008 – 2012)	50.34%	6.25 inches	0.94 MGD

Heading into September, water resource managers for the City were expecting the Canyon Road Water Treatment Plant to experience significant supply shortfalls later this year and into next year – due in part to severely reduced inflows resulting from the drought, but also due to the planned construction projects inside of the reservoir footprints. However, as of November 20th, and due to the recent heavy rains, storage in McClure reservoir is up from 29.0% to 81.2% (or about 2,400 acre-feet), with total combined storage (Nichols and McClure) at 67.1% and increasing daily. Flows into Nichols are being by-passed due to construction on the new intake facility. Inflows are expected to continue for the near future and so McClure has been releasing a small amount of water (about 3 – 5 cfs) in order to avoid spilling water over the spillway and to avoid flooding the construction area(s).

Buckman Regional Water Treatment Plant

The last few summer months have seen flows as low as about 350 cubic feet per second (CFS). In a “normal” year flow at this time of the year ought to be around 1,000 cfs or more. However, during the prolonged rains of September 10th – 17th and ensuing runoff, the record-breaking rains produced flows exceeding 8,000 cfs at times at Otowi Gage. Turbidity and suspended sediment has also been very high, especially following intense monsoonal rain storms (as high as 7,020 ntu). For this reason, the BDD Project was more-or-less shut down during the months of July, August, and most of September, but was able to produce in the range of 3 – 4 mgd through most of October and thus far through November, due to reduced turbidity and flows at approximately 1,000 cfs in the river.

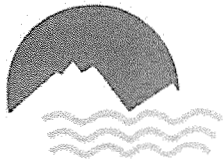
Rio Grande Basin

Surface flows in the Rio Grande and its tributaries have been well below normal, storage levels in regional reservoirs are very low currently (but rising due to recent storms), and the federal BoR recently stated that if there is no “meaningful moisture” received this winter/spring then this would mark the lowest water levels ever in New Mexico reservoirs prior to entering into a new irrigation season. The recent rains have helped river flows (at least temporarily) and regional reservoirs are receiving needed inflow, but normal to above normal snow pack is still needed this coming winter or reservoir levels will still be critically low heading into next irrigation season. Recent weather forecast models seem to be suggesting that snow pack this coming winter may be disappointing.

San Juan Basin

The streamflow forecast for the San Juan River Basin is 75 percent of the 30 year avg. (1981-2010) for 2013. San Juan-Chama contractors have received full allocation of San Juan-Chama Project water this year (up from a previous forecast of only 80%). However, most of this water has already been used by the larger purveyors and irrigators in the middle Rio Grande, and so they are no longer calling for/releasing their water. The water that is currently in the Rio Grande at Otowi Gage is therefore not so much imported San Juan-Chama water as it is environmental flows and native Rio Grande water. However, when water quality conditions permit, the BDD Project is still able to call for and receive its allocation of San Juan-Chama water.

It should be stressed that, conditions could significantly worsen for San Juan Chama Project deliveries next year if the drought persists (i.e., low snow pack this coming winter in the San Juan Basin), due to a lack of carry-over storage in Heron Reservoir and other reservoirs in the system. Heron is currently at a historic low level of 30% of capacity for this time of year. If conditions do not change, after deliveries are made out of Heron Reservoir this year, that reservoir will be heading into the next water –year at very low levels. Deliveries to SJCP contractors could be significantly curtailed next year as a result.



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.

Memo

Date: November 20, 2013

To: Buckman Direct Diversion Board

From: Shannon Jones, Interim BDD Facility Manager *HP*

ITEM AND ISSUE:

Request for approval of Resolution No. 2013-____, a Resolution requesting the amendment and extension of the May 13, 2010 Memorandum of Understanding (MOU) between the U.S. Department of Energy and the Buckman Direct Diversion Board regarding water quality monitoring.

BACKGROUND AND SUMMARY:

On November 7, 2013, the Buckman Direct Diversion Board (BDDB) addressed Peter Maggiore, Assistant Manager Environmental Project Office, of the US Department of Energy concerning an extension to the existing May 13, 2010 Memorandum of Understanding (MOU) between the U.S. Department of Energy and the Buckman Direct Diversion Board. Mr. Maggiore indicated this could be considered but requested the BDDB submit the request in writing. The BDDB directed staff to present a resolution to the BDDB for approval in the December meeting.

DISCUSSION

The attached Resolution presented to the Board hereby requests that Los Alamos National Laboratory (LANL) and Los Alamos Site Office/National Nuclear Security Administration (LASO/NNSA) staff meet and confer with BDD Board staff on amendments to the May 13, 2010 MOU to reflect both the changed circumstances in LA/Pueblo Canyon as a result of the September, 2013 storm flow and to extend the MOU for additional years into the future. The Resolution also identifies that BDD Project staff will report to the BDD Board at its regularly scheduled meetings the status and progress of the discussions in order to inform the elected officials and the public of progress concerning this important issue and that the BDD Project Manager be directed to transmit copies of this resolution to LANL, LASO/NNSA, the New Mexico Environment Department, the New Mexico Governor's Office, the Santa Fe area Legislators and Congressional Delegation.

ACTION REQUESTED

Staff recommends approval of Resolution No. 2013-____, requesting the amendment and extension of the May 13, 2010 MOU between U.S DOE and the BDDB.

ATTACHMENTS

Resolution 2013-____



1
2 **THE BUCKMAN DIRECT DIVERSION BOARD**

3
4 **RESOLUTION NO. 2013-__**

5
6
7 **A RESOLUTION REQUESTING THE AMENDMENT AND EXTENSION OF THE**
8 **MAY 13, 2010 MEMORANDUM OF UNDERSTANDING BETWEEN THE U.S.**
9 **DEPARTMENT OF ENERGY AND THE BUCKMAN DIRECT DIVERSION BOARD**
10 **REGARDING WATER QUALITY MONITORING**
11

12
13
14 **WHEREAS**, the May 13, 2010 MOU has the express purpose to establish the roles and
15 responsibilities with regard to coordination of monitoring activities by Los Alamos National
16 Laboratory ('LANL') and the Department of Energy ('DOE') in Los Alamos Canyon, Pueblo
17 Canyon, and the Rio Grande in relation to the operation of the Buckman Direct Diversion
18 Project ('BDD Project'); and
19

20 **WHEREAS**, the MOU was administratively amended to clarify certain technical issues on June
21 17, 2011; and
22

23 **WHEREAS**, the water quality and flow monitoring of LA/P Canyon inflows to the Rio Grande
24 upstream of the BDD diversion site has become a significant component of BDD operations;
25 and
26

27 **WHEREAS**, the BDD Board and staff have coordinated closely with LANL staff and the Los
28 Alamos Site Office of the NNSA regarding the implementation of the MOU; and
29

30 **WHEREAS**, historic stormwater flows in LA/Pueblo Canyon during September, 2013 have
31 impacted the gaging and sampling station at E109.9; and
32

33 **WHEREAS**, LANL and the LASO office of the NNSA have identified alternate and preferred
34 locations for continued monitoring of flow and water quality sampling; and
35

36 **WHEREAS**, the Buckman Direct Diversion Board requires a long term commitment to the
37 continued monitoring of flow and water quality in LA/Pueblo Canyon in order to support the
38 diversion of Rio Grande water for use in and around Santa Fe, New Mexico; and
39

40 **WHEREAS**, the May 15, 2010 MOU between the parties will expire on May 13, 2015 unless
41 extended by the parties; and
42

43
44 **NOW, THEREFORE, BE IT RESOLVED BY THE BUCKMAN DIRECT DIVERSION**
45 **BOARD** that the Board hereby requests that LANL and LASO/NNSA staff meet and confer
46 with BDD Board staff on amendments to the May 13, 2010 MOU to reflect both the changed
47 circumstances in LA/Pueblo Canyon as a result of the September, 2013 stormflow and to extend
48 the MOU for additional years into the future; and
49

1 **BE IT FURTHER RESOLVED** that BDD Project staff report to the BDD Board at its
2 regularly scheduled meetings the status and progress of the discussions in order to inform the
3 elected officials and the public of progress concerning this important issue; and
4

5 **BE IT FURTHER RESOLVED** that the BDD Project Manager be directed to transmit copies
6 of this resolution to LANL, LASO/NNSA, the New Mexico Environment Department, the New
7 Mexico Governor's Office, the Santa Fe area Legislators and Congressional Delegation.
8
9

10
11 **PASSED, APPROVED and ADOPTED this 5th day of December, 2013.**
12
13

14
15 **BUCKMAN DIRECT DIVERSION BOARD:**
16

17
18
19 _____
20 Commissioner Kathy Holian, BDD Board Chair
21

22
23 **ATTEST:**
24

25
26 _____
27 Geraldine Salazar, County Clerk
28
29

30
31 **APPROVED AS TO FORM:**
32
33

34
35 _____
36 Kyle Harwood, BDD Board Counsel

MEMORANDUM OF UNDERSTANDING BETWEEN THE U.S. DEPARTMENT
OF ENERGY AND THE BUCKMAN DIRECT DIVERSION BOARD
REGARDING WATER QUALITY MONITORING

A. PURPOSE

To establish roles and responsibilities with regard to coordination of monitoring activities by Los Alamos National Laboratory ('LANL') and the Department of Energy ('DOE') in Los Alamos Canyon, Pueblo Canyon, and the Rio Grande in relation to operation of the Buckman Direct Diversion Project ('BDD Project').

B. PARTIES

The parties to this Memorandum are the Buckman Direct Diversion Board ('BDD Board') and the U.S. Department of Energy ('DOE').

C. AUTHORITIES

1. Both parties represent that they have the authority to enter into this Memorandum and are able to meet the respective commitments herein to the extent permitted by law.

2. Department of Energy. The U.S. Department of Energy is authorized to enter into this Memorandum pursuant to the Atomic Energy Act, as amended (Title 42 U.S.C. 2011, et seq.).

3. BDD Board. The BDD Board is authorized to enter into this Memorandum 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 related thereto.

D. BACKGROUND

1. The BDD Project 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 will provide a source for the water supply systems of Santa Fe County, the City of Santa Fe and Las Campanas, LLP ('BDD Project partners'). The water to be diverted is comprised of San Juan-Chama Project water (a U.S. Bureau of Reclamation interbasin water transfer project) and native New Mexico state waters regulated by the State of New Mexico.

2. The planned point of diversion for the BDD Project is located 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 is located about three miles downstream from the confluence of the Rio Grande and Los Alamos Canyon (where Route 502 crosses the Rio Grande at the Otowi Bridge).

3. LANL is located on the Pajarito Plateau above the Los Alamos/Pueblo Canyon (LA/P Canyon) system. The LA/P Canyon system intermittently and infrequently flows to the Rio Grande just below the Otowi Bridge and upstream of the BDD Project planned point of diversion. The LA/P

1 watershed contains sediments with LANL-origin contamination from historic releases from LANL.
2 These sediments could transport to the Rio Grande during infrequent intermittent flows. The LA/P
3 Canyon watershed has been investigated under the Compliance Order on Consent with the New
4 Mexico Environment Department, and measures (including infrastructure) to reduce the transport
5 of contaminated sediments have been implemented.

6 4. The New Mexico legislature encouraged the BDD Board and DOE to memorialize their
7 agreement to certain activities relating to the mitigation and monitoring of LANL origin water quality
8 contaminants. The New Mexico legislature passed resolutions in 2009 and 2010, and this
9 Memorandum will address the issues contained in those memorials.

10 5. In 2007, the BDD Board requested a written agreement with LANL and DOE, and this
11 Memorandum represents a resolution of the surface water issues requested by the BDD Board.
12 This Memorandum represents an agreement between the parties that water quality management
13 and monitoring are mutual priorities and the activities described in this Memorandum are consistent
14 with, and will be carried out subject to, the policies, regulations, and applicable laws that pertain to
15 the parties.

16 6. This Memorandum describes sampling and reporting activities relating to LANL-origin water
17 quality contaminants that will be performed in support of the BDD Project and the diversion of
18 drinking water from the Rio Grande.

19 7. The Agreement Principles outlined in this Memorandum will be utilized by the public and the
20 BDD Board to inform the operation of the BDD Project, and will provide information that will guide
21 the future water quality policies and priorities of the parties.

22 **E. AGREEMENT PRINCIPLES**

23 **1. LA/P Canyon Early Notification Gaging System**

24 Purpose: The purpose of the early notification system is to provide real time streamflow data to the
25 BDD Project at the following locations:

- 26 • Station E060 in Pueblo Canyon above the Los Alamos Canyon confluence,
- 27 • Station E050 in Los Alamos Canyon above the Pueblo Canyon confluence, and
- 28 • Station E110 in lower Los Alamos Canyon above its confluence with the Rio Grande.

29 Real-time stream flow data from these stations will enable the BDD Project to make decisions
30 regarding facility operations, including temporarily ceasing diversion of water from the Rio Grande.

31 Description: The components of the early notification system include three stations each equipped
32 with gaging (flow measurement) capabilities, real-time conveyance of stream-flow data, and
33 automated stormwater samplers. Station E110 will also be equipped with camera capabilities or
34 some other means of confirming real-time flow events, as permitted by the Pueblo of San Ildefonso.
35 The early notification system also includes DOE transmittal to the BDD Project any rain gage data
36 that DOE and/or LANL have available for DOE property in the Los Alamos Canyon watershed, as

soon as practical. The BDD Project will provide DOE a list of recipients to receive this notification electronically.

System Design/Performance Standards: Flow measurements at the gaging stations shall be measured within a trapezoidal supercritical-flow flume design as reported in "Techniques of Water-resources Investigations of the United States Geological Survey, Chapter A14, Use of Flumes in Measuring Discharge" (F.A. Kilpatrick and V.R. Snyder, 1983). This flume is designed to accurately measure stream flows between approximately 1 and 350 cubic feet per second (cfs). The system shall be capable of a low flow trigger stage of 5 cfs (and will be capable of being programmed later to a different trigger level, as agreed to by BDD and DOE in the Biannual Review Process described below). The amount of time from when a station triggers to when the notification is available to the BDD Project will be as quickly as is practical (see Appendix A for specifications).

Telemetry Performance Standard: See Appendix A.

Maintenance, Inspection, Repair and Replacement: DOE shall maintain the early notification system as necessary to support the purpose and performance standards described above. The gaging stations shall be inspected once per month and after each flow event throughout the year. Maintenance activities will be performed in accordance with LANL standard operating procedures listed in Appendix A, and includes: ensuring data logger is powered up and operational, manual data retrieval is functioning, load testing of battery and replacement of battery if needed, removing snow from solar panel in winter months if needed, removing debris from stream channel if needed, performing discharge measurement direct or indirect or ice measurement if required, checking datum and reference point levels when required. In the event that any station is not functioning, DOE shall immediately notify the BDD Project and repair the station so the time period of inoperability shall be as short as possible. The inspections and repair schedule will be contingent on safe working conditions. If the period of inoperability has exceeded or is expected to exceed 72 hours for flow measurement equipment, or exceeded or will exceed 48 hours for telemetry equipment, DOE will communicate as quickly as practical via e-mail a written description of the station's inoperability to the BDD Project, including a description of the activities and the schedule necessary to restore operability based on best estimate of availability of equipment and personnel. DOE is responsible for all equipment necessary to measure and transmit the flow information, and the BDD Board is responsible for all equipment necessary to receive the flow information.

2. LA/P Canyon Storm Water Quality Sampling System

Purpose: To provide water-quality contaminant sampling data from flow events at the stations described above in order to characterize contaminants in LA/P Canyon flows.

Description: The components of the event sampling system include three stations each equipped with automated samplers that will be triggered by the occurrence of runoff at these stations as described below. DOE will fund all sampling activities for this water quality system.

System Design/Performance Standards: The samplers shall be capable of collecting samples from flows greater than 5 cfs. The analyte list for the samplers is contained in Appendix A of this Memorandum and is generally consistent with, but contains negotiated changes to, the NMED-approved Los Alamos and Pueblo Canyons Sediment Transport Monitoring Plan for storm-water

monitoring in LA/P Canyon. Consistent with the NMED approved workplan, sampling will be conducted from June to October of each year at each of the three gages. The parties will review the available data, the analyte list and the sampling protocols (e.g. trigger stage, sample collection process, etc.) during the Biannual Review process and can consider changes in accordance with the Memorandum amendment provision and Biannual Review process described below. DOE will notify BDD of any changes to the NMED-approved workplan. The collection and processing of samples will be conducted in accordance with LANL standard operating procedures (SOPs) listed in Appendix A.. The analytical methods are established by contract with DOE's analytical service providers and will follow EPA guidelines and methods.

Maintenance, Inspection, Repair and Replacement: DOE shall maintain the event sampling system as necessary to support the purpose and performance standards described above. The samplers shall be inspected no less than weekly from June to October of each year, and after each flow event and/or 72 hours between flow events to collect samples. General maintenance will be performed in accordance with LANL SOPs listed in Appendix A, and will include ensuring sampler is powered up and operational, load testing of battery and replacement of battery, inspection of sampler pump tubing, line, and intake to ensure no air leaks, cracks or plugs, and test sample collection cycle to ensure correct programming, tripping and volumes are correct. In the event that any station is not functioning, DOE shall immediately notify the BDD project and repair the station so the time period of inoperability shall be as short as possible. The inspections and repair schedule will be contingent on safe working conditions. If the period of sampler inoperability has exceeded or is expect to exceed 48 hours, DOE will communicate as quickly as practical via email a written description of the station's inoperability to the BDD Project, including a description of the activities and the schedule necessary to restore operability based on a best estimate of availability of equipment and personnel.

3. Rio Grande at BDD Project location Sampling Program

Purpose: To provide event-based sampling of change in stage in the Rio Grande or when triggered by notification of flows in Los Alamos Canyon at the E110 Gaging Station.

Description: The components of the sampling system include a dedicated sampling station equipped with an automated sampler that can be triggered on a regular schedule, and that can also be triggered by notification of Los Alamos Canyon flows at the E110 Gaging Station. DOE will fund the installation of a sampler as described in Appendix A which will be capable of sampling E110 gage triggered events, stage actuated events and other sampling schedules. Irrespective of the procurement process used to acquire and install the sampler (see Appendix A), the BDD Board shall take title to the sampling system at no cost, and shall thereby own and operate the sampling system. DOE will fund up to 30 sampling events in the 5 year term of this Memorandum, as determined by the BDD Board, and for those analytes described in Appendix A.

System Design/Performance Standards: The analyte list for this location is contained in Appendix A of this Memorandum. The parties will review the analyte list and sampling protocol during the Biannual Review process and will make changes in accordance with the Memorandum amendment provision and Biannual Review process described below. The parties will exchange information and seek to keep the Appendix A analyte list generally consistent with, but containing negotiated changes to, the NMED sampling programs on the Rio Grande, however such changes will require

the consent of both parties. The BDD Board will be responsible for the collection of samples in accordance with standard operating procedures to be developed with DOE and NMED.

Maintenance, Inspection, Repair and Replacement: DOE will fund the maintenance, inspection, repair and replacement of the sampler as described in Appendix A. The BDD Board shall own and operate the sampling system, and thereby be responsible for the maintenance, inspection, repair and replacement of the system and its components.

4. Rio Grande Contaminant Fate Analysis

DOE will fund for a one year period the analytes listed in Appendix A for: 1. the raw Rio Grande water at the BDD Project location, 2. the sediment return line of the BDD Project and, 3. the finished water produced by the BDD Project Water Treatment Plant. These samples will be monthly composites of flow weighted daily sampling. The BDD Board will be responsible for the collection of samples in accordance with standard operating procedures to be developed with DOE and NMED.

5. Data Sharing

DOE shall be responsible for all costs associated with sampling analyses described in this Memorandum.

Analytical results of E050 and E060 sampling will be made available to the BDD Project via the RACER database (the Risk Analysis, Communication, Evaluation, and Reduction project is managed by the NM Community Foundation) within 30-60 calendar days after DOE receives sampling results from the analytical laboratory. Analytical results for E110 sampling will be made available as soon as practicable within the constraints of the agreement between DOE and Pueblo de San Ildefonso governing the collection and reporting of such data. Paper copies of the data will also be transmitted to the BDD Project within 90 days after DOE receives sampling results and validation from the analytical laboratory.

Analytical results of Rio Grande at BDD Project location and Rio Grande Contaminant Fate sampling programs will be provided directly to the BDD Project and DOE as soon as they are available.

6. Coordination

DOE and the BDD Project Manager will coordinate with Pueblo de San Ildefonso and the New Mexico Environment Department on any issues related to the implementation of this Memorandum, and will engage in any consultation required to accomplish the purposes of this Memorandum.

7. BDD Project Rio Grande Diversion Records

The BDD Project will make records available to the DOE when diversions have ceased, and this information shall be used in the Biannual Review process to identify changes to Appendix A, however such changes will require the consent of both parties.

8. Biannual Review

The BDD Project Manager and DOE staff shall meet twice annually to review the functioning of the early notification system and sampling programs, in March and September of each year. During this Biannual Review process, changes can be made only to Appendix A (with a presumption that such changes will be consistent with changes to the NMED approved sampling plan for LA/P Canyons), provided however that such changes will require the consent of both parties. The parties shall endeavor to keep the sampling conducted pursuant to this Memorandum consistent with changes to NMED sampling programs, subject to the provisions that govern changes to Appendix of this Memorandum. The Los Alamos Site Office Environmental Program Manager and BDD Project Manager are authorized to make such changes, provided a written Appendix A amendment is approved and executed by the authorized representatives of the parties. Any changes to this Memorandum outside of the scope of Appendix A must be made through an amendment to this Memorandum as described below and executed in the same manner as this Memorandum.

F. Contacts

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

DOE

Los Alamos Site Office
George Rael
Manager
Environmental Projects Office
Los Alamos Site Office/NNSA/DOE
phone: 505-606-0397
cell: 505-690-0734
grael@doeal.gov

with a copy to:

DOE Counsel
Silas DeRoma
phone: 505-667-4668
email: sderoma@doeal.gov

BDD Board

BDD Project Manager
Rick Carpenter
Sangre de Cristo Water Division, City of Santa Fe
801 San Mateo Road
Santa Fe, NM 87505
cell: 505-660-5696
email: rrcarpenter@santafenm.gov

with a copy to:

BDD Board Counsel
Nancy Long
Long, Pound and Komer
2200 Brothers Road
PO Box 5098
Santa Fe NM 87502
cell: 505-470-2158
email: nlong@nm.net

G. Period of Agreement, Modification, or Termination

1. This memorandum is effective upon the signature of the BDD Board and DOE as shown below. This agreement shall expire five years from the date of the last signature, or may be terminated earlier as described below.
2. The BDD Board and DOE may modify this Memorandum by written amendment and in the same manner as this Memorandum was executed. This Memorandum may not be amended or superceded by other formal agreements without the consent of the parties.
3. The BDD Board and DOE may terminate this Memorandum by mutual written consent, and a party's intent to seek termination shall be provided to the representatives listed with 90 days notice.
4. If this Memorandum has not been terminated before the date of expiration and the parties agree, this Memorandum shall continue without interruption in full force and effect until amended, superceded or terminated by the parties.

H. Other Provisions

1. Nothing in this Memorandum is intended to conflict with current requirements of the parties or applicable laws. Any such conflicting term shall be invalid, but the remainder of the Memorandum shall remain in effect. If a term is deemed invalid, the parties shall immediately review the Memorandum and take appropriate action, including amendment or termination of the Memorandum. The activities described in this Memorandum are consistent with, and will be carried out subject to, all known policies, regulations, and applicable laws that pertain to the parties.
2. If the parties disagree over how to interpret this Memorandum, representatives of the parties shall notify and present their differences to each other in writing in order to reconcile the dispute. If the parties fail to resolve their differences within 30 days, the BDD Project Manager and Los Alamos Site Office Environmental Projects Office Manager shall prepare a written description of the dispute and the BDD Board Chair and DOE Environmental Programs Manager shall meet to reconcile the dispute. These representatives shall use efforts such as negotiation, facilitation and mediation to resolve the dispute.
3. This Memorandum in no way restricts the parties from participating in any activity with other public or private agencies, organizations, or individuals.

4. Activities described in this Memorandum are subject to the availability of appropriated funds. The BDD Board and Los Alamos Site Environmental Projects Office Manager shall make the appropriation of funds for the activities described in this Memorandum a priority when seeking regular or project specific funding requests.

5. This Memorandum describes the basis on which the parties will cooperate on the topics described herein. This Memorandum is not a financial obligation that serves as a basis for expenditures, and any financial obligations necessary to carry out the activities described herein shall be addressed in other documents internal to each party. Expenditures of funds, human resources, equipment, supplies, facilities, training, public information, and technical expertise will be provided by each party as necessary to fulfill its obligation under this Memorandum.

6. This Memorandum is neither a fiscal nor a funds obligation document. Nothing in this Memorandum authorizes or is intended to obligate the parties to expend, exchange, or reimburse funds, services, or supplies, or transfer or receive anything of value. Any requirement for the payment or obligation of funds by DOE established by the terms of this Memorandum shall be subject to the availability of funds and Secretarial discretion, and no provision herein shall be interpreted to require obligation or payment of funds in violation of the Antideficiency Act, 31 U.S.C. §1341.

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

NOW, in witness whereof, each of the BDD Board and DOE has caused this Memorandum to be executed and delivered by its duly authorized representatives as of the last date shown below,

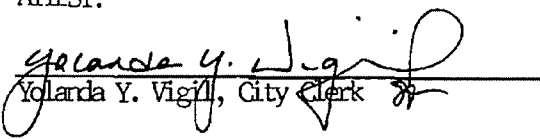
BDD Board


Rebecca Wurzburger, BDD Board Chair, DATE

DOE


Dr. Ines Triay, Assistant Secretary for Environmental Management, Department of Energy, DATE

ATTEST:


Yolanda Y. Vigil, City Clerk

Appendix A

The tables that follow the text below contain the analytes that will be sampled in accordance with this Memorandum.

Regarding LA/Pueblo Canyon Telemetry:

1. Telemetry used to communicate flow data from the gaging stations to the BDD shall be designed to provide a received signal level at each receiver with a fade margin of no less than 25 dBm above the equipments receiver threshold. Telemetry equipment shall include battery backup sized to provide a minimum 12 hour operation after failure of primary power. Battery run time shall be calculated in a mode of operation consistent with frequent data transmission during a slow event.
2. LA/P Canyon flow confirmation at the E110 gauging station: [This section contingent on Pueblo de San Ildefonso review and approval]
3. The amount of time between a station trigger and when notification is available to the BDD Project will be as short as is practical, with a goal not to exceed 1 minute.

Regarding LA/Pueblo Canyon water quality sampling:

1. The goals of the sampling strategy are to collect data that represent variations in contaminant concentrations and suspended sediment concentration (SSC) within runoff events across a typical hydrograph for each location (Monitoring Plan for LA/P Canyon Sediment Transport Mitigation Project (LA-UR-09-6563)).
2. Each of the gages will be monitored continuously for stage. Samples at E050, E060, and E110 will be triggered by 5-cfs flows to ensure sampling at flows that may extend to the Rio Grande (Monitoring Plan for LA/P Canyon Sediment Transport Mitigation Project (LA-UR-09-6563)).
3. Prioritization of analytes if water volume is insufficient to fulfill suite: PCBs, gamma spec, iso pu, Sr-90, dioxin/furans, target analyte list metals, gross alpha, iso u, Am-241 (alpha spec), SSC
4. E110 will be analyzed for filtered and unfiltered TAL Metals and radionuclides.
5. All event exceeding 5 cfs at E050, E060 and E110 will be analyzed for the following parameters.

Regarding Rio Grande at Buckman Sampler:

The sampler will have functionality sufficient to receive a telemetry signal from early warning and operator triggered, stage & flow actuator, flowlink software, datalogger, and the ability to integrate a parallel NMED sampler.

The BDD Board and DOE agree to apply for and utilize a DOE grant to fund the maintenance, inspection, repair and replacement of the Rio Grande at Buckman sampler described above in this Appendix and in the Memorandum of Understanding. If such a grant is not available by October 1, 2010 then DOE agrees to install, implement and operate this sampler. Furthermore, and until the Rio Grande at Buckman sampler is operational, DOE agrees to equip the existing NMED sampler located at Buckman with the capability to receive a telemetry signal from the E110 gage as soon as practical following the execution of this MOU. The BDD Board will be responsible for all permit requirements and will provide DOE with a statement of work and a cost estimate for the sampler by June 1, 2010.

Regarding all detection limits in the analyte tables that follow:

Values will be reviewed at the first Biannual Review meeting, using the following principles: Method reporting limits for sample analyses for each medium shall be established at the lowest level practicable for the method and analyte concentrations and shall not exceed soil, groundwater, surface water, or vapor emissions background levels, cleanup standards, and screening levels. The preferred method detection limits are a maximum of 20 percent of the background, screening, or cleanup levels. Detection limits that exceed established soil, groundwater, surface water, or air emissions cleanup standards, screening levels, or background levels and are reported as "not detected" shall be considered data quality exceptions and an explanation for the exceedance and its acceptability for use shall be provided. (section IX.C.3.c Method Reporting Limits from the Consent Order).

**Table 1: Standard Operating Procedures for the
BDD/DOE Memorandum of Understanding**

SOP Number/Title	Application			
	Stream Gage/Sampler Maintenance	LA/P Canyon Storm Water Quality Sampling	Rio Grande at BDD Project Location Sampling	Rio Grande Contaminant Fate Analysis
LANL Procedures				
SOP-5213 Collecting Storm Water Runoff Samples and Inspecting Samplers ¹	✓	✓		
SOP-5214 Installation, Setup, and Maintenance of ISCO Samplers		✓		
SOP-5215 Processing Storm Water Samples		✓		
EP-ERSS-SOP-5057 Handling, Packaging and Transporting Field Samples		✓		
SOP-5255 Shipping of Environmental Samples by the WES Sample Management Office (SMO)		✓		
ENV-WQH-SOP-009.3 Operation and Maintenance of Stream Gaging Stations	✓			
BDD Procedures				
BDD SOPs			✓	✓

¹Or equivalent SOP used by DOE contracted sampling subcontractors.

Table 2: Los Alamos/Pueblo Canyon Storm Water Quality Sampling

Analytes	Method	Detection Limit	Field Prep Code
SSC	EPA:160.2	3 mg/L	UF
TAL metals (23), plus Hg	EPA:200.7, EPA: 200.8, EPA:245.2	0.2 – 300 mg/L	F, UF
hardness	SM:A2340B	2 mg/L	UF
Gross alpha	EPA:900	3 pci/L	F, UF
Gross beta	EPA:900	3 pci/L	F, UF
Sr-90	EPA:905.0	0.5 pci/L	F, UF
Am-241	HASL-300:AM-241	0.05 pci/L	F, UF
Gross gamma	EPA:901.1	15 pci/L	F, UF
Cs-137	EPA:901.1	5 pci/L	F, UF
Co-60	EPA:901.1	5 pci/L	F, UF
Na-22	EPA:901.1	10 pci/L	F, UF
Np-237	EPA:901.1	40 pci/L	F, UF
K-40	EPA:901.1	75 pci/L	F, UF
Pu (isotopic)	HASL-300:ISOPU	0.05 pci/L	F, UF
U (isotopic)	HASL-300:ISOU	0.05 pci/L	F, UF
dioxin-furans	SW-846:8290	0.2 – 0.5 pg/L	UF
PCBs	EPA 1668A-Congener Method	20 – 150 pg/L	UF
Ra-226 & -228	EPA:903.1 & EPA:904.4	1 pci/L	F, UF

Table 3: Rio Grande at BDD Project Location Sampling Program

Analytes	Method	Detection Limit	Field Prep Code
Gross alpha	EPA:900	3 pci/L	F, UF
Gross beta	EPA:900	3 pci/L	F, UF
Sr-90	EPA:905.0	0.5 pci/L	F, UF
Am-241	HASL-300:AM-241	0.05 pci/L	F, UF
Gross gamma	EPA:901.1	15 pci/L	
Cs-137	EPA:901.1	5 pci/L	F, UF
Co-60	EPA:901.1	5 pci/L	F, UF
Na-22	EPA:901.1	10 pci/L	F, UF
Np-237	EPA:901.1	40 pci/L	F, UF
K-40	EPA:901.1	75 pci/L	F, UF
Pu (isotopic)	HASL-300:ISOPU	0.05 pci/L	F, UF
U (isotopic)	HASL-300:ISOU	0.05 pci/L	F, UF
Ra-226, -228	903.1, 904	1 pci/L	F, UF
TAL metals (23), plus Hg	EPA:200.7, EPA: 200.8, EPA:245.2	0.2 – 300 mg/L	F, UF
TDS	EPA:160.1	10 pci/L	F
TOC	SW-846:9060	1 mg/L	UF
SSC	EPA:160.2	3 mg/L	UF
dioxin-furans	SW-846:8290	0.2 – 0.5 pg/L	UF
PCBs	SW-846:8082	0.2 ug/L	UF
PCBs	EPA 1668A-Congener Method	20 – 150 pg/L	UF
PADS-particle size analysis	ASTM C-1070-01	0.1 %	UF
perchlorate	SW846 6850 Modified	0.2 mg/L	UF

Table 4: Rio Grande Contaminate Fate Analysis

Analytes	Method	Detection Limit	Field Prep Code
Gross alpha	EPA:900	3 pci/L	F, UF
Gross beta	EPA:900	3 pci/L	F, UF
Sr-90	EPA:905.0	0.5 pci/L	F, UF
Am-241	HASL-300:AM-241	0.05 pci/L	F, UF
Gross gamma	EPA:901.1	15 pci/L	F, UF
Cs-137	EPA:901.1	5 pci/L	F, UF
Co-60	EPA:901.1	5 pci/L	F, UF
Na-22	EPA:901.1	10 pci/L	F, UF
Np-237	EPA:901.1	40 pci/L	F, UF
K-40	EPA:901.1	75 pci/L	F, UF
Pu (isotopic)	HASL-300:ISOPU	0.05 pci/L	F, UF
U (isotopic)	HASL-300:ISOU	0.05 pci/L	F, UF
Ra-226, 228	903.1, 904	1 pci/L	F, UF



DEPARTMENT OF ENERGY
National Nuclear Security Administration
Los Alamos Site Office
Los Alamos, New Mexico 87544



JUN 17 2011

Mr. Rick Carpenter
Sangre de Cristo Water Division
City of Santa Fe
801 San Mateo Road
Santa Fe, NM 87505

Dear Mr. Carpenter:

Subject: Amended Appendix A of the Memorandum of Understanding between the
Department of Energy and the Buckman Direct Diversion Board Regarding Water
Quality Monitoring

As specified in the Memorandum of Understanding (MOU) between the Department of Energy (DOE) and the Buckman Direct Diversion (BDD) Board Regarding Water Quality Monitoring, Biannual Technical Meetings are to be held during which time, Appendix A of the MOU will be reviewed for modifications. Per Section 8 of the MOU, *Biannual Review*, Appendix A may be modified and formalized as an amended Appendix A. During the September 23, 2010 and March 24, 2011 meetings, changes to Appendix A were discussed and agreed upon by both the BDD Project Manager and DOE staff. The enclosed signed, original copy of Appendix A-1 reflects the agreed upon changes and is to be executed as part of the MOU.

If you have any questions, you may contact Cheryl Rodriguez of my staff at (505) 665-5330 (crodriguez2@doeal.gov).

Sincerely,

George J. Rael
Assistant Manager
Environmental Projects Office

cc w/enclosure:

Kyle Harwood

Harwood Consulting
1660A Old Pecos Trail
Santa Fe, NM 87505

Erika Schwender

BDD Regulatory Compliance Officer
Buckman Direct Diversion Project
341 Caja del Rio Road
Santa Fe, NM 87507

Bob Mulvey

BDD Facility Manager
Buckman Direct Diversion Project
341 Caja del Rio Road
Santa Fe, NM 87507

L. Cummings, SCS, LASO

P. Maggiore, EPO, LASO

C. Rodriguez, EPO, LASO

M. Graham, ADEP, LANS, MS-M991

S. Veenis, PMFS-DO, LANS, MS-M881

D. Katzman, ET-EI, LANS, MS-M992

Records Center, LASO

Official Contract File, LASO

EPO-26CR-222-355746

Appendix A-1

These issues were raised and discussed between staff for the BDD Board and DOE/LASO/LANL, and are updates to the MOU, executed and recorded in accordance with the Appendix A amendment process.

Effective Date of Memorandum of Understanding Regarding Water Quality Monitoring:

The original executed MOU has no dated signatures, however staff has determined that the effective date of the MOU is May 13, 2010.

Gage station descriptions:

After the execution of the MOU, the gaging stations have been renumbered as a result of relocating each station. As used in the MOU, each reference to the station designation in the original MOU now has the designation that follows:

E110 is now E109.9

E050 is now E050.1

E060 is now E060.1

BDD Board points of contact for communication:

For any communication regarding this MOU, notice will be provided to each of the following individuals via email:

Rick Carpenter, BDD Project Manager, cell 505-660-5696, email rrcarpenter@santafenm.gov

Bob Mulvey, BDD Facility Manager, cell 505-629-5393, email rjmulvey@ci.santa-fe.nm.us

Gary Durrant, BDD Facility Chief Operator, cell 505-629-8026, gcdurrant@ci.santa-fe.nm.us

Erika Schwender, BDD Regulatory Compliance Officer, cell 505-699-2451, email ebschwender@ci.santa-fe.nm.us

For emergencies, please call the BDD Water Treatment Plant Control Room 505-955-4505.

Modification of grant language in first paragraph on page 2 of Appendix A

The first paragraph, page 2 of Appendix A requires modification to change the grant deliverable dates for both the BDD Board and DOE.

The paragraph currently reads:

~~The BDD Board and DOE agree to apply for and utilize a DOE grant to fund the maintenance, inspection, repair and replacement of the Rio Grande at Buckman sampler described above in this Appendix and in the Memorandum of Understanding. If such a grant is not available by October 1, 2010 then DOE agrees to install, implement and operate this sampler. Furthermore, and until the Rio Grande at Buckman sampler is operational, DOE agrees to equip the existing NMED sampler located at Buckman with the capability to receive a telemetry signal from the E110 gage as soon as practical following the execution of this MOU. The BDD Board will be responsible for all permit requirements and will provide DOE with a statement of work and a cost estimate for the sampler by June 1, 2010.~~

The revised paragraph follows:

The BDD Board and DOE agree to apply for and utilize a DOE grant to fund the maintenance, inspection, repair and replacement of the Rio Grande at Buckman sampler described above in this Appendix and in the Memorandum of Understanding. Until the Rio Grande at Buckman sampler is operational, DOE agrees to equip the existing NMED sampler located at Buckman with the capability to receive a telemetry signal from the E109.9 gage as soon as practical following the execution of this MOU. The BDD Board will be responsible for all permit requirements and will provide DOE with a statement of work and a cost estimate for the Rio Grande at Buckman sampler as described in the MOU. Upon receipt of an agreed upon estimate and statement of work, DOE will implement the grant process.

Clarification of MOU Section 5 lines 22 through 24: Data Sharing

The BDD and DOE agree that electronic submittals of sampling results and validation data from the analytical laboratory fulfill the requirements of this section.

Clarification of MOU Sections 3, 4 and 5

Sample collection is the responsibility of the BDD Project Team (BDD). Sample collection involves ensuring sound sample collection and handling protocol are implemented in accordance with BDD generated standard operating procedures (SOPs) using LANL supplied sample bottles and shipping materials. Sample paperwork (Sample Collection Log/Field Chain of Custody), shipping labels, coolers, sample bottles, and bottle labels will be provided by LANL in advance with the goal of having at least two (2) complete sets of sample materials available to the BDD at all times. The sample paperwork will include the information that will enable the laboratory(ies) to accurately perform required analytical testing and reporting. Required analyses are provided in Appendix A, Tables 3 and

4. BDD will complete sample paperwork and ship the samples directly to the analytical laboratory(ies). BDD will fax or e-mail the completed sample paperwork to LANL so that a laboratory request number can be assigned which enables the flow of data from the analytical laboratory to LANL's database. LANL will create tracking requests so that accurate billing records may be returned to LANL from the analytical laboratory(ies). Samples will be analyzed by contracted laboratory(ies) in accordance with the terms of their contract with LANL, and changes to those contracts will be provided to the BDD for review. Terms of the contract include expected turnaround times, analytical methods, method detection limits, reporting limits, requirements for electronic data deliverables, hard copy data deliverables, and processes for addressing non-delivery of expected performance on turnaround or analytical quality.

The analytical laboratory(ies) will provide LANL with data deliverables that include laboratory analytical qualifiers, QC data, and other pertinent documentation to support the reported analytical results. LANL will provide the sample results and supporting analytical information to the BDD upon receipt from the analytical laboratory. LANL will submit the data deliverables to a subcontractor (currently Analytical Quality Associates in Albuquerque, NM) for third party (secondary) validation using LANL validation SOPs. The expectation for turnaround from shipment of samples to receipt of analytical data is six weeks or less. The validation step is typically completed within two additional weeks. Weekly, validated analytical data will be submitted electronically to BDD for a 75 calendar-day review prior to being made available for public view via LANL's database or RACER. BDD can choose to temporarily or permanently halt publication of individual records to the public view in the database.

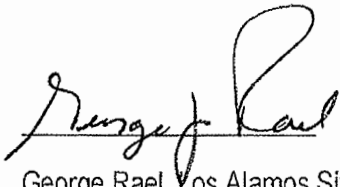
Communications regarding this section or communication with the analytical laboratories shall be conducted through the points of contact listed below:

Keith Greene, kgreene@lanl.gov, 665-9966 (ph), 665-9972 (fax)

Backup for Keith Greene will be Bill Hardesty, wbh@lanl.gov, 665-4654 (ph), 606-0503 (fax)

Erika Schwender, BDD Regulatory Compliance Officer, cell 505-699-2451, email eschwender@ci.santa-fe.nm.us

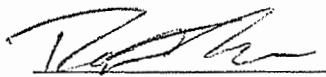
Backup for Erika Schwender will be Danny Carter, BDD Facility Laboratory Analyst, office 505-955-4511, email djcarter@ci.santa-fe.nm.us



George Rael, Los Alamos Site Office

May 20, 20 11

DATE



Bob Mulvey, BDD Facility Manager

5-10-2011

DATE



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.

Memo

DATE: December 5, 2013
TO: Buckman Direct Diversion Chairperson and Board
FROM: Mackie Romero, BDD Financial Manager *MR*
SUBJECT: Proposed FY14/15 Operating Budget Request

Item & Issue:

Request for approval and recommendation of the BDD Operating Budget for FY14/15.

Background and Discussion:

BDD is pleased to present the proposed Buckman Direct Diversion (BDD) Operating Budget for FY14/15 and proposed contributions to our Major Repair & Replacement Fund. The proposed budget accounts for all functions necessary to meet the Board's service level objectives and provides high quality water supplies to City of Santa Fe, Santa Fe County and Las Campanas entities.

Our primary goal was closing the gap between actual expenditures and our requested budget amount. Therefore BDD actively collaborated with its partners on the development of this budget and due to valuable discussions and input we were able to come to an agreement on our proposed budget request.

Budget Highlights & Considerations:

- Requesting budget approval of \$6,524,600 for FY14/15 Operations (Table C)
- Requesting approval of \$411,804 in contributions for Major Repair & Replacement Fund. (Table N)
- Requesting funding from our partners of \$6,344,600 for our operating fund and \$411,804 for our Major Repair & Replacement Fund. (Table O)
- Requesting approval to budget our PNM Solar Rebates as a source of revenue for \$180,000. (Table A)
- Reduced FY14/15 Budget Request by \$513,003 from FY13/14 Adopted Budget (Table C)
- Pending amendment of FOPA, change in percentage allocation of shared fixed cost. (Table E)
- Emergency Reserve Fund will reach its target in FY13/14, therefore no additional contributions will be requested for FY14/15. (Table L)



- Budget costs are linked to key performance metrics and strategic initiatives. (Program Performance Measures Report)
- Twenty –four months of operations reduces five-year projection plan. (Five-year Cost Projection Report)

Recommended Action:

We would like to request approval and BDDDB recommendation of the BDD Operating Budget for FY14/15 and contributions to our Major Repair and Replacement Fund to Santa Fe County Board of Commissioners and City of Santa Fe's City Council.

We look forward to presenting the proposed budget and addressing your comments and questions. .

Thank you

Government shall measure and report its performance to provide stakeholders with data for the purpose of evaluating program effectiveness and efficiency.

Program Performance Measures

Program Performance Measures

Publicly reporting actual program performance data on a routine basis apprises stakeholders of results. This document contains performance measures that stakeholders can use to determine whether programs are efficiently and effectively accomplishing goals. Performance standards can be periodically evaluated and refined to adapt to stakeholder priorities. Data driven decision making establishes the framework for continuous improvement, accountability, and transparency. The Buckman Direct Diversion Project is organized into 6 programs which are

1. Administrative Services
2. Safety and Training (Environmental, Health, Safety, Transportation and Security – EHSTS)
3. Information Services
4. Maintenance
5. Operations
6. Regulatory Compliance

This section of the budget presents a performance report for each program organized into subsections as follows

- **Program Purpose** – Presents a cogent statement of program activities, customers, and benefits delivered.
- **Strategic Goals Supported by the Program Resources** – Presents the strategic goals primarily served by program resources.
- **Program Expenditures, Budget and Full Time Equivalents (FTE's)** – Presents program financial and personnel resources.
- **Results FY12/13 and FY 2014-15 Targets** – Presents measurements to describe how the program is achieving its program purpose.

Operations

Program Purpose

The Purpose of the Operations Program is to produce drinking water to the BDD partners so they can have confidence in the quality and quantity of water delivered by the Water Treatment Plant

Strategic Goals Supported by Program Resources

1. To ensure that water quality is kept to a very high standard
2. To minimize electric power and chemical costs

Program Expenditures, Budget and Full Time Equivalents (FTE's)

	FY2012/13 Year End Actual **	FY2012/13 Adopted Budget	FY2014/15 Proposed Budget	% Variance FY14/15 Proposed vs FY12/13 Actuals
Expenditures/Budget	3,233,111	4,630,971	3,651,922	34%
Full time equivalents (FTEs)	14	18	19	26%

Operation Results and FY2014/15 Targets

Performance Measures	FY2012/13 Year End Actual **	FY2012/13 Adopted Target	FY2014/15 Proposed Target
Results/Outcomes			
95% of all turbidity measurements less than or equal to 0.3 NTU.	99.94%	100%	100%
Maintain total electric power cost per million gallons produced below Upper Control Limit 100% of the time.	83.3%	100%	100%
Maintain total chemical cost per million gallons produced below Upper Control Limit 100% of the time.	100%	100%	100%
Output			
Number of turbidity samples collected	1976	1696	1696

Regulatory Compliance

Program Purpose

The purpose of the Regulatory Compliance Program is to provide sound compliance programs with respect to environmental and water quality regulations as well as compliance and process control lab services to BDD partners, its customers, and regulatory agencies to assure a reliable and high quality drinking water supply.

Strategic Goals Supported by Program Resources

1. Develop, and implement the Safe Drinking Water Act (SDWA) Compliance
2. Develop, and implement the National Pollutant Discharge Elimination System (NPDES) Compliance
3. Develop and implement residual Solids Management and Compliance
4. Develop and Implement the LANL / DOE Monitoring

Program Expenditures, Budget and Full Time Equivalents (FTE's)

	FY2012/13 Year End Actual **	FY2012/13 Adopted Budget	FY2014/15 Proposed Budget	% Variance FY14/15 Proposed vs FY12/13 Actuals
Expenditures/Budget	268,564	650,448	306,817	14%
Full time equivalents (FTEs)	1	2	2	50%

Regulatory Compliance Results and FY2014/15 Targets

Sub Program	Performance Measures	FY2012/13 Year End Actual **	FY2012/13 Adopted Target	FY2014/15 Proposed Target
Results/Outcomes				
SDWA	Percent compliance with SDWA monitoring and reporting standards	100%	100%	100%
NPDES	Percent compliance with NPDES monitoring and reporting standards	99%	100%	100%
SMCP	Protect the environment and maintain 100% compliance with monitoring frequency requirements; 1 sample per 100 cubic yards landfill solids disposal [1]	100%	100%	100%
Output				
SDWA	Number of SDWA sampling events completed	4	4	4
NPDES	Number of NPDES suite sampling events completed	2	2	2
NPDES	Number of bio-assay sample events completed	4	4	1
NPDES	Number of geomorphic aquatic studies completed	4	4	1
SMCP	Number of landfill solids disposal sampling events	20	270	9

[1] Estimated 4500 cubic yards solids annually for which NMED requires a sample per each 100 cubic yards resulting in 45 sampling events.

Asset Management and Maintenance

Program Purpose

The purpose of the Asset Management and Maintenance Program¹ is to provide reliable, cost-effective maintenance and repair services to BDD Operations for the purpose of minimizing equipment lifecycle costs, maximizing equipment reliability and dependability, and eliminating regulatory actions or water quality violations due to equipment failures.

Strategic Goals Supported by Program Resources

1. Minimize equipment life-cycle costs
2. Maximize equipment reliability and dependability
3. Eliminate regulatory actions or water quality violations due to equipment failures

Program Expenditures, Budget and Full Time Equivalents (FTE's)

	FY2012/13 Year End Actual **	FY2012/13 Adopted Budget	FY2014/15 Proposed Budget	% Variance FY14/15 Proposed
Expenditures/Budget	912,034	1,369,564	989,163	7.8%
Full time equivalents (FTEs)	6	7	7	14%

Asset Management and Maintenance Program Results and FY2014/15 Targets

Performance Measures	FY2012/13 Year End Actual **	FY2012/13 Adopted Target	FY2014/15 Proposed Target
Output			
Number of workdays backlog of incomplete work orders	19	N/A*	10
Number of facility and equipment work orders completed	5061	4910	5100
Number of corrective work orders	281	118	250
Number of emergency work orders completed	12	10	10

*New performance measures for FY13/14 and FY14/15

Safety and Training/ (EHSTS)

Program Purpose

The purpose of the Safety and Training/ (EHSTS) program is to provide compliance, program development, and site-specific training to BDD Operators and Maintenance personnel in compliance with applicable Federal, State, and local regulations.

Strategic Goals Supported by Program Resources

1. Maintain the *OSHA Incident Rate* below the industry standard of 3.2%. The OSHA Incident rate tracks the number of work related injuries normalized to the number of person-hours worked.

Program Expenditures, Budget and Full Time Equivalents (FTE's)

	FY2012/13 Year End Actual **	FY2012/13 Adopted Budget	FY2014/15 Proposed Budget	% Variance FY14/15 Proposed
Expenditures/Budget	170,092	342,015	298,203	43%
Full time equivalents (FTEs)	0	1	1	100%

Safety and Training Results and FY2013/14 Targets

Performance Measures	FY2012/13 Year End Actual **	FY2012/13 Adopted Target	FY2014/15 Proposed Target
Results/Outcomes			
OSHA incident rate	0%	0%	0%
Output			
Number of program policies and procedures reviewed	3	10	10
Number of training hours delivered per employee	36	41	41

Note: The OSHA Incident Rate tracks the number of work related injuries normalized to the number of person hours worked

Administrative Services

Program Purpose

Provide management oversight and supervision to the entire facility, and, in compliance with the Project Management and Fiscal Services Agreement (PMFSA) and the Fiscal Operations and Procedures Agreement (FOPA), assist with the developing and monitoring the use of the annual operating budget; deliver monthly partner invoicing in accordance with Generally Accepted Accounting Principles (GAAP); to perform records management and coordinate procurement and requisition processing in accordance with State and local laws and regulations, and to maintain oversight of expenditures within the working capital fund, the major repair and replacement fund, and the emergency reserve fund.

Strategic Goals Supported by Program Resources

1. Operate and maintain the Buckman Regional Water Treatment Plant within Budget 100% of the time.

Program Expenditures, Budget and Full Time Equivalents (FTE's)

	FY2012/13 Year End Actual **	FY2012/13 Adopted Budget	FY2014/15 Proposed Budget	% Variance FY14/15 Proposed
Expenditures/Budget	586,971	902,078	870,594	33%
Full time equivalents (FTEs)	3	6	4	25%

Accounting and Budget Results and FY2014/15 Targets

Performance Measures	FY2012/13 Year End Actual **	FY2012/13 Adopted Target	FY2014/15 Proposed Target
Results/Outcomes			
% Compliance with expenditures within adopted budget limits	100%	100%	100%
*Processing BDD payments and requisitions within 7 days of receipt	N/A	N/A	100%
Output			
*Number of days after year end, when funds are reconciled and ready for audit.	N/A	N/A	90
*Preparation of quarterly financial position reports.	N/A	N/A	4
Efficiencies			
*Average days payables outstanding	N/A	N/A	38

* New performance measures for FY13/FY14 and FY14/15

Information Systems

Program Purpose

The purpose of the Information Systems program is to maintain and support all automation and security systems, especially the Supervisory Control and Data Acquisition system (SCADA), so that the BDD can provide reliably clean drinking water.

Strategic Goals Supported by Program Resources

1. Eliminate regulatory actions or water quality violations due to equipment failures caused by software, connectivity, or information systems.

Program Expenditures, Budget and Full Time Equivalents (FTE's)

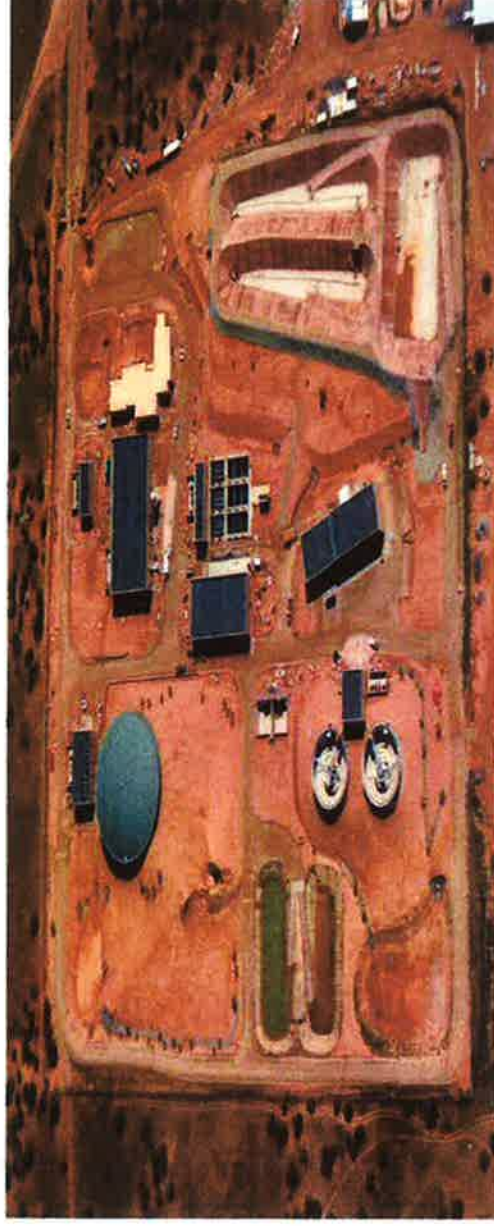
	FY2012/13 Year End Actual **	FY2012/13 Adopted Budget	FY2014/15 Proposed Budget	% Variance FY14/15 Proposed
Expenditures/Budget	334,208	426,682	343,302	3%
Full time equivalents (FTEs)	2	2	2	0%

Information Systems Program Results and FY2013/14 Targets

Performance Measures	FY2012/13 Year End Actual **	FY2012/13 Adopted Target	FY2014/15 Proposed Target
Results/Outcomes			
Percent of time the SCADA system is online	N/A	N/A	99.9%
Percent of time the security system is online	N/A	N/A	99.9%
Percent of time that Antivirus and Windows updates are current	N/A	N/A	99.9%
Percent of time that system backups are current	N/A	N/A	99.9%

* FY12/13 had no performance measures for IT. New performance measures for FY13/FY14 and FY14/15

Buckman Direct Diversion Project



Proposed Annual Operating Budget

FY 2014/15

Prepared by:

Shannon Jones, Interim BDD Facilities Manager
Mackie Romero, BDD Financial Manager

Buckman Direct Diversion Project

Fiscal Year 2014/2015 Operating Budget

Kathy Holian

Chair, Buckman Direct Diversion Project Board
County Commissioner, Vice-Chair, District 4

Chris Calvert

Vice-Chair, Buckman Direct Diversion Project Board
City Councilor, District 1

Carmichael A. Dominguez

City Member, Buckman Direct Diversion Project Board
City Council, District 3

Miguel M. Chavez

County Member, Buckman Direct Diversion Project Board
County Commissioners, District 2

Consuelo Bokum

At-Large Member, Buckman Direct Diversion Project Board

Patti Bushee

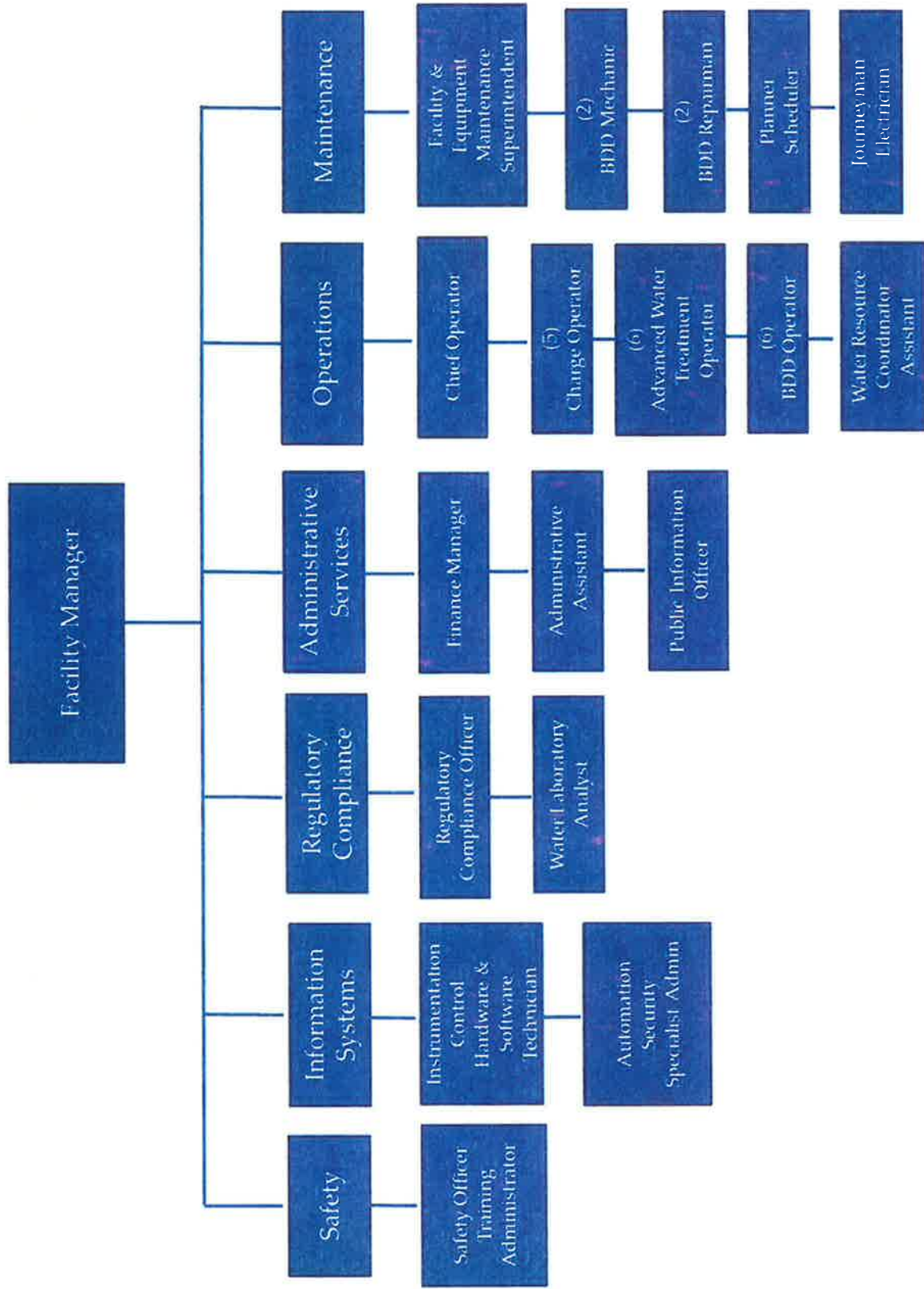
City Alternate Member, Buckman Direct Diversion Project Board
City Councilor, District 1

Daniel Mayfield

County Alternate Member, Buckman Direct Diversion Project Board
County Commissioners, District 1

Shannon Jones, Interim BDD Facilities Manager

BUCKMAN DIRECT DIVERSION REGIONAL WATER PLANT ORGANIZATIONAL CHART



Buckman Direct Diversion (BDD) Proposed Annual Operating Budget, FY2014/15

Budget Message

The *Project Management and Fiscal Services Agreement* (PMFSA) requires the Project Manager to submit an Annual Operating Budget, including a 5-year projection, no later than December 15th of each fiscal year. With this submittal, the Project Manager requests the Buckman Direct Diversion Board (BDDDB) approve and recommended the Fiscal Year 2014-2015 Operating Budget of \$6,524,600. The portion of fixed vs. variable costs and the partner share by major expenditure category is presented below.

BUDGET REVENUE/REIMBURSEMENT SUMMARY - PARTNER SHARE OF TOTAL PROPOSED FY2014/15 BUDGET - (TABLE A)

	Fixed	Variable	Total	%
Revenues/Reimbursements by Source:				
PNM Solar Rebates	\$ -	\$ 180,000	\$ 180,000	2.8%
City of Santa Fe	3,491,396	1,134,740	4,626,136	70.9%
Santa Fe County	1,231,818	259,560	1,491,378	22.9%
Las Campanas (Club)	67,029	96,500	163,529	2.5%
Las Campanas (Coop)	63,557	-	63,557	1.0%
Total Revenues by Source	\$ 4,853,800	\$ 1,670,800	\$ 6,524,600	100%
% of overall budget	74%	26%		

BUDGET EXPENDITURE SUMMARY - PARTNER SHARE OF TOTAL PROPOSED FY2014/15 BUDGET - (TABLE B)

Expenditure by Category	City of Santa Fe	Santa Fe County	Las Campanas (Club)	Las Campanas (Coop)	Total
Personnel	2,433,807	869,636	55,043	52,214	3,410,700
Electricity	1,042,303	238,587	97,110	-	1,378,000
Chemicals	212,000	53,000			265,000
Solids	48,640	12,160			60,800
Materials & Supplies	303,760	104,346	3,692	3,502	415,300
Other Operating Costs	729,626	249,649	7,683	7,841	994,800
Total	4,770,136	1,527,378	163,529	63,557	6,524,600
PNM Solar Rebates	(144,000)	(36,000)			
Total	4,626,136	1,491,378			

BUCKMAN DIRECT DIVERSION REGIONAL WATER PLANT

*UNAUDITED RESULTS - ACCRUAL BASIS - BEST ESTIMATES

(TABLE C)

	FY2012/13 Adopted Budget	FY2012/13 Unaudited Actual 6/30/13	FY2013/14 Adopted Budget	FY2014/15 Proposed Budget	\$ Change FY14/15 vs FY13/14
Revenues/Reimbursements by Fund:					
BDD Operating 7280000	\$ 8,464,512	\$ 5,588,198	\$ 7,037,603	\$ 6,524,600	\$ 513,003
Total	\$ 8,464,512	\$ 5,588,198	\$ 7,037,603	\$ 6,524,600	\$ 513,003
Expenditures by Category:					
Salaries and Wages	\$ 2,042,681	\$ 1,548,779	\$ 2,059,378	\$ 1,994,021	\$ (65,357)
Overtime and Shift Differential	198,817	224,626	217,532	192,532	(25,000)
Benefits	1,360,594	736,235	864,941	1,224,147	359,206
Electricity	1,443,961	1,466,412	1,233,755	1,378,000	144,245
Chemicals	478,245	242,315	374,783	265,000	(109,783)
Solids	615,462	48,676	77,800	60,800	(17,000)
Materials & Supplies	673,619	388,550	578,919	415,300	(163,619)
Other Operating Costs	1,508,379	849,387	1,526,999	930,200	(596,799)
Total	8,321,758	5,504,980	6,934,107	6,460,000	(474,107)
Fiscal Agent Fee	142,754	83,218	103,496	64,600	(38,896)
Total	\$ 8,464,512	\$ 5,588,198	\$ 7,037,603	\$ 6,524,600	\$ (513,003)

The budget development for FY2014/15 presented opportunities for the Buckman Direct Diversion (BDD) staff to closely collaborate with our partners, the City of Santa Fe, the County of Santa Fe, and Las Campanas Entities.

Budget Summary & Analysis

Closing the gap between actual expenditures and budget was a prime consideration in developing BDD's budget for FY2014/15.

- FY11/12 Actual Expenditures \$5,775,863, which was \$3,092,539 lower than our adopted budget.
- FY12/13 Actual Expenditures \$5,588,198, which was \$2,8076,314 lower than our adopted budget.
- FY13/14 Projected to expend \$5,557,927 with 9 vacant positions, which is \$1,376,180 lower than our adopted budget.

The BDD actively collaborated with its partners on the development of this budget and, due to valuable discussions with the partners, was able to decrease its proposed budget for FY2014/15.

- The proposed Annual Operating Budget for FY2014/15 is \$6,460,000 plus the fiscal agent fee of \$64,600, which represents \$513,003 in reductions from the previous budget year of \$7,037,603.

BDD has two full years of operating expenditures; this information was used by staff to predict the needs of our operations. BDD also used yearly volumetric flow predictions provided by each partner for our variable expenditures such as chemicals, solids management and electricity.

BDD also changed how we presented the PNM Solar Rebates received monthly. In prior years these credits were presented as a reduction to electricity expenditures, which is not how BDD accounts for these receipts. Therefore we requested 100% of our proposed electricity budget, since we pay and account for 100% of the invoices. The PNM Solar rebates will be accounted for as a revenue source. This means reimbursement requests for American Capital Energy expenses (primary owner of solar system) from the City of Santa Fe and Santa Fe County will be reduced by the PNM revenue received.

Tabular presentation of major budget items for FY14/15 requested in comparison to last year's actual expenditures:

(TABLE D)

BUDGET SUMMARY of SIGNIFICANT CHANGES FROM FY12/13 ACTUAL TO FY14/15 PROPOSED			
TOTAL FY12/13 ACTUAL			5,588,198
Program	Description	Dollar Change	% Change
Safety and Training	BDD Safety Officer Training Administrator position has been vacant for 1 year, increase is due to salaries and benefits and operating supplies needed for this position, however is still a 53k decrease from FY13/14 Adopted Budget.	128,110	2.29%
Maintenance	Salary and Benefits for BDD Maintenance Mechanic position vacant for 5 months in FY12/13	77,129	1.38%
Operations	Salaries and benefits for vacant positions, operations averaged 5 vacant positions throughout the fiscal year	394,411	7.06%
Operations	Increase in chemicals based on actual usage, however 100k less than FY13/14 Adopted Budget	23,000	0.41%
Operations	Employee mileage and per diem for out of town training	1,400	0.03%
Regulations	Increase for permit and compliance consultants CDM Smith	30,000	0.54%
Regulations	Increase in postage and mail service, needed for sample testing	2,500	0.04%
Regulations	Inventory exempt, equipment and tools less than 5,000	5,000	0.09%
Regulations	Increase to subscriptions and periodicals	750	0.01%
Information Technology	Increase to communications for satellite phone agreement	1,000	0.02%
Information Technology	Increase to maintenance on system equipment, for software licenses and support agreements	8,094	0.14%
Administrative Services	Salaries and benefits for vacant positions, admin averaged 2-3 vacant positions throughout the fiscal year	250,008	4.5%
Administrative Services	Projected increase in general liability insurance	10,000	0.2%
Administrative Services	Increase in office supplies	3,000	0.1%
Administrative Services	Increase in advertising for RFP and vacant positions	2,000	0.0%
Total 2014/15 Budget Increase over FY2012/13 Actual		936,402	17%
TOTAL FY14/15 BUDGET REQUEST			6,524,600

Budget Fixed & Variable Costs Analysis

BDD's annual operating budget consists of fixed and variable costs, which are determined by percentage allocations contained in the Facility Operations and Procedures Agreement (FOPA). Santa Fe County has requested that the Facility Operations and Procedures Agreement (FOPA) be amended to change the percentage allocation for "Cost Sharing of Fixed OMR&R (Shared Facilities) – Section 20 of FOPA, due to acquisition of additional acre feet from Las Campanas Water & Sewer Cooperative.

Cost Sharing (TABLE E)

Partner	Fixed (Shared Facilities)	Fixed (Separate Facilities)	Variable Costs (Projected Volumetric Flow)
City of Santa Fe	62.09%	75.33%	74%
Santa Fe County	28.85%	24.67%	16%
Las Campanas (Club)	3.68%	0%	10%
Las Campanas (Coop)	5.38%	0%	0%
	100%	100%	100%

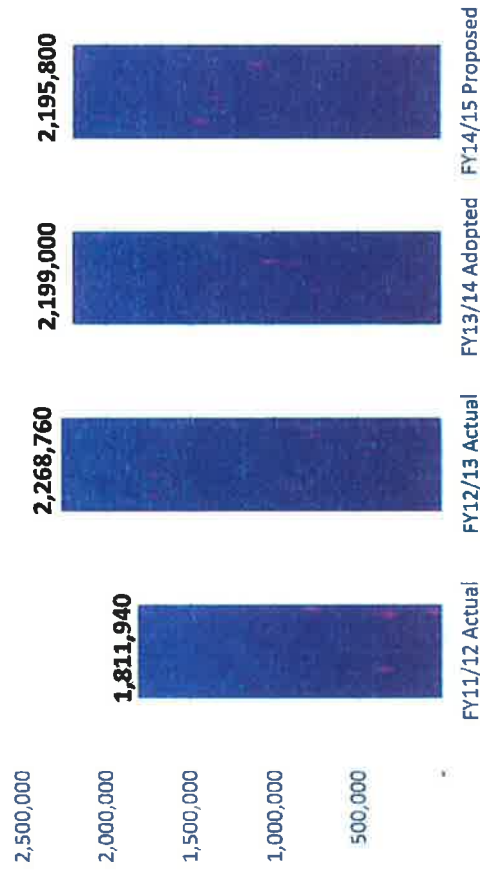
Annual volumetric flow predictions provided by the partners provide the basis for certain variable costs primarily related to chemicals, power, and solids management

Volumetric Flow History and Predictions (TABLE F)

Las Campanas						
Volumetric Flow (acft)	City of Santa Fe	Santa Fe County	(Raw Water)	Total	Delivered	Increase
FY2011/2012	4,765.10	436.18	150.37	5,351.65	98%	N/A
FY2012/2013	4,677.75	714.49	589.00	5,981.24	116%	12%
FY2013/2014	5,236.46	819.24	695.00	6,750.70	N/A	13%
FY2014/2015	4,982.61	1,108.27	650.22	6,741.10	N/A	-0.14%
%	74%	16%	10%	100%		
% Percentage is used in calculation of partner share of variable costs						

BDD has completed a budget analysis for FY2012/13 and FY2014/15. The total actual cost per one thousand gallons of finished water production for FY2012/13 budget was \$2.46/1,000 gallons, and the total flow was 2,268,760 finished gallons, for a total baseline expenditure of \$5,588,198. The proposed budget for FY2014/15 is based on a proposed total flow of 2,195,800 finished gallons. This is a .13% decrease in finished water production over the FY2012/13 water call.

Total finished gallons produced in 1,000's
(CHART G)



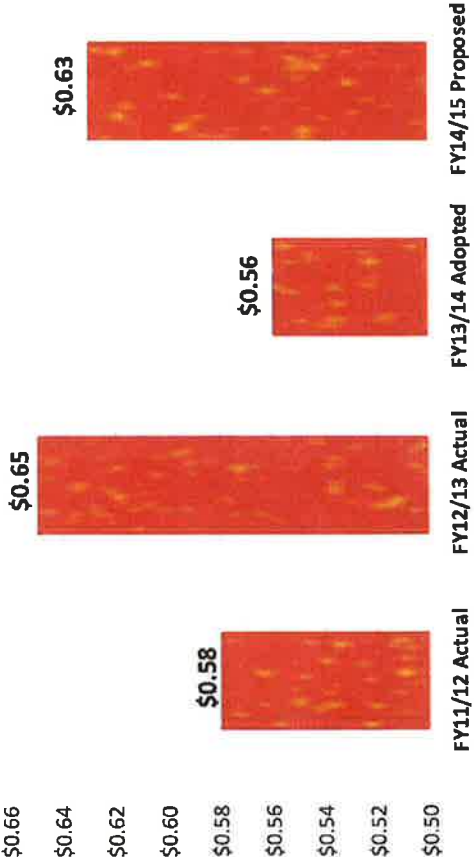
BUCKMAN DIRECT DIVERSION REGIONAL WATER PLANT

*UNAUDITED RESULTS - ACCRUAL BASIS - BEST ESTIMATES (TABLE H)

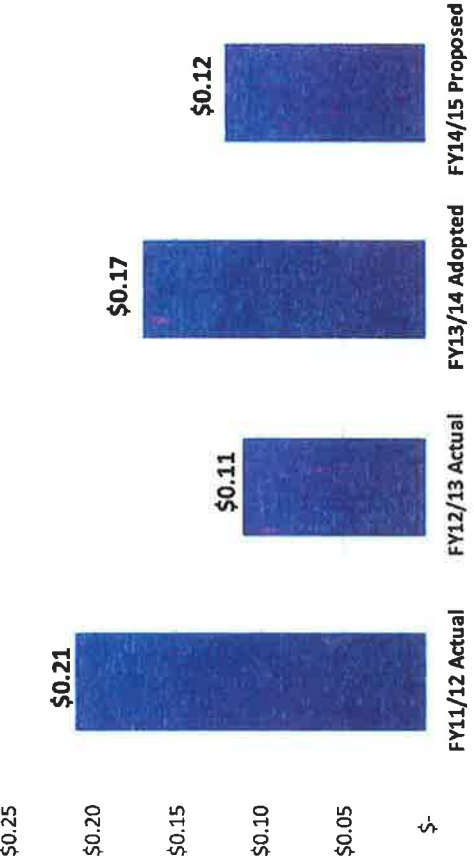
	FY2012/13 Adopted Budget	FY2012/13 Unaudited 06/30/2013	FY2013/14 Adopted Budget	FY2014/15 Proposed Budget
Expenditures				
Chemical Expenditures	\$ 478,245	\$ 242,315	\$ 374,783	\$ 265,000
Electric Expenditures	1,426,436	1,466,412	1,228,798	1,378,000
All Other Expenditures	6,417,077	3,879,471	5,330,526	4,817,000
Total Operating Expenditures*	\$ 8,321,758	\$ 5,588,198	\$ 6,934,107	\$ 6,460,000
Operational Efficiencies				
Total gallons delivered in 1,000's	1,948,100	2,268,760	2,199,000	2,195,800
Total Cost per 1,000 gallons	\$ 4.27	\$ 2.46	\$ 3.15	\$ 2.94
Chemical Cost per 1,000 gallons	\$ 0.25	\$ 0.11	\$ 0.17	\$ 0.12
Electric Cost per 1,000 gallons	\$ 0.73	\$ 0.65	\$ 0.56	\$ 0.63
Monthly "Burn Rate" (Avg. Exp/Month)	\$ 693,480	\$ 458,748	\$ 577,842	\$ 538,333

BDD's budget development utilizes several complex engineering models to determine solids management, power, and chemical costs, which make up 26% of the total FY2014/15 proposed budget. Variable costs are associated with the amount of water delivered and are closely related to raw water quality. Raw water carrying elevated levels of solids require increased chemical dosing, create increased maintenance activities, and result in greater solids management costs. Power costs are directly influenced by varying on-peak and off-peak rates. Current partners' requests resulted in a modification of the BDD's operational policy to assure adequate raw water supply to Las Campanas during prolonged periods of impaired river water quality as frequently experienced during monsoon season. This new approach has the potential to significantly increase the overall number of hours of on-peak pumping and may result in increased power expenditures.

Electric Cost per 1,000 gallons finished
(CHART I)



Chemical Cost per 1,000 gallons finished water
(CHART J)



Programs

As the focal point for key resource decisions, the budget process is a powerful tool. The *National Advisory Council for State and Local Budgeting* (NACSLB) was created in 1997 to provide assistance to governments to improve their budgeting processes. In fulfilling that role, the NACSLB set forth a voluntary framework that provides budgeting guidance for state and local governments. The NACSLB established “Best Budgeting Practices” (BBP) which link budget decisions to desired outcomes consistent with organizational goals. This budget incorporates many BBP’s set forth by NACSLB.

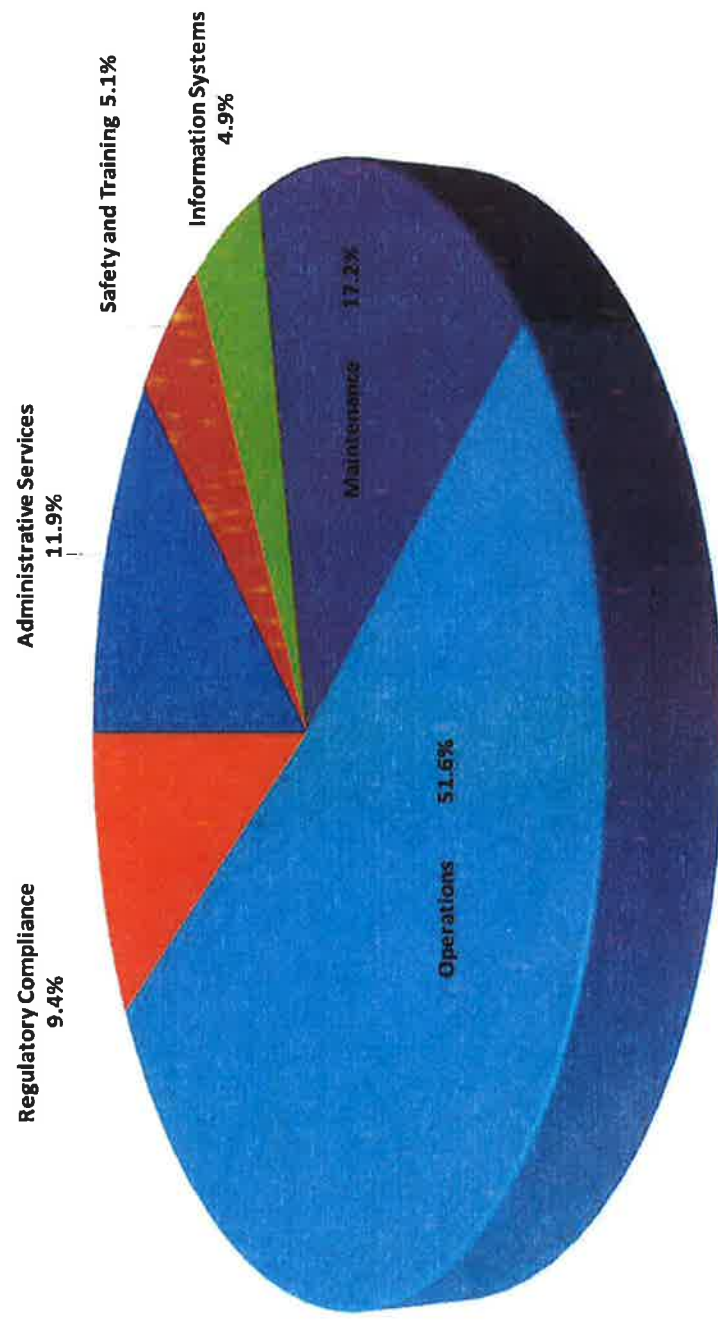
While local governments struggle with declining revenues, *Outcome-based* budgeting has become an increasingly important national budgeting standard. This type of advanced budgeting links resources to key business strategies and performance indicators. This “performance-based” approach connects key financial decisions to interdependent concepts of strategy, planning, business execution and measurement. Hence, this budget document contains more than a tabulation of financial figures. Rather than narrowly focusing on expenditures, we’ve established a structure for measuring the “value” citizens receive for their dollars by quantifying organizational achievement. In other words, the heart of this budget centers on determining how well the BDD executes its core business functions. We’ve shifted the focus from “paying for costs” to “buying results”. In addition, this budget simultaneously unifies our financial planning efforts with the *High Performance Organization* (HPO) principles which have become thriving core values of the BDD’s working culture.

The BDD Operation and Maintenance (O&M) is divided into six (6) key Programs with explicit business functions as shown in Figure 1. Each Program was developed to support specific goals and objectives. These business activities encompass all functions necessary to operate the regional water treatment plant, maintain full regulatory compliance, execute Fiscal Agent responsibilities, and optimize infrastructure investments through comprehensive asset management.

FIGURE 1

Key Program	Business Function
1. Administrative Services	Provides general oversight and management support. Provides accounting, budgeting, procurement and payroll services as well as records management
2. Information Services	Provides automation, security, and communications services
3. Environmental Health, Safety Transportation and Security	Provides full compliance with State and Federal Health and Safety Regulations
4. Asset Management (Maintenance)	Provide cost-effective maintenance services to BDD Operation and optimize infrastructure life-cycle costs
5. Operations	Produce high quality drinking water
6. Regulatory Compliance	Provide full compliance with State and Federal water quality standards

Key Programs and Cost Allocation Percentages



The expenditure budgets for these six key programs are presented below and in the Performance Report. Total program funding includes all employee wages and benefits for full time equivalents employees, and associated overhead expenses. These key programs incorporate all business expenses necessary to execute core business functions, and allow the reader to understand how limited resources are allocated within the project. In the Performance Reports section, expenditure budgets are linked to specific strategic initiatives and performance measures.

BUCKMAN DIRECT DIVERSION REGIONAL WATER PLANT

*UNAUDITED RESULTS - ACCRUAL BASIS - BEST ESTIMATES (TABLE K)

	FY2012/13				FY2014/15				\$ Change	
	FY2012/13		FY2012/13		FY2013/14		FY2014/15		FY 14/15 vs	
	Adopted	Unaudited	Variane to Actual	\$ (Under) or	Adopted	Proposed	Budget	Budget	FY 14/15 vs	FY 13/14
	Budget	6/30/13	Over Budget		Budget	Budget	Budget	Budget		
Expenditures by Program:										
Administrative Services (4 FTE)	\$ 902,078	\$ 586,971	\$ (315,107)	\$	\$ 821,834	\$ 870,594	\$	\$ 48,759		
Safety and Training (1 FTE)	342,015	170,092	(171,924)		351,757	298,203		(53,554)		
Information Systems (2 FTE)	426,682	334,208	(92,474)		341,053	343,302		2,249		
Maintenance (7 FTE)	1,369,564	912,034	(457,530)		1,194,195	989,163		(205,032)		
Operations (19 FTE)	4,630,971	3,233,111	(1,397,860)		3,576,576	3,651,922		75,346		
Regulatory Compliance (2 FTE)	650,448	268,564	(381,884)		648,691	306,817		(341,874)		
Total Expenditures by Program (35 FTE)	8,321,758	5,504,980	(2,816,779)		6,934,107	6,460,000		(474,107)		
Fiscal Agent Fee	142,754	83,218	(59,536)		103,496	64,600		(38,896)		
Total	\$ 8,464,512	\$ 5,588,198	\$ (2,876,315)		\$ 7,037,603	\$ 6,524,600		(513,003)		

Major Repair and Replacement Fund (RRF)

The Major Repair and Replacement Fund will receive the annual contribution of \$411,812 for FY14/15. This will increase the balance from \$823,624 to \$1,235,428 by the end of fiscal FY2014/15. As actual expenses are incurred, contributions to the fund in "out years" can be adjusted accordingly.

Major Repair and Replacement Fund

(TABLE M)

Major Repair & Replacement Fund	City of Santa Fe	Santa Fe County	Las Campanas	Balance
Contributions as of FY13/14	583,690	199,972	39,962	823,624

Major Repair and Replacement Fund FY14/15 Contributions

(TABLE N)

Major Repair & Replacement Fund	City of Santa Fe	Santa Fe County	Las Campanas (Club)	Las Campanas (Coop)	Total
Annual Contribution	291,840	106,162	7,083	6,719	411,804

Summary

With this submittal, the Project Manager requests the Buckman Direct Diversion Board (BDDB) to approve and recommended the funding for our Fiscal Year 2014-2015 Operating Budget of \$6,344,600 plus the annual contribution of \$411,804 for the Major Repair and Replacement Fund, for a total request of \$6,756,404. With your approval, BDD will also budget \$180,000 of the PNM solar rebates, increasing our expenditure budget to \$6,524,600. We appreciate all the input and support from our partners and our Buckman Direct Diversion Board members.

Funding Allocation
(TABLE O)

Funds	City of Santa Fe	Santa Fe County	Las Campanas		Total
			(Club)	(Coop)	
Operating Fund	4,626,136	1,491,378	163,529	63,557	6,344,600
Repair & Replacement Fund	291,840	106,162	7,083	6,719	411,804
Total	4,917,976	1,597,540	170,612	70,276	6,756,404

The Project Management and Fiscal Services Agreement (PMFSA) for the Buckman Direct Diversion Project Article 4, paragraph D states "D. Prepare and submit to the BDD Board, the City, the County, and Las Campanas....an Annual Operating Budget which shall include annual and 5 year projected OMR&R costs.... "

Five-year Cost Projection

Five-year Cost Projection

Paragraph D of Article 4 of the Project Management and Fiscal Services Agreement (PMFSA) states that the Annual Operating Budget shall include a five-year projection of OMR&R costs. The purpose of providing this information herein is to aid decision makers and stakeholders in their planning. In future year budget development cycles, staff plans to present more detailed, longer-term projections that would also include potential capital improvements, the operating impacts of such improvements, and detailed requests for sources and uses of funds to construct necessary major repairs and replacements to the facilities.

In Table A (next page), the annual budgets are assumed to be held relatively flat for the foreseeable future, all else being equal, at approximately \$6.5 - \$6.6 million. Additionally, the expenditures are estimated based on a monthly average expenditure of approximately \$500-600k based on 24 months of operating history and should be regarded as a very general and preliminary estimate subject to future refinement and clarification. Annual operating expenditures are forecasted by multiplying them year over year with a very modest inflation factor of 3.4 – 3.6 % annually based on the Gross Domestic Product (GDP) Index. The GDP Index is a board indicator based on major industrial sectors, including utilities. The GDP Index is maintained and published on the World Wide Web by the Congressional Budget Office. As depicted in Chart B, it is reasonable to expect the trend between annual budget requests and annual expenditures levels to practically converge at some point in the next five years since staff will have more historical data upon which to base its budget requests. The actual figures used are less important than the desired trend being presented by the convergence of the blue (budgets) and red (expenditures) trend lines presented in the subsequent graph.

(TABLE A)

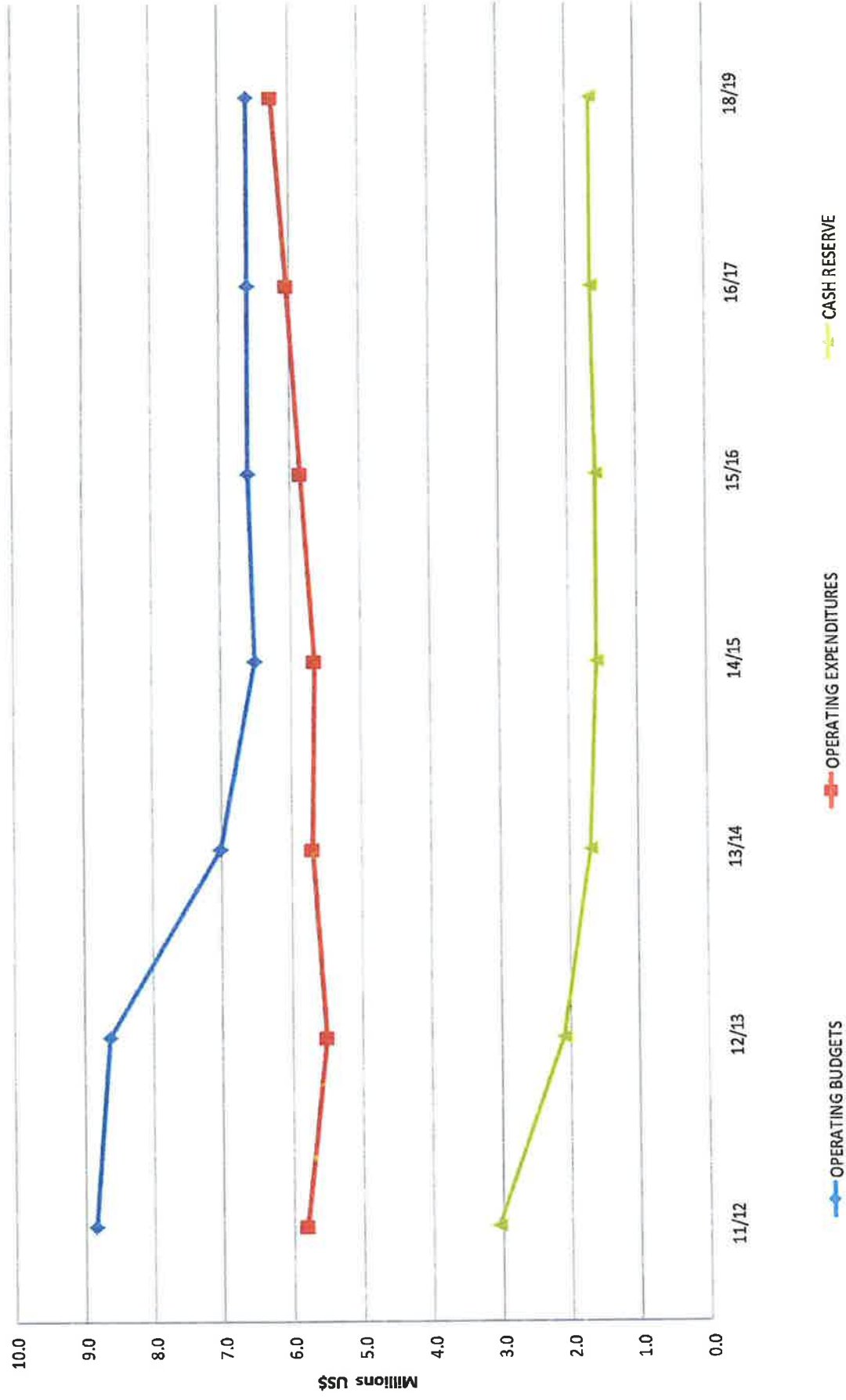
5 Year Forecast BDD OPERATING Budget in Millions \$US

FORECAST YEAR	Actual	Actual	Estimate	1	2	3	4	5
FISCAL YEAR	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19
Operating Budget	\$ 8.860	8.64	7.037	6.524	6.6	6.6	6.6	6.6
Major Repair & Replacement Fund	\$ 0.2	0.4	0.2	0.4	0.4	0.4	0.4	0.4
EXPENDITURES								
ACTUAL EXPENDITURE	5.8	5.5						
1st Qtr ACTUAL EXPENDITURE			1.26					
BURN RATE (\$/mo.)	\$ 0.49	0.46	0.47	0.47	0.49	0.50	0.50	0.52
X % Inflation Factor***				3.4%	3.4%	3.5%	3.6%	3.6%
X MONTHS	12	12	9	12	12	12	12	12
=EXPENDITURES	5.8	5.5	5.7	5.7	5.8	6.0	6.0	6.3
=TOTAL NET EXPENDITURES	\$ 5.8	5.5	5.7	5.7	5.8	6.0	6.0	6.3
EXCESS REIMBURSEMENT								
REVENUE TO CREDIT PARTNERS								
(budget less net expenditures)	\$ 3.1	3.1	1.3	0.9	0.8	0.6	0.6	0.3

***GDP PRICE INDEX: Sources Congressional Budget Office

(CHART B)

5 Year Cost Trend for BDD Operating Fund



Emergency Reserve Fund (ERF)

The Project Management and Fiscal Services Agreement, Article 3. (E.) requires the BDD Board create an Emergency Reserve Fund, and establish procedures for its management. The Emergency Fund provides immediate reserves for unforeseen or catastrophic infrastructure failures that render facilities unable to deliver water at the needed capacity. The Project Manager, in consultation with the partners, must submit to the BDD Board an analysis of the funds required for an emergency reserve and suggest procedures for creation of and management of the Emergency Fund.

The BDD Board previously approved the Emergency Fund, and the Major Repair and Replacement Fund as part of the FY 2011/12 Budget. The BDD pre-bills the partners on a monthly basis for these costs.

The Emergency Reserve Fund will be built to a target balance of \$2,000,000 by the end of fiscal FY2013/14; therefore we will not request any additional contributions in FY14/15 and will replenish dollars as they are spent according to the Board approved policy.

Emergency Reserve Fund

(TABLE L)

Emergency Fund	City of Santa Fe	Santa Fe County	Las Campanas	Balance
Annual Contribution	1,306,335	466,283	227,382	2,000,000