

## APPENDIX D

### *Part I*

Allocation of Capital and OM&R Costs  
Among Project Participants

**NAVAJO - GALLUP WATER SUPPLY PROJECT**  
**ALLOCATION OF CAPITAL AND OM&R COSTS**  
**AMONG PROJECT PARTICIPANTS**  
**SAN JUAN RIVER - PNM ALTERNATIVE**

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## Executive Summary

This report is intended to describe the procedure used to allocate capital and operation, maintenance and replacement (O,M&R) costs for the preferred alignment and capacity scenario being considered for the Navajo-Gallup Water Supply Project (NGWSP). The report first explains the principles used for allocation, and then applies the principles to the 2040 version of the San Juan River PNM alternative. Costs are separated into capital costs, fixed O,M&R costs and variable O,M&R costs. Each of these cost categories is further divided into specific project reaches and then allocated to the participating parties. The allocation for the Gallup Regional System is included in the summary table but is developed separately in the detailed tables. The report assumes that construction would begin in 2011, with a construction budget of approximately \$60 million per year (2007\$). Full project completion would be January 1, 2027.

## Allocation Principles

The purpose of cost allocation is to assign shares of the overall project costs to the various participants. This project will provide municipal water supplies to three groups of participants -- the Navajo Nation, the City of Gallup and the Jicarilla Apache Nation. The overriding philosophy in allocating project costs is that the three participants are equal partners in the project. Alternative allocation approaches NOT adopted include (1) assigning the same cost per gallon to all project participants regardless of their location (a "postage stamp" approach), or (2) assuming that one participant was primary and that the other two should pay only the additional costs incurred due to their participation (a "marginal cost" approach).

In allocating costs we first separated specific project components that will be dedicated for the exclusive use by any single participant, and we assigned the cost of those *dedicated components* to the beneficiary participant. These dedicated components typically include water storage tanks and pressurization pumps at most of the major delivery points. The bulk of the project cost, however, is for components that will benefit more than one participant. These *joint costs* were allocated among the project participants to derive each participant's share of the total costs.

Joint costs were allocated according to the following principles:

- ***Capital costs were allocated according to each participant's share of design capacity.*** The idea is that the size and cost of the facilities depend upon each participant's desired capacity and not on average use or use in any particular period.
- ***Fixed O,M&R costs were also allocated according to each participant's share of design capacity.*** Here again, the fixed O,M&R costs (staff size, dredging, equipment replacement, pump maintenance) are primarily a function of the design capacity, not of flows in any particular period.
- ***Variable O,M&R costs were allocated according to each participant's share of annual water deliveries.*** The variable O,M&R costs consist mainly of

energy and water treatment chemical costs. These costs vary according to the water flows in any period, so the method used to allocate these costs assigns cost shares in each year according to the projected use in that year.

The project envisions water deliveries at many locations along (in this alignment alternative) two main branches. Every delivery to one party changes the relative shares of the water flow that continues along the pipeline beyond the delivery point. Because, as described above, the relative share of design capacity and projected flow serve as the basis for the cost allocation, the cost allocation changes after every delivery point. Therefore, we have separated each pipeline branch into specific *reaches* that are defined as the intervals between each two succeeding delivery points. The diversion structure and water treatment plant on each branch is also treated as a separate segment or reach. We computed each participant's share of design capacity on each reach in order to serve as the basis for allocating capital and fixed O,M&R costs (Table A1).

### **Capital Costs**

All of the capital construction costs were assigned to specific reaches and then split into dedicated costs and joint costs. Specific types of costs were allocated as follows: Pumping plant costs were itemized by the Bureau of Reclamation and we assigned each cost to its specific reach (Table B4). We assigned pipeline costs to each reach by accumulating the linear feet of each pipeline diameter and head class designed for each reach, then multiplying the accumulated length of each pipeline diameter and head class by its respective cost per foot (Table B5). Electric and communication facilities were distributed to the reaches per the design, while transmission lines were allocated according to the miles of new transmission line required for each reach (Table B6). Diversion structures, river pumping plants and water treatment plant costs were assigned to the initial reach of each branch (Table B7).

The various components of joint capital costs were added together for each reach and then allocated to the participants using the design capacities (Table B3). We then added the allocated joint capital costs to the dedicated capital costs for each party in each reach (Table B2).

Finally, we added unlisted items (10% of listed items), mobilization costs (5% of listed plus unlisted items) and contingency costs (22.5% of listed items, unlisted items and mobilization costs) to derive the total construction cost, or field cost, for each participant. We then added non-contract cost (27% of field costs) to determine total construction cost before taxes, and then added taxes (9% of total construction cost for most costs and 6% of the construction cost for the Gallup Regional System) to arrive at total construction cost with taxes. Table B1 shows this total as allocated to each participant.

### **Fixed OM&R Costs**

The fixed O,M&R costs (we use "O,M&R" as shorthand for operation, maintenance and replacement) are comprised of the annual components that do not vary substantially with differences in flows through the system. These costs include staff costs, dredging,

equipment maintenance and annualized cost for equipment replacement. Allocation of fixed O,M&R costs was done analogously to the allocation of capital costs: the costs were assigned to the different reaches and then the O,M&R cost for each reach was apportioned among the participants according to their respective share of design capacity. About one-half of the fixed O,M&R cost was associated with the water treatment plants, so those costs were assigned entirely to the first reach of each branch, which contained the treatment plants. The remainder of the fixed O,M&R costs were pumping plant maintenance costs, and these costs were assigned to the reaches containing the pumping plants. Table D2 shows the fixed O,M&R costs for each reach, and allocates the costs to the participants.

### **Variable O,M&R Costs**

The variable O,M&R costs are those annual operating costs that vary significantly with changes in system flows. These costs are primarily comprised of energy and water treatment chemical costs. Because these costs by definition change with changes in system flows we projected system flows over the 50-year life of the project (Table D3). The projected annual flows are based on the following assumptions:

- peak flows will be proportional to total water flows
- peak flows for Gallup and for the Jicarilla Apache Tribe would remain constant over the life of the project.
- peak flows for the Navajos would reach design capacity in the year designated in the Scenario: 2040.
- peak flows for the Navajos would remain constant following the year in which peak flows first reached design capacity
- peak flows for the Navajos would increase at a growth rate of 2.48% per year up to the year in which design capacity was first reached.

The Bureau of Reclamation provided energy and chemical costs associated with build-out project flows. We assumed that these costs would remain constant per unit of flow and then calculated the energy and chemical costs associated with each year's total flow. These total costs were allocated among the participants based on each year's respective shares of total flow. We performed these calculations for two different energy rate structures: Colorado River Storage Project (CRSP) rates (Table D6) and Navajo Tribal Utility Authority (NTUA) rates (Table D7). The applicable energy rates are shown as footnotes in Tables D6 and D7. Deliveries from Navajo Dam are subject to an estimated \$1.00 per acre-foot O&M charge by the Bureau of Reclamation. This cost is included as a variable O,M&R cost in Tables D6 and D7.

### **Gallup Regional System Costs**

The design work and cost estimates for the Gallup Regional System were first prepared by DePauli Engineering. The Bureau of Reclamation used the DePauli design but re-estimated much of the cost. Some of the Gallup System components were included in the Bureau's cost estimate worksheets for the overall system (eg. Navajo Chapter water storage tanks), but most components were listed separately on a Gallup-specific

worksheet. We treated the components included with the other Bureau elements as part of the overall system cost allocation. We allocated the remaining items (all joint facilities) by allocating their cost to participants based on their respective shares of design capacity (Table C1).

O,M&R costs were estimated by the Bureau as a lump sum (one each for the CRSP and NTUA energy rates). We allocated this overall annual O,M&R cost to the participants based on their respective shares of design capacity (Table C2).

### **Water Costs**

Table C3 estimates the City of Gallup's cost of purchasing 7,500 acre-feet per year of water that would be conveyed by the project. At this point Gallup has not reached an agreement with any water supplier, so the cost estimates included in these tables may change. We used the terms of a possible agreement with the Jicarilla Apache Nation as the basis for our cost estimates, but they have not yet been agreed to.

In the absence of a water rights settlement that establishes different terms the Navajo Nation would pay for water from Navajo Reservoir used for non-agricultural purposes. These payments were estimated by the Bureau of Reclamation to have a present value of \$108.45 per acre-foot. We amortized that present value over the Navajo water deliveries using the CRSP interest rate of 2.875%. This cost is shown in Table D8.

We did not include any financial cost for the water to be delivered to the Jicarilla Apache Nation, pursuant to the terms of the Jicarilla Apache Tribe Water Rights Settlement Act (P.L. 102-441, section 8(d)(1)).

### **Overall Summation**

Table 1 summarizes the above analysis. The table addresses the capital, annual O,M&R and present value of O,M&R costs for a scenario that assumes a construction budget of \$60 million per year in 2007\$. The table combines total construction cost including taxes for the Bureau-designed system and for the Gallup Regional System, developed separately in Tables B1 and C1. We added costs for environmental mitigation, cultural resources and right-of-way acquisition that were allocated in Table B8. We then added interest during construction that was calculated in Table B9. We calculated the present value of the annual fixed plus variable O,M&R costs (discounted at 4.875%), estimated under both the CRSP and NTUA energy rates. All financial costs are expressed as of the beginning of the year in which the project is completed: 2027. Interest during construction and interest on pre-project completion water purchase fees are compiled up to January 1, 2027, and post-completion O,M&R and post-completion water purchase fees are discounted to January 1, 2027. We then show the total present value of all costs, including capital, fixed O,M&R and variable O,M&R costs. Table 1 allocates these costs to each of the participants. All costs are based on January, 2007, price levels.

Figures 1 and 2 illustrate the components of overall cost. Figure 1 shows how total project costs are split among capital cost, interest during construction, the present value

of future OM&R costs and the present value of water cost. Figure 2 shows how total project costs are allocation to the three project participants. Figures 3, 4 and 5 show how the cost allocated to each project participant are composed of capital, interest during construction, OM&R and water costs. Finally, Figure 6 shows what the levelized cost per thousand gallons (in 2007\$) would be to each project participant, assuming full self-funding.

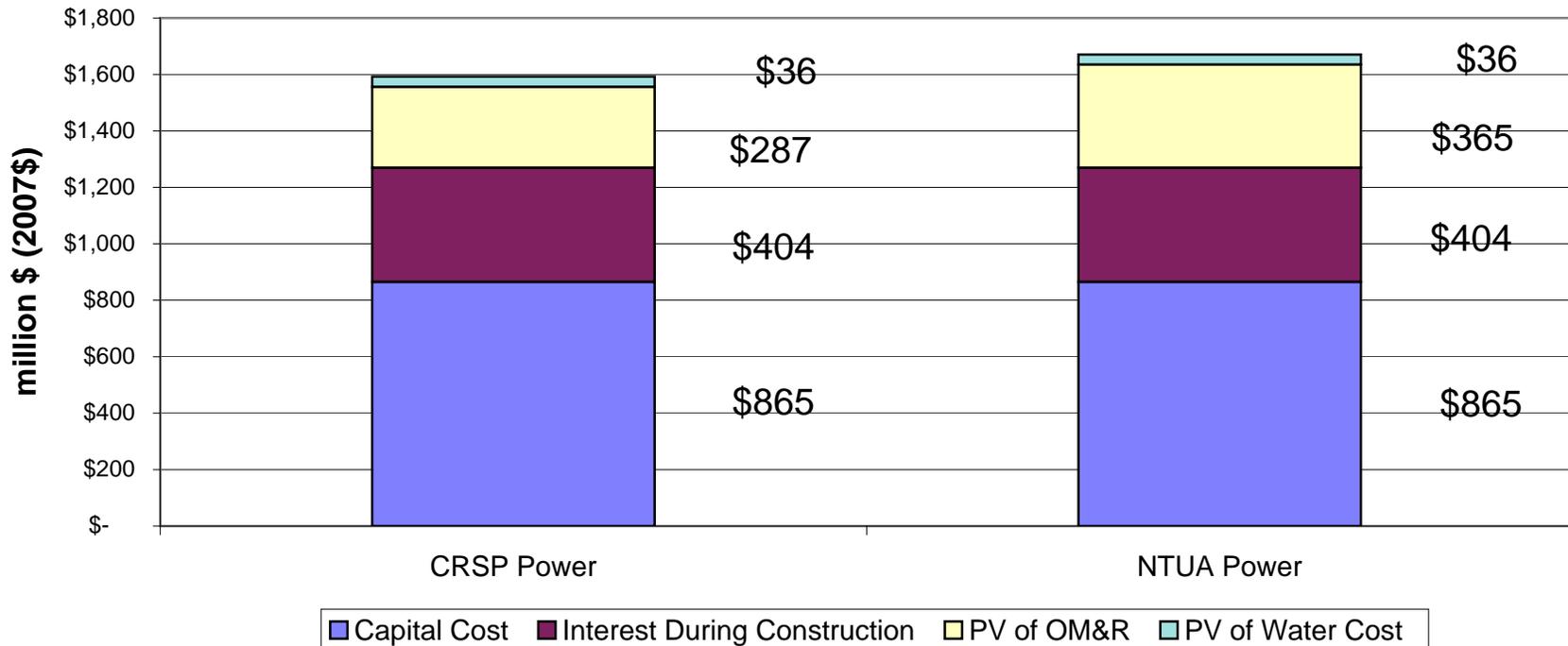
## TABLE OF TABLES

Table 1	Summary of Costs for San Juan River PNM Alternative, Scenario 1
Table A1	Allocation of Flow Capacities to Participants by Reach, 2040
Table B1	Total Capital Costs, 2040
Table B2	Allocation of Total Capital Costs by Participant, 2040
Table B3	Allocation of Total Capital Costs by Reach, 2040
Table B4	Allocation of Pumping Plant Costs by Reach, 2040
Table B5	Allocation of Pipeline Costs by Reach, 2040
Table B6	Allocation of Transmission Line Costs by Reach, 2040
Table B7	Allocation of Dams, etc. Costs by Reach, 2040
Table B8	Allocation of Environmental Mitigation, Cultural Resources and Right-of-Way Costs to Participants
Table B9	Interest During Construction
Table C1	Allocation of Gallup Regional System Capital Cost, 2040
Table C2	Allocation of Gallup Regional System O,M&R Costs, 2040
Table C3	Cost of Water to City of Gallup
Table D1	Summary of Annual O,M&R Costs by User, 2040
Table D2	Allocation of Annual Fixed O,M&R Costs by User, 2040
Table D3	Projection of Peak Flows by Reach, 2010-2070
Table D4	Projection of Peak Flows by Reach and by Participant, 2014-2076
Table D5	Percentage of Peak Flows by Reach and by Participant, 2014-2076
Table D6	Allocation of Annual Variable O,M&R Costs by User, CRSP rates, 2014-2076
Table D7	Allocation of Annual Variable O,M&R Costs by User, NTUA rates, 2014-2076
Table D8	Cost of Water to Navajo Nation

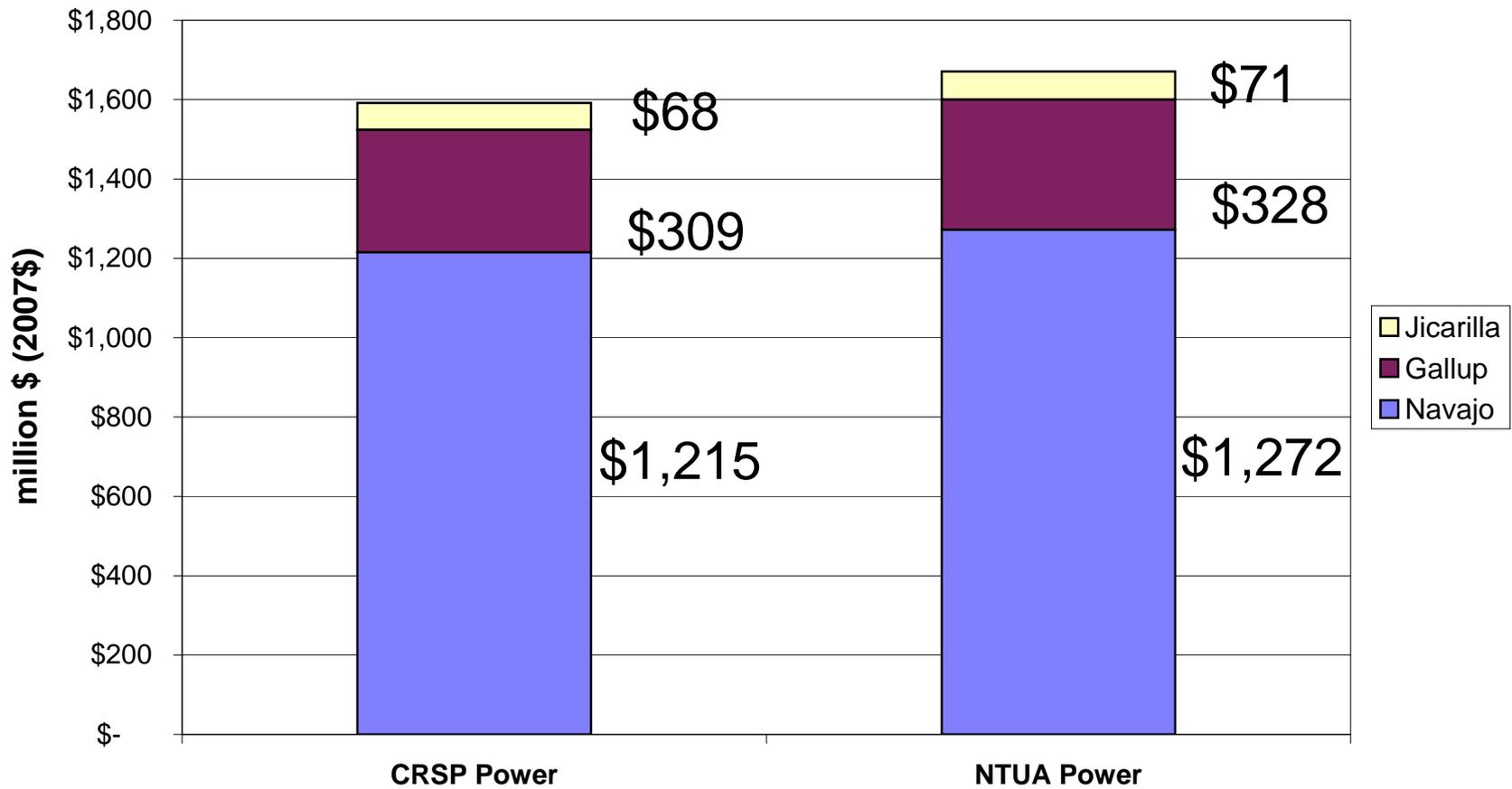
## TABLE OF FIGURES

Figure 1	Total Project Cost by Category
Figure 2	Allocation of Total Costs to Participants
Figure 3	Breakdown of Navajo Costs, NTUA Power Rates
Figure 4	Breakdown of Gallup Costs, NTUA Power Rates
Figure 5	Breakdown of Jicarilla Costs, NTUA Power Rates
Figure 6	Cost Per Thousand Gallons

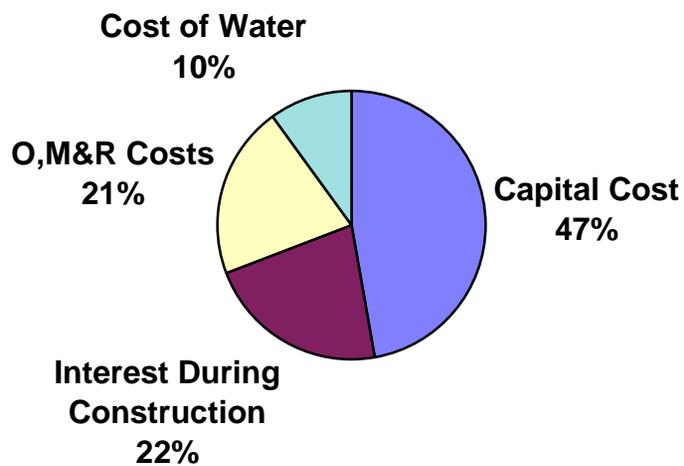
**Figure 1**  
**Navajo-Gallup Water Supply Project**  
**Total Project Cost by Category**  
 Millions 2007\$, 4.875% discount rate, 50 year project life



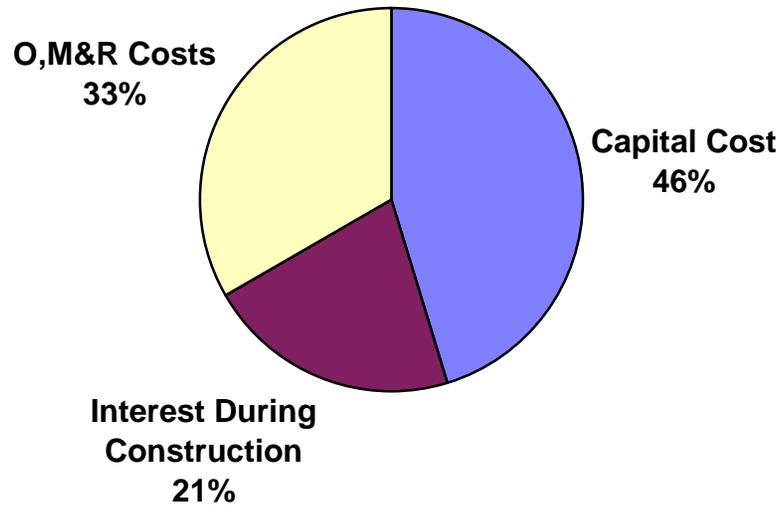
### Figure 2 Navajo-Gallup Water Supply Project Allocation of Total Costs to Participants



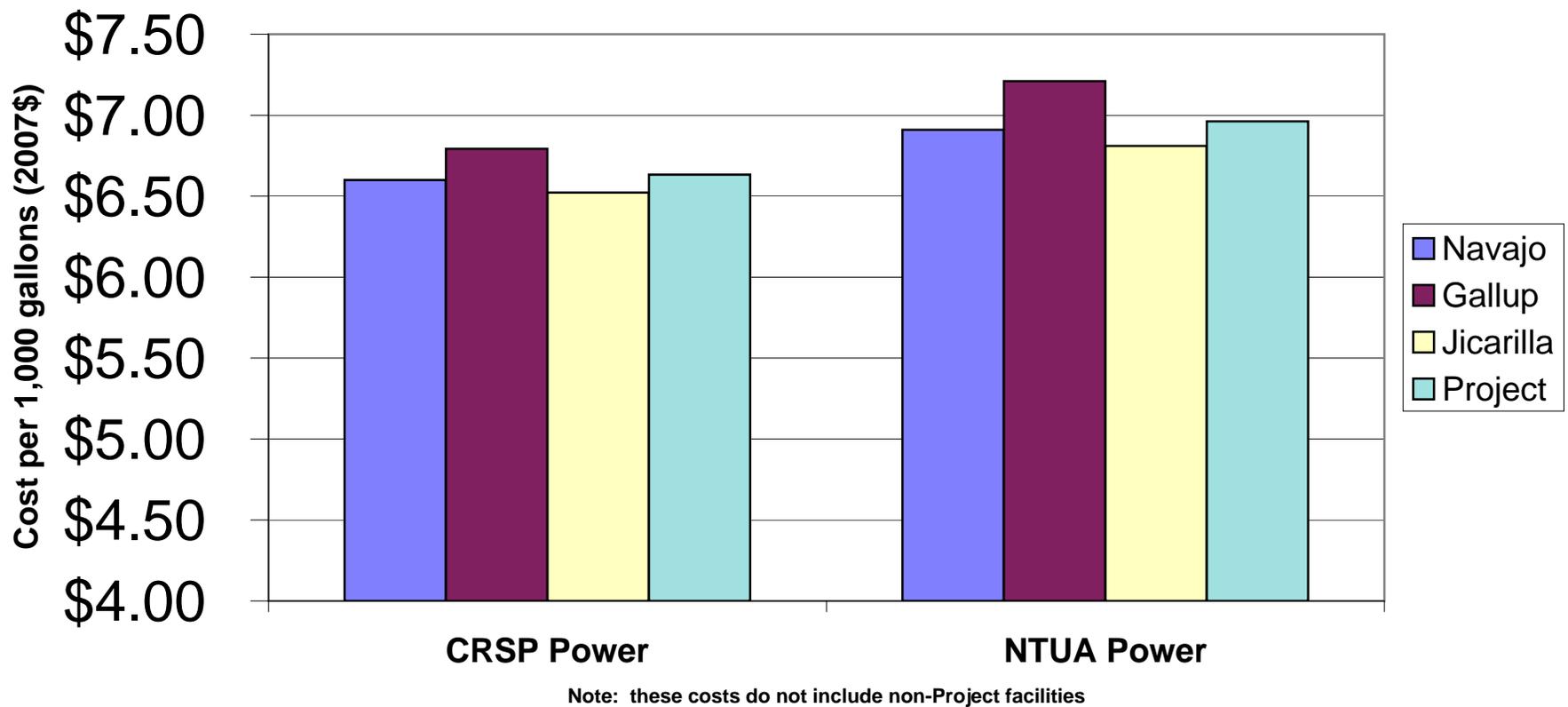
# Figure 4 Navajo-Gallup Water Supply Project NTUA Power Rates Breakdown of Gallup Costs



# Figure 5 Navajo-Gallup Water Supply Project NTUA Power Rates Breakdown of Jicarilla Costs



**Figure 6**  
**Navajo-Gallup Water Supply Project**  
**Cost per Thousand Gallons**  
**Federal Financing at 4.875%, Full Repayment**



**Navajo - Gallup Water Supply Project 2040**  
**San Juan PNM Alternative - \$60 million/year Construction Schedule**  
**Present Value of Total Costs (2007\$)**  
**4.875% Discount Rate, 50 Year Project Life**

<i>Total Capital Costs By User</i>	Navajo	Gallup	Jicarilla	Total
Allocated Construction Costs - Main System	\$620,700,000	\$115,800,000	\$30,400,000	\$766,900,000
Allocated Capital Costs - Gallup Regional	\$18,600,000	\$29,900,000	\$0	\$48,500,000
Allocated Environmental Mitigation Cost	\$4,700,000	\$1,100,000	\$200,000	\$6,000,000
Allocated Cultural Resources Cost	\$27,100,000	\$6,200,000	\$1,300,000	\$34,600,000
Allocated Right-of-Way Cost	\$7,100,000	\$1,600,000	\$300,000	\$9,000,000
Total Project Capital Cost before Interest	\$678,200,000	\$154,600,000	\$32,200,000	\$865,000,000
Allocated Interest During Construction	\$317,000,000	\$72,300,000	\$15,100,000	\$404,300,000
Total Project Capital Cost	\$995,200,000	\$226,900,000	\$47,300,000	\$1,269,400,000
Rounded Values	\$995,000,000	\$227,000,000	\$47,000,000	\$1,269,000,000

*Annual O,M&R Costs By User (at Design Capacity)*

<i>CRSP Rates</i>	Navajo	Gallup	Jicarilla	Total
Allocated O,M&R Costs - Main System	\$9,542,654	\$2,075,238	\$743,636	\$12,361,528
Allocated O,M&R Costs - Gallup Regional	\$311,000	\$500,000	\$0	\$811,000
Annual Cost of Water	\$177,317	\$1,751,636	\$0	\$1,928,953
Total Allocated O,M&R Costs	\$10,030,971	\$4,326,874	\$743,636	\$15,101,481
Rounded Values	\$10,000,000	\$4,300,000	\$700,000	\$15,100,000

<i>NTUA Rates</i>	Navajo	Gallup	Jicarilla	Total
Allocated O,M&R Costs - Main System	\$12,594,137	\$2,977,044	\$846,194	\$16,417,375
Allocated O,M&R Costs - Gallup Regional	\$330,000	\$532,000	\$0	\$862,000
Annual Cost of Water	\$177,317	\$1,751,636	\$0	\$1,928,953
Total Allocated O,M&R Costs	\$13,101,454	\$5,260,681	\$846,194	\$19,208,328
Rounded Values	\$13,100,000	\$5,300,000	\$800,000	\$19,200,000

*Present Value of Total O,M&R Costs By User*

<i>CRSP Rates</i>	Navajo	Gallup	Jicarilla	Total
Allocated O,M&R Costs - Main System	\$210,482,000	\$40,512,000	\$20,843,000	\$271,837,000
Allocated O,M&R Costs - Gallup Regional	\$5,781,000	\$9,315,000	\$0	\$15,096,000
Cost of Water	\$3,300,617	\$32,605,398	\$0	\$35,906,016
Total Allocated O,M&R Costs	\$219,563,617	\$82,432,398	\$20,843,000	\$322,839,016
Rounded Values	\$220,000,000	\$82,000,000	\$21,000,000	\$323,000,000

<i>NTUA Rates</i>	Navajo	Gallup	Jicarilla	Total
Allocated O,M&R Costs - Main System	\$267,447,000	\$58,117,000	\$23,717,000	\$349,281,000
Allocated O,M&R Costs - Gallup Regional	\$6,145,000	\$9,901,000	\$0	\$16,046,000
Cost of Water	\$3,300,617	\$32,605,398	\$0	\$35,906,016
Total Allocated O,M&R Costs	\$276,892,617	\$100,623,398	\$23,717,000	\$401,233,016
Rounded Values	\$277,000,000	\$101,000,000	\$24,000,000	\$401,000,000

Note: Present value of O,M&R costs include fixed and variable O,M&R costs incurred for partial water delivery before project completion

*Present Value of Total Capital and O,M&R Costs By User*

<i>CRSP Rates</i>	Navajo	Gallup	Jicarilla	Total
Capital	\$995,000,000	\$227,000,000	\$47,000,000	\$1,269,000,000
O,M&R (including cost of water)	\$220,000,000	\$82,000,000	\$21,000,000	\$323,000,000
<b>Total All Costs</b>	<b>\$1,215,000,000</b>	<b>\$309,000,000</b>	<b>\$68,000,000</b>	<b>\$1,592,000,000</b>

<i>NTUA Rates</i>	Navajo	Gallup	Jicarilla	Total
Capital	\$995,000,000	\$227,000,000	\$47,000,000	\$1,269,000,000
O,M&R	\$277,000,000	\$101,000,000	\$24,000,000	\$401,000,000
<b>Total All Costs</b>	<b>\$1,272,000,000</b>	<b>\$328,000,000</b>	<b>\$71,000,000</b>	<b>\$1,670,000,000</b>

**Table A1**  
**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Allocation of Flow Capacities to Participants by Reach**

<i>San Juan Branch</i>			Peak	Peak	Allocation of Peak Flows By Reach						
Number	Start	End	Pumping Plants	Flow in Reach cfs	Deliveries in Reach cfs	Navajo cfs	Gallup cfs	Jicarilla cfs	Navajo %	Gallup %	Jicarilla %
1	San Juan River	Water Treatment Plant (WTP)	River	59.18	0.00	45.71	13.47	0.00	0.7724	0.2276	0.0000
2	WTP	NAPI turnout	01	59.18	0.97	45.71	13.47	0.00	0.7724	0.2276	0.0000
3	NAPI	Shiprock Junction		58.21	6.72	44.74	13.47	0.00	0.7686	0.2314	0.0000
4	Shiprock J.	Sanostee turnout	02, 03	51.49	2.00	38.02	13.47	0.00	0.7384	0.2616	0.0000
5	Sanostee	Burnham Junction		49.49	0.27	36.02	13.47	0.00	0.7278	0.2722	0.0000
6	Burnham J.	Newcomb turnout		49.22	1.52	35.75	13.47	0.00	0.7263	0.2737	0.0000
7	Newcomb	Sheepsprings turnout	04	47.70	0.70	34.23	13.47	0.00	0.7176	0.2824	0.0000
8	Sheepsprings	Naschitti turnout	05	47.00	1.54	33.53	13.47	0.00	0.7134	0.2866	0.0000
9	Naschitti	Tohatchi turnout	06	45.46	1.99	31.99	13.47	0.00	0.7037	0.2963	0.0000
10	Tohatchi	Coyote Canyon Junction		43.47	5.06	30.00	13.47	0.00	0.6901	0.3099	0.0000
11	Coyote Canyon J.	Twin Lakes turnout	07	38.41	1.88	24.94	13.47	0.00	0.6493	0.3507	0.0000
12	Twin Lakes	Ya-ta-hey Junction	08	36.53	14.70	23.06	13.47	0.00	0.6313	0.3687	0.0000
13	Ya-ta-hey J.	Gallup Junction		21.83	13.47	8.36	13.47	0.00	0.3830	0.6170	0.0000
14	Gallup J.	Navajo Chapters		8.36	8.36	8.36	0.00	0.00	1.0000	0.0000	0.0000
					59.18						
10.1	Coyote Canyon J.	Coyote Canyon turnout	11	5.06	1.25	5.06	0.00	0.00	1.0000	0.0000	0.0000
10.2	Coyote Canyon	Standing Rock turnout	12	3.81	0.13	3.81	0.00	0.00	1.0000	0.0000	0.0000
10.3	Standing Rock	Dalton Pass turnout	13	3.68	3.68	3.68	0.00	0.00	1.0000	0.0000	0.0000
					5.06						
12.1	Ya-ta-hey J.	Rock Springs turnout	09	14.70	3.19	14.70	0.00	0.00	1.0000	0.0000	0.0000
12.2	Rock Springs	Window Rock turnout	10	11.51	11.51	11.51	0.00	0.00	1.0000	0.0000	0.0000
					14.70						
<i>Cutter Branch</i>			Peak	Peak	Allocation of Peak Flows By Reach						
Number	Start	End	Pumping Plants	Flow in Reach cfs	Deliveries in Reach cfs	Navajo cfs	Gallup cfs	Jicarilla cfs	Navajo %	Gallup %	Jicarilla %
21	NIIP Canal	WTP	Reservoir	8.34	0.00	6.19	0.00	2.15	0.7422	0.0000	0.2578
22	WTP	Huerfano turnout	01, 02, 03	8.34	0.50	6.19	0.00	2.15	0.7422	0.0000	0.2578
23	Huerfano	Nageezi turnout	04	7.84	1.05	5.69	0.00	2.15	0.7258	0.0000	0.2742
24	Nageezi	Jicarilla turnout	05	6.79	2.15	4.64	0.00	2.15	0.6834	0.0000	0.3166
25	Jicarilla	Counselor turnout	06	4.64	2.63	4.64	0.00	0.00	1.0000	0.0000	0.0000
26	Counselor	Torreon turnout		2.01	2.01	2.01	0.00	0.00	1.0000	0.0000	0.0000
					8.34						

**Table B1**  
**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Total Capital Costs - Main System**  
**Jan-07 \$**

		<b>Navajo</b>	<b>Gallup</b>	<b>Jicarilla</b>	<b>Total</b>
Allocated Capital Costs		\$322,589,765	\$60,174,615	\$15,785,594	\$398,549,974
Mobilization @	5%	\$16,129,488	\$3,008,731	\$789,280	\$19,927,499
Subtotal		\$338,719,253	\$63,183,346	\$16,574,874	\$418,477,473
Unlisted Items @	10%	\$33,871,925	\$6,318,335	\$1,657,487	\$41,847,747
Subtotal		\$372,591,178	\$69,501,681	\$18,232,361	\$460,325,220
Contingencies @	22.5%	\$83,833,015	\$15,637,878	\$4,102,281	\$103,573,175
Total Field Costs		\$456,424,193	\$85,139,559	\$22,334,642	\$563,898,395
Non-Contract Costs @	27%	\$123,234,532	\$22,987,681	\$6,030,353	\$152,252,567
Total Construction Costs		\$579,658,725	\$108,127,240	\$28,364,996	\$716,150,961
Taxes on Field Cost @	9%	\$41,078,177	\$7,662,560	\$2,010,118	\$50,750,856
Total with Taxes		\$620,736,903	\$115,789,800	\$30,375,114	\$766,901,817
Rounded Total		\$620,700,000	\$115,800,000	\$30,400,000	\$766,900,000

Note: The costs in this table exclude the cost for the Gallup Regional System, which are shown in Table C1. The costs also exclude the environmental mitigation, cultural resources, right-of-way acquisition and interest during construction costs, which are shown in Table 1.

**Table B2**  
**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Allocation of Total Capital Costs by Participant**  
**Jan-07 \$**

<i>San Juan Branch</i>		<i>Joint Costs</i>							<i>Dedicated Costs</i>			<i>Total Costs</i>			
		Total Joint Costs	Allocation Ratios			Allocated Joint Costs			Navajo	Gallup	Jicarilla	Navajo	Gallup	Jicarilla	
			Navajo	Gallup	Jicarilla	Navajo	Gallup	Jicarilla							
Reach	End														
1	Water Treatment Plant (WTP)	\$48,074,490	0.7724	0.2276	-	\$37,132,223	\$10,942,267	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
2	NAPI turnout	\$6,759,977	0.7724	0.2276	-	\$5,221,334	\$1,538,643	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
3	Shiprock Junction	\$25,518,556	0.7686	0.2314	-	\$19,613,472	\$5,905,084	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
4	Sanostee turnout	\$33,451,997	0.7384	0.2616	-	\$24,700,814	\$8,751,183	\$0	\$3,560,000	\$0	\$0	\$0	\$0	\$0	
5	Burnham Junction	\$14,001,664	0.7278	0.2722	-	\$10,190,744	\$3,810,920	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
6	Newcomb turnout	\$6,952,463	0.7263	0.2737	-	\$5,049,788	\$1,902,675	\$0	\$2,840,000	\$0	\$0	\$0	\$0	\$0	
7	Sheepsprings turnout	\$17,525,961	0.7176	0.2824	-	\$12,576,806	\$4,949,155	\$0	\$1,610,000	\$0	\$0	\$0	\$0	\$0	
8	Naschitti turnout	\$12,813,913	0.7134	0.2866	-	\$9,141,500	\$3,672,413	\$0	\$3,140,000	\$0	\$0	\$0	\$0	\$0	
9	Tohatchi turnout	\$26,981,230	0.7037	0.2963	-	\$18,986,572	\$7,994,658	\$0	\$3,560,000	\$0	\$0	\$0	\$0	\$0	
10	Coyote Canyon Junction	\$7,849,753	0.6901	0.3099	-	\$5,417,359	\$2,432,394	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
11	Twin Lakes turnout	\$7,044,603	0.6493	0.3507	-	\$4,574,132	\$2,470,471	\$0	\$3,360,000	\$0	\$0	\$0	\$0	\$0	
12	Ya-ta-hey Junction	\$9,510,653	0.6313	0.3687	-	\$6,003,713	\$3,506,939	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
13	Gallup Junction	\$3,723,923	0.3830	0.6170	-	\$1,426,111	\$2,297,812	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
14	Navajo Chapters	\$450,000	1.0000	-	-	\$450,000	\$0	\$0	\$15,360,000	\$0	\$0	\$0	\$0	\$0	
10.1	Coyote Canyon turnout	\$5,209,982	1.0000	-	-	\$5,209,982	\$0	\$0	\$2,830,000	\$0	\$0	\$0	\$0	\$0	
10.2	Standing Rock turnout	\$9,896,322	1.0000	-	-	\$9,896,322	\$0	\$0	\$685,000	\$0	\$0	\$0	\$0	\$0	
10.3	Dalton Pass turnout	\$3,286,818	1.0000	-	-	\$3,286,818	\$0	\$0	\$5,020,000	\$0	\$0	\$0	\$0	\$0	
12.1	Rock Springs turnout	\$6,245,235	1.0000	-	-	\$6,245,235	\$0	\$0	\$5,000,000	\$0	\$0	\$0	\$0	\$0	
12.2	Window Rock turnout	\$10,584,015	1.0000	-	-	\$10,584,015	\$0	\$0	\$17,340,000	\$0	\$0	\$0	\$0	\$0	
<i>Cutter Branch</i>															
Reach	End														
21	WTP	\$9,350,145	0.7422	-	0.2578	\$6,939,736	\$0	\$2,410,409	\$0	\$0	\$0	\$0	\$0	\$0	
22	Huerfano turnout	\$28,101,842	0.7422	-	0.2578	\$20,857,363	\$0	\$7,244,480	\$1,350,000	\$0	\$0	\$0	\$0	\$0	
23	Nageezi turnout	\$7,740,850	0.7258	-	0.2742	\$5,618,040	\$0	\$2,122,810	\$2,130,000	\$0	\$0	\$0	\$0	\$0	
24	Jicarilla turnout	\$12,657,494	0.6834	-	0.3166	\$8,649,598	\$0	\$4,007,896	\$0	\$0	\$0	\$0	\$0	\$0	
25	Counselor turnout	\$6,661,780	1.0000	-	-	\$6,661,780	\$0	\$0	\$3,580,000	\$0	\$0	\$0	\$0	\$0	
26	Torrecon turnout	\$3,231,307	1.0000	-	-	\$3,231,307	\$0	\$0	\$3,560,000	\$0	\$0	\$0	\$0	\$0	
Total		\$323,624,974				\$247,664,765	\$60,174,615	\$15,785,594	\$74,925,000	\$0	\$0	\$0	\$322,589,765	\$60,174,615	\$15,785,594
												Grand Total	\$398,549,974		

This table allocates the capital costs shown in Table B3 using the allocation percentages developed in Table A1.

**Table B3**  
**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Allocation of Total Capital Costs by Reach**  
**Jan-07 \$**

<i>San Juan Branch</i>		<i>Joint Costs</i>					<i>Dedicated Costs</i>		
		Diversion Str. & Water Treatment	Pipeline	Tanks & Pumping Plants	Transm. Lines	Total	Navajo	Gallup	Jicarilla
Reach	End								
1	Water Treatment Plant (WTP)	\$46,363,890	\$0	\$1,200,000	\$510,600	\$48,074,490	\$0	\$0	\$0
2	NAPI turnout	\$0	\$2,447,977	\$4,135,000	\$177,000	\$6,759,977	\$0	\$0	\$0
3	Shiprock Junction	\$0	\$25,138,556	\$380,000	\$0	\$25,518,556	\$0	\$0	\$0
4	Sanostee turnout	\$0	\$26,737,997	\$6,270,000	\$444,000	\$33,451,997	\$3,560,000	\$0	\$0
5	Burnham Junction	\$0	\$14,001,664	\$0	\$0	\$14,001,664	\$0	\$0	\$0
6	Newcomb turnout	\$0	\$5,284,637	\$0	\$1,667,826	\$6,952,463	\$2,840,000	\$0	\$0
7	Sheepsprings turnout	\$0	\$13,710,604	\$2,635,000	\$1,180,357	\$17,525,961	\$1,610,000	\$0	\$0
8	Naschitti turnout	\$0	\$7,431,902	\$2,335,000	\$3,047,011	\$12,813,913	\$3,140,000	\$0	\$0
9	Tohatchi turnout	\$0	\$22,672,956	\$3,035,000	\$1,273,273	\$26,981,230	\$3,560,000	\$0	\$0
10	Coyote Canyon Junction	\$0	\$7,369,175	\$0	\$480,578	\$7,849,753	\$0	\$0	\$0
11	Twin Lakes turnout	\$0	\$3,282,094	\$2,535,000	\$1,227,509	\$7,044,603	\$3,360,000	\$0	\$0
12	Ya-ta-hey Junction	\$0	\$6,498,653	\$2,835,000	\$177,000	\$9,510,653	\$0	\$0	\$0
13	Gallup Junction	\$0	\$3,283,923	\$350,000	\$90,000	\$3,723,923	\$0	\$0	\$0
14	Navajo Chapters	\$0	\$0	\$0	\$450,000	\$450,000	\$15,360,000	\$0	\$0
10.1	Coyote Canyon turnout	\$0	\$4,047,982	\$895,000	\$267,000	\$5,209,982	\$2,830,000	\$0	\$0
10.2	Standing Rock turnout	\$0	\$8,444,322	\$1,185,000	\$267,000	\$9,896,322	\$685,000	\$0	\$0
10.3	Dalton Pass turnout	\$0	\$2,074,818	\$945,000	\$267,000	\$3,286,818	\$5,020,000	\$0	\$0
12.1	Rock Springs turnout	\$0	\$4,613,235	\$1,365,000	\$267,000	\$6,245,235	\$5,000,000	\$0	\$0
12.2	Window Rock turnout	\$0	\$7,494,698	\$1,495,000	\$1,594,316	\$10,584,015	\$17,340,000	\$0	\$0
<i>Cutter Branch</i>									
Reach	End								
21	WTP	\$9,016,545	\$0	\$0	\$333,600	\$9,350,145	\$0	\$0	\$0
22	Huerfano turnout	\$0	\$15,865,627	\$3,615,000	\$8,621,215	\$28,101,842	\$1,350,000	\$0	\$0
23	Nageezi turnout	\$0	\$6,408,850	\$1,065,000	\$267,000	\$7,740,850	\$2,130,000	\$0	\$0
24	Jicarilla turnout	\$0	\$8,012,636	\$1,445,000	\$3,199,858	\$12,657,494	\$0	\$0	\$0
25	Counselor turnout	\$0	\$4,598,723	\$1,285,000	\$778,057	\$6,661,780	\$3,580,000	\$0	\$0
26	Torreon turnout	\$0	\$3,141,307	\$0	\$90,000	\$3,231,307	\$3,560,000	\$0	\$0
Total		\$55,380,435	\$202,562,339	\$39,005,000	\$26,677,200	\$323,624,974	\$74,925,000	\$0	\$0

This table summarizes Joint and Dedicated Costs detailed in Tables B4, B5, B6 and B7.

**Table B4**  
**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Allocation of Pumping Plant and Tank Costs by Reach**  
**Jan-07 \$**

					<i>Joint Costs</i>					<i>Dedicated Costs</i>									
					Pipeline		Water			Storage Tanks		Service Area Pumping Plants			Total				
Reach	End	No. WTP	No. Turnouts	No. Pump P.	Pumping Plants	Forebay Tanks	Air Chambers	Regulating Tanks	Total	Navajo	Gallup	Jicarilla	Navajo	Gallup	Jicarilla	Navajo	Gallup	Jicarilla	
1	Water Treatment Plant (WTP)	1	0	0	\$1,200,000	\$0	\$0		\$1,200,000							\$0	\$0	\$0	
2	NAPI turnout	0	0	1	\$3,500,000	\$260,000	\$375,000		\$4,135,000							\$0	\$0	\$0	
3	Shiprock Junction	0	0	0		\$0	\$0	\$380,000	\$380,000							\$0	\$0	\$0	
4	Sanostee turnout	0	1	2	\$5,000,000	\$520,000	\$750,000		\$6,270,000	\$3,400,000			\$160,000			\$3,560,000	\$0	\$0	
5	Burnham Junction	0	0	0		\$0	\$0		\$0							\$0	\$0	\$0	
6	Newcomb turnout	0	1	0		\$0	\$0		\$0	\$2,700,000			\$140,000			\$2,840,000	\$0	\$0	
7	Sheepsprings turnout	0	1	1	\$2,000,000	\$260,000	\$375,000		\$2,635,000	\$1,500,000			\$110,000			\$1,610,000	\$0	\$0	
8	Naschitti turnout	0	1	1	\$1,700,000	\$260,000	\$375,000		\$2,335,000	\$3,000,000			\$140,000			\$3,140,000	\$0	\$0	
9	Tohatchi turnout	0	1	1	\$2,400,000	\$260,000	\$375,000		\$3,035,000	\$3,400,000			\$160,000			\$3,560,000	\$0	\$0	
10	Coyote Canyon Junction	0	0	0		\$0	\$0		\$0							\$0	\$0	\$0	
11	Twin Lakes turnout	0	1	1	\$1,900,000	\$260,000	\$375,000		\$2,535,000	\$3,200,000			\$160,000			\$3,360,000	\$0	\$0	
12	Ya-ta-hey Junction	0	0	1	\$2,200,000	\$260,000	\$375,000		\$2,835,000							\$0	\$0	\$0	
13	Gallup Junction	0	1	0		\$0	\$0	\$350,000	\$350,000							\$0	\$0	\$0	
14	Navajo Chapters	0	5	0		\$0	\$0		\$0	\$14,600,000			\$760,000			\$15,360,000	\$0	\$0	
10.1	Coyote Canyon turnout	0	1	1	\$260,000	\$260,000	\$375,000		\$895,000	\$2,700,000			\$130,000			\$2,830,000	\$0	\$0	
10.2	Standing Rock turnout	0	1	1	\$270,000	\$260,000	\$375,000	\$280,000	\$1,185,000	\$600,000			\$85,000			\$685,000	\$0	\$0	
10.3	Dalton Pass turnout	0	1	1	\$310,000	\$260,000	\$375,000		\$945,000	\$4,800,000			\$220,000			\$5,020,000	\$0	\$0	
12.1	Rock Springs turnout	0	1	1	\$730,000	\$260,000	\$375,000		\$1,365,000	\$4,800,000			\$200,000			\$5,000,000	\$0	\$0	
12.2	Window Rock turnout	0	1	1	\$570,000	\$260,000	\$375,000	\$290,000	\$1,495,000	\$16,900,000			\$440,000			\$17,340,000	\$0	\$0	
<b>Cutter Branch</b>																			
21	WTP	1	0	0		\$0	\$0		\$0							\$0	\$0	\$0	
22	Huerfano turnout	0	1	3	\$1,710,000	\$780,000	\$1,125,000		\$3,615,000	\$1,250,000			\$100,000			\$1,350,000	\$0	\$0	
23	Nageezi turnout	0	1	1	\$430,000	\$260,000	\$375,000		\$1,065,000	\$2,000,000			\$130,000			\$2,130,000	\$0	\$0	
24	Jicarilla turnout	0	0	1	\$530,000	\$260,000	\$375,000	\$280,000	\$1,445,000							\$0	\$0	\$0	
25	Counselor turnout	0	1	1	\$370,000	\$260,000	\$375,000	\$280,000	\$1,285,000	\$3,400,000			\$180,000			\$3,580,000	\$0	\$0	
26	Torrecon turnout	0	1	0	\$0	\$0	\$0		\$0	\$3,400,000			\$160,000			\$3,560,000	\$0	\$0	
		2	21	19	Total	\$25,080,000	\$4,940,000	\$7,125,000	\$1,860,000	\$39,005,000	\$71,650,000	\$0	\$0	\$3,275,000	\$0	\$0	\$74,925,000	\$0	\$0

**Cost per Unit**  
 Forebay Tanks \$260,000  
 Air Chambers \$375,000

**Table B5**  
**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Allocation of Pipeline Costs by Reach**  
**Jan-07 \$**

<i>San Juan Branch</i>				<i>Joint Costs</i>						
				Total Excavation	Soil Cement Embedment	Backfill	Butterfly Valves	Pipeline	Total	
Reach	End	cubic yards	cubic yards	cubic yards	\$	\$	\$	\$	\$	\$
1	Water Treatment Plant (WTP)				\$0	\$0	\$0	\$0	\$0	\$0
2	NAPI turnout	22,720	4,385	13,991	\$119,094	\$394,631	\$90,943	\$78,000	\$1,765,309	\$2,447,977
3	Shiprock Junction	258,690	49,923	159,300	\$1,356,005	\$4,493,038	\$1,035,452	\$702,000	\$17,552,060	\$25,138,556
4	Sanostee turnout	267,961	51,713	165,008	\$1,404,602	\$4,654,140	\$1,072,554	\$741,000	\$18,865,700	\$26,737,997
5	Burnham Junction	145,024	27,987	89,305	\$760,189	\$2,518,873	\$580,479	\$390,000	\$9,752,123	\$14,001,664
6	Newcomb turnout	54,217	10,463	33,387	\$284,196	\$941,663	\$217,016	\$156,000	\$3,685,762	\$5,284,637
7	Sheepsprings turnout	135,808	26,168	85,199	\$711,881	\$2,355,144	\$553,792	\$390,000	\$9,699,788	\$13,710,604
8	Naschitti turnout	70,620	15,148	42,763	\$370,177	\$1,363,299	\$277,961	\$234,000	\$5,186,465	\$7,431,902
9	Tohatchi turnout	241,956	45,020	154,240	\$1,268,289	\$4,051,767	\$1,002,562	\$630,000	\$15,720,338	\$22,672,956
10	Coyote Canyon Junction	80,687	15,480	51,629	\$422,946	\$1,393,169	\$335,591	\$189,000	\$5,028,469	\$7,369,175
11	Twin Lakes turnout	35,803	6,815	23,397	\$187,673	\$613,378	\$152,078	\$81,000	\$2,247,965	\$3,282,094
12	Ya-ta-hey Junction	71,559	13,621	46,762	\$375,099	\$1,225,853	\$303,956	\$162,000	\$4,431,745	\$6,498,653
13	Gallup Junction	37,248	6,904	25,973	\$195,247	\$621,327	\$168,827	\$56,000	\$2,242,521	\$3,283,923
14	Navajo Chapters				\$0	\$0	\$0	\$0	\$0	\$0
10.1	Coyote Canyon turnout	52,013	9,309	37,829	\$272,643	\$837,823	\$245,888	\$63,000	\$2,628,629	\$4,047,982
10.2	Standing Rock turnout	108,432	19,695	80,284	\$568,381	\$1,772,527	\$521,848	\$144,000	\$5,437,566	\$8,444,322
10.3	Dalton Pass turnout	28,983	4,295	22,932	\$151,924	\$386,518	\$149,060	\$32,000	\$1,355,316	\$2,074,818
12.1	Rock Springs turnout	53,238	9,868	37,124	\$279,064	\$888,133	\$241,305	\$84,000	\$3,120,733	\$4,613,235
12.2	Window Rock turnout	95,688	17,455	68,047	\$501,579	\$1,570,954	\$442,305	\$138,000	\$4,841,860	\$7,494,698
		1,760,647	334,247	1,137,172	\$9,228,988	\$30,082,239	\$7,391,617	\$4,270,000	\$113,562,350	\$164,535,195
<i>Cutter Branch</i>										
21	WTP				\$0	\$0	\$0	\$0	\$0	\$0
22	Huerfano turnout	192,709	34,512	137,970	\$835,554	\$3,106,064	\$896,806	\$236,000	\$10,791,204	\$15,865,627
23	Nageezi turnout	88,749	15,884	63,162	\$384,801	\$1,429,576	\$410,552	\$108,000	\$4,075,921	\$6,408,850
24	Jicarilla turnout	110,898	18,269	80,964	\$480,835	\$1,644,179	\$526,268	\$169,000	\$5,192,354	\$8,012,636
25	Counselor turnout	66,894	9,912	51,239	\$290,041	\$892,105	\$333,052	\$72,000	\$3,011,525	\$4,598,723
26	Torreon turnout	55,295	7,754	44,158	\$239,750	\$697,829	\$287,029	\$68,000	\$1,848,699	\$3,141,307
<b>Total</b>		2,275,192	420,578	1,514,665	\$11,459,968	\$37,851,993	\$9,845,324	\$4,923,000	\$138,482,053	\$202,562,339

**Cost per Unit**

Rock Excavation, per cy	\$16.00	Average Excavtn cost/cy PMN	\$5.24	Average Excavtn cost/cy Cutter	\$4.34
Common Excavation, per cy	\$4.00	Total Excavation, cy PNM	1,760,647	Total Excavation, cy Cutter	514,545
Backfill, per cy	\$6.50	Rock Excavation, cy PNM	182,200	Rock Excavation, cy Cutter	14,400
Embedment, soil cement, per cy	\$90.00	Rock/Total, ratio PNM	0.1035	Rock/Total, ratio Cutter	0.0280

**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Allocation of Transmission Line Costs by Reach**  
**Jan-07 \$**

<i>San Juan Branch</i>					<i>Joint Costs</i>							Total
					Trans. Ln	Elect. Equip	SCADA	Comm.	Security	Pwr Tap	Other	
Reach	End	No. WTP	No. Turnouts	No. Pump P.	Miles Trans Ln							
1	Water Treatment Plant (WTP)	1	0	1		\$0	\$264,000	\$18,000	\$64,800	\$19,800	\$144,000	\$510,600
2	NAPI turnout	0	0	1		\$0	\$84,000	\$7,200	\$28,800	\$9,000	\$48,000	\$177,000
3	Shiprock Junction	0	0	0		\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	Sanostee turnout	0	1	2		\$0	\$192,000	\$21,600	\$86,400	\$24,000	\$120,000	\$444,000
5	Burnham Junction	0	0	0		\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	Newcomb turnout	0	1	0	10.11	\$1,577,826	\$24,000	\$7,200	\$28,800	\$6,000	\$24,000	\$1,667,826
7	Sheepsprings turnout	0	1	1	5.85	\$913,357	\$108,000	\$14,400	\$57,600	\$15,000	\$72,000	\$1,180,357
8	Naschitti turnout	0	1	1	17.82	\$2,780,011	\$108,000	\$14,400	\$57,600	\$15,000	\$72,000	\$3,047,011
9	Tohatchi turnout	0	1	1	6.45	\$1,006,273	\$108,000	\$14,400	\$57,600	\$15,000	\$72,000	\$1,273,273
10	Coyote Canyon Junction	0	0	0	3.08	\$480,578	\$0	\$0	\$0	\$0	\$0	\$480,578
11	Twin Lakes turnout	0	1	1	6.16	\$960,509	\$108,000	\$14,400	\$57,600	\$15,000	\$72,000	\$1,227,509
12	Ya-ta-hey Junction	0	0	1		\$0	\$84,000	\$7,200	\$28,800	\$9,000	\$48,000	\$177,000
13	Gallup Junction	0	1	0		\$0	\$24,000	\$7,200	\$28,800	\$6,000	\$24,000	\$90,000
14	Navajo Chapters	0	5	0		\$0	\$120,000	\$36,000	\$144,000	\$30,000	\$120,000	\$450,000
10.1	Coyote Canyon turnout	0	1	1		\$0	\$108,000	\$14,400	\$57,600	\$15,000	\$72,000	\$267,000
10.2	Standing Rock turnout	0	1	1		\$0	\$108,000	\$14,400	\$57,600	\$15,000	\$72,000	\$267,000
10.3	Dalton Pass turnout	0	1	1		\$0	\$108,000	\$14,400	\$57,600	\$15,000	\$72,000	\$267,000
12.1	Rock Springs turnout	0	1	1		\$0	\$108,000	\$14,400	\$57,600	\$15,000	\$72,000	\$267,000
12.2	Window Rock turnout	0	1	1	5.82	\$907,316	\$108,000	\$14,400	\$57,600	\$15,000	\$72,000	\$1,594,316
<i>Cutter Branch</i>												
21	WTP	1	0	0		\$0	\$180,000	\$10,800	\$36,000	\$10,800	\$96,000	\$333,600
22	Huerfano turnout	0	1	3	42.05	\$6,560,215	\$276,000	\$28,800	\$115,200	\$33,000	\$168,000	\$8,621,215
23	Nageezi turnout	0	1	1		\$0	\$108,000	\$14,400	\$57,600	\$15,000	\$72,000	\$267,000
24	Jicarilla turnout	0	0	1	19.38	\$3,022,858	\$84,000	\$7,200	\$28,800	\$9,000	\$48,000	\$3,199,858
25	Counselor turnout	0	1	1	3.28	\$511,057	\$108,000	\$14,400	\$57,600	\$15,000	\$72,000	\$778,057
26	Torrecon turnout	0	1	0	0.00	\$0	\$24,000	\$7,200	\$28,800	\$6,000	\$24,000	\$90,000
Total		2	21	20	120.00	\$18,720,000	\$2,544,000	\$316,800	\$1,252,800	\$327,600	\$1,656,000	\$26,677,200

<i>Cost per unit</i>		
Transmission line per mile	\$130,000	Comm. equipment per WTP \$30,000
Electrical equipment per pumping plant	\$70,000	Security system per pp \$7,500
Electrical equipment per WTP	\$150,000	Security system per turnout \$5,000
Electrical equipment per turnout	\$20,000	Security system per WTP \$9,000
SCADA equipment per pp and turnout	\$6,000	Substation near Huerfano \$1,200,000
SCADA equipment per WTP	\$9,000	Power tap poles per pp \$40,000
SCADA system for Ft. Defiance	\$350,000	Power tap poles per turnout \$20,000
Comm. equipment per pp and turnout	\$24,000	Power tap poles per WTP \$80,000
		Prime contractor OH & P allowance 120%

**Table B7**  
**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Allocation of Dam, Diversion Structure, Wells and Water Treatment Costs by Reach**  
**Jan-07 \$**

		<i>Joint Costs</i>				Total
		Dams	Diversion Structures	Wells	Water Treatment Plants	
<b><i>San Juan Branch</i></b>						
Reach	End					
1	Water Treatment Plant (WTP)		\$1,707,380		\$44,656,510	\$46,363,890
2	NAPI turnout					\$0
3	Shiprock Junction					\$0
4	Sanostee turnout					\$0
5	Burnham Junction					\$0
6	Newcomb turnout					\$0
7	Sheepsprings turnout					\$0
8	Naschitti turnout					\$0
9	Tohatchi turnout					\$0
10	Coyote Canyon Junction					\$0
11	Twin Lakes turnout					\$0
12	Ya-ta-hey Junction					\$0
13	Gallup Junction					\$0
14	Navajo Chapters					\$0
10.1	Coyote Canyon turnout					\$0
10.2	Standing Rock turnout					\$0
10.3	Dalton Pass turnout					\$0
12.1	Rock Springs turnout					\$0
12.2	Window Rock turnout					\$0
<b><i>Cutter Branch</i></b>						
Reach	End					
21	WTP				\$9,016,545	\$9,016,545
22	Huerfano turnout					\$0
23	Nageezi turnout					\$0
24	Jicarilla turnout					\$0
25	Counselor turnout					\$0
26	Torreon turnout					\$0
<b>Total</b>		\$0	\$1,707,380	\$0	\$53,673,055	\$55,380,435

**Table B8****Navajo - Gallup Water Supply Project****San Juan River PNM Alternative - 2020****Allocation of Environmental Mitigation, Cultural Resources and Right-of-Way Costs**

Jan-07 \$

	<b>Main Navajo-Gallup Pipeline Project</b>				<b>Gallup Regional Water Supply System</b>				<b>Total</b>
	<b>Navajo</b>	<b>Gallup</b>	<b>Jicarilla</b>	<b>Total</b>	<b>Navajo</b>	<b>Gallup</b>	<b>Jicarilla</b>	<b>Total</b>	
Total Field Costs	\$456,400,000	\$85,100,000	\$22,300,000	\$563,900,000	\$14,000,000	\$22,500,000	\$0	\$36,500,000	\$600,400,000
% Distribution of Field Costs	76.02%	14.17%	3.71%	93.92%	2.33%	3.75%	0.00%	6.08%	100.00%
Environmental Mitigation Costs	\$4,560,959	\$850,433	\$222,851	\$5,635,243	\$139,907	\$224,850	\$0	\$364,757	\$6,000,000
Cultural Resources Costs	\$26,301,532	\$4,904,164	\$1,285,110	\$32,496,569	\$806,795	\$1,296,636	\$0	\$2,103,431	\$34,600,000
Right-of-Way Costs	\$6,841,439	\$1,275,650	\$334,277	\$8,452,865	\$209,860	\$337,275	\$0	\$547,135	\$9,000,000
<b>Total</b>	<b>\$37,703,931</b>	<b>\$7,030,247</b>	<b>\$1,842,239</b>	<b>\$46,584,677</b>	<b>\$1,156,562</b>	<b>\$1,858,761</b>	<b>\$0</b>	<b>\$3,015,323</b>	<b>\$49,600,000</b>
<b>Total (rounded)</b>	<b>\$37,700,000</b>	<b>\$7,030,000</b>	<b>\$1,840,000</b>	<b>\$46,580,000</b>	<b>\$1,160,000</b>	<b>\$1,860,000</b>	<b>\$0</b>	<b>\$3,020,000</b>	<b>\$49,600,000</b>

Notes: Environmental mitigation costs estimated at \$6,000,000 (Jan. 07 \$) and allocated between systems and among users by share of field costs.  
Cultural resources costs estimated at 4% of total project cost and allocated between systems and among users by share of field costs.  
Right-of-way costs consist of land purchased from private parties for the water treatment plants, cost of relocating Navajo families who live in the pipeline route, and administration costs, totalling \$9,000,000 (Jan. 07 \$). These costs are allocated between systems and among users by share of field costs. It is assumed that both the Navajo Nation and the City of Gallup will contribute any other land needed for their respective systems.  
Environmental mitigation costs, cultural resource costs and right-of-way costs include allowances for contingencies, non-contract costs and taxes.

**Table B9**  
**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Interest During Construction**  
**4.875% Discount Rate**  
**Jan-07 \$**

<b>CONSTRUCTION SCHEDULE</b>																	
<b>Costs in millions</b>																	
<b>Year</b>																	
<i>Scenario 1 - \$60 million/year Schedule</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
NGWSP Project	\$2.35	\$4.29	22.316	\$11.91													\$40.86
Cutter Lateral	\$5.99	\$7.53	\$4.27	\$16.20	\$16.14	\$21.72	\$21.70	\$17.19	\$7.41								\$118.14
Twin Lakes/ Window Rock	\$0.78	\$0.21				\$19.94	\$30.76	\$2.23									\$53.92
Cutter Power	\$0.72	\$0.73	\$0.73		\$3.00	\$3.27	\$6.60	\$9.59									\$24.63
San Juan Power		\$0.78	\$1.57					\$6.00	\$18.26	\$0.00							\$26.61
Gallup Regional System	\$0.40	\$4.37	\$20.33	\$26.66	\$28.09												\$79.85
San Juan Lateral		\$8.47	\$3.63		\$7.78	\$15.07	\$0.94			\$33.18	\$32.74	\$53.00	\$60.00	\$54.31	\$57.03	\$34.91	\$361.04
San Juan Pumping Plant		\$3.51	\$1.16					\$8.16	\$16.00		\$8.48	\$7.00		\$5.69	2.971		\$52.97
San Juan Water Treatment Plant	\$5.33	\$2.48						\$16.85	\$18.33	\$26.83	\$18.78						\$88.59
Cutter Water Treatment Plant	\$1.11	\$0.46	\$6.00	\$5.23	\$4.99												\$17.79
TOTAL Allocated Spending	\$16.67	\$32.82	\$60.00	\$60.00	\$60.00	\$60.00	\$60.00	\$60.00	\$60.00	\$60.00	\$60.00	\$60.00	\$60.00	\$60.00	\$60.00	\$34.91	\$864.40
Percent Distribution	1.93%	3.80%	6.94%	6.94%	6.94%	6.94%	6.94%	6.94%	6.94%	6.94%	6.94%	6.94%	6.94%	6.94%	6.94%	4.04%	100.00%
Overall Spending	\$16.68	\$32.84	\$60.04	\$60.04	\$60.04	\$60.04	\$60.04	\$60.04	\$60.04	\$60.04	\$60.04	\$60.04	\$60.04	\$60.04	\$60.04	\$34.94	\$865.00
Interest During Construction to January 1 of year 14	\$18.20	\$32.65	\$54.12	\$48.81	\$43.75	\$38.93	\$34.33	\$29.94	\$25.76	\$21.77	\$17.97	\$14.34	\$10.88	\$7.59	\$4.44	\$0.84	\$404.34

Note: The construction schedule assumes that annual appropriations will be indexed to keep in step with construction cost trends.

**Table C1**  
**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Allocation of Gallup Regional System Capital Costs**  
**Jan-07 \$**

Category	Total Cost	Joint Cost	Allocation Factors		Allocated Joint Costs		Total Costs	
			Gallup	Navajo	Gallup	Navajo	Gallup	Navajo
Excavation, common	\$542,400	\$542,400	0.6170	0.3830	\$334,683	\$207,717	\$334,683	\$207,717
Excavation, rock	\$384,000	\$384,000	0.6170	0.3830	\$236,944	\$147,056	\$236,944	\$147,056
Backfill	\$797,550	\$797,550	0.6170	0.3830	\$492,121	\$305,429	\$492,121	\$305,429
Soil Cement Embedment	\$2,097,000	\$2,097,000	0.6170	0.3830	\$1,293,934	\$803,066	\$1,293,934	\$803,066
Pipeline	\$7,658,550	\$7,658,550	0.6170	0.3830	\$4,725,638	\$2,932,912	\$4,725,638	\$2,932,912
Crossings and borings	\$1,100,000	\$1,100,000	0.6170	0.3830	\$678,745	\$421,255	\$678,745	\$421,255
Water Storage Tanks	\$10,900,000	\$10,900,000	0.6170	0.3830	\$6,725,744	\$4,174,256	\$6,725,744	\$4,174,256
Pumping Plants	\$1,100,000	\$1,100,000	0.6170	0.3830	\$678,745	\$421,255	\$678,745	\$421,255
Valve & Metering Sta.	\$800,000	\$800,000	0.6170	0.3830	\$493,633	\$306,367	\$493,633	\$306,367
Surge Control	\$375,000	\$375,000	0.6170	0.3830	\$231,390	\$143,610	\$231,390	\$143,610
Subtotal	\$25,754,500	\$25,754,500			\$15,891,577	\$9,862,923	\$15,891,577	\$9,862,923
Mobilization @5%	\$1,287,725						\$794,579	\$493,146
Subtotal	\$27,042,225						\$16,686,155	\$10,356,070
Unlisted @10%	\$2,704,223						\$1,668,616	\$1,035,607
Subtotal	\$29,746,448						\$18,354,771	\$11,391,677
Contingency @22.5%	\$6,692,951						\$4,129,823	\$2,563,127
Total Field Cost	\$36,439,398						\$22,484,594	\$13,954,804
Non-Contract Costs @27%	\$9,838,638						\$6,070,840	\$3,767,797
Total Construction Costs	\$46,278,036						\$28,555,435	\$17,722,601
Taxes @6% of Field Cost	\$2,186,364						\$1,349,076	\$837,288
Total with Taxes	\$48,464,400						\$29,904,510	\$18,559,889
Rounded Total	\$48,500,000						\$29,900,000	\$18,600,000

Note: The costs in this table include only the cost for the Gallup Regional System. The costs for the main water supply pipeline are shown in Table B1. The costs also exclude the environmental mitigation, cultural resources, right-of-way acquisition and interest during construction costs, which are shown in Table 1.

**Table C2**  
**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Allocation of Gallup Regional System O,M & R Costs**  
**Jan-07 \$**

		Allocation Factors		Allocated Annual Cost		Present Value @ 4.875%		
	Annual Cost	Gallup	Navajo	Gallup	Navajo	Gallup	Navajo	Total
<b>CRSP Rates</b>	\$811,000	0.6170	0.3830	\$500,420	\$310,580	\$9,314,944	\$5,781,213	\$15,096,157
				rounded \$500,000	\$311,000	rounded \$9,315,000	\$5,781,000	\$15,096,000
<b>NTUA Rate</b>	\$862,000	0.6170	0.3830	\$531,889	\$330,111	\$9,900,718	\$6,144,766	\$16,045,484
				rounded \$532,000	\$330,000	rounded \$9,901,000	\$6,145,000	\$16,045,000

Table C3 - Scenario 1 \$60 million/yr Construction Schedule  
 Navajo - Gallup Water Supply Project  
 San Juan River PNM Alternative - 2040  
 Cost of Water to City of Gallup  
 Jan-07 \$

Event	Year	Cost to Gallup \$/af	PV @ 4.875%
	2006	\$0	\$0
	2007	\$42	\$110
	2008	\$45	\$110
	2009	\$47	\$110
	2010	\$49	\$110
Construction Begins	2011	\$51	\$110
	2012	\$54	\$110
	2013	\$56	\$110
	2014	\$59	\$110
	2015	\$62	\$110
	2016	\$65	\$110
	2017	\$68	\$110
	2018	\$72	\$110
	2019	\$75	\$110
	2020	\$79	\$110
	2021	\$83	\$110
	2022	\$87	\$110
	2023	\$91	\$110
	2024	\$95	\$110
	2025	\$100	\$110
	2026	\$105	\$110
Project Completion	2027	\$110	\$110
Full Gallup Water Use	2028	\$110	\$105
	2029	\$110	\$100
	2030	\$110	\$95
	2031	\$110	\$91
	2032	\$110	\$87
	2033	\$110	\$83
	2034	\$110	\$79
	2035	\$110	\$75
	2036	\$110	\$72
	2037	\$110	\$68
	2038	\$110	\$65
	2039	\$110	\$62
	2040	\$110	\$59
	2041	\$110	\$56
	2042	\$110	\$54
	2043	\$110	\$51
	2044	\$110	\$49
	2045	\$110	\$47
	2046	\$110	\$45
	2047	\$110	\$42
	2048	\$110	\$40
	2049	\$110	\$39
	2050	\$110	\$37
	2051	\$110	\$35
	2052	\$110	\$33
	2053	\$110	\$32
	2054	\$110	\$30
	2055	\$110	\$29
	2056	\$110	\$28
	2057	\$110	\$26
	2058	\$110	\$25
	2059	\$110	\$24
	2060	\$110	\$23
	2061	\$110	\$22
	2062	\$110	\$21
	2063	\$110	\$20
	2064	\$110	\$19
	2065	\$110	\$18
	2066	\$110	\$17
	2067	\$110	\$16
	2068	\$110	\$16
	2069	\$110	\$15
	2070	\$110	\$14
	2071	\$110	\$14
	2072	\$110	\$13
	2073	\$110	\$12
	2074	\$110	\$12
	2075	\$110	\$11
	2076	\$110	\$11
	2077	\$0	\$0
	2078	\$0	\$0
	2079	\$0	\$0
	2080	\$0	\$0
		Total PV per acre-foot	\$4,347
		Total PV for 7500 af	\$32,605,398

Present Values as of 2027

Note: The City of Gallup has not yet reached an agreement with the Jicarilla Apache Nation on the terms of a long-term water lease. For purposes of this report we have assumed that the price will be \$110 per acre-foot (in 2007\$), beginning when the City begins taking water in the year 2027. We also assume that prior to that time the City will pay an annual option fee equivalent in present value to the price for water in 2027. The City and the Jicarilla Nation may agree on terms very different from these.

**Table D1- Scenario 1 - \$60 million/year Construction Schedule**  
**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Summary of Annual O,M&R Charges by User**  
**Project Completion In 2027**  
**Jan-07 \$**

<i>CRSP Power Rate</i>													
	Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Navajo	Fixed	\$0	\$0	\$638,599	\$638,599	\$638,599	\$638,599	\$2,674,341	\$2,674,341	\$2,674,341	\$2,674,341	\$2,674,341	\$2,674,341
	Variable	\$0	\$0	\$35,447	\$35,251	\$35,049	\$34,843	\$225,397	\$229,890	\$234,494	\$239,212	\$244,047	\$249,002
	Total	\$0	\$0	\$674,046	\$673,850	\$673,648	\$673,442	\$2,899,738	\$2,904,231	\$2,908,835	\$2,913,553	\$2,918,388	\$2,923,343
Gallup	Fixed	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Variable	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Jicarilla	Fixed	\$0	\$0	\$0	\$0	\$0	\$0	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852
	Variable	\$0	\$0	\$0	\$0	\$0	\$0	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784
	Total	\$0	\$0	\$0	\$0	\$0	\$0	\$743,636	\$743,636	\$743,636	\$743,636	\$743,636	\$743,636
<b>Total</b>	Fixed	\$0	\$0	\$638,599	\$638,599	\$638,599	\$638,599	\$3,319,193	\$3,319,193	\$3,319,193	\$3,319,193	\$3,319,193	\$3,319,193
	Variable	\$0	\$0	\$35,447	\$35,251	\$35,049	\$34,843	\$324,181	\$328,674	\$333,278	\$337,996	\$342,831	\$347,786
	Total	\$0	\$0	\$674,046	\$673,850	\$673,648	\$673,442	\$3,643,374	\$3,647,867	\$3,652,471	\$3,657,189	\$3,662,024	\$3,666,979
	Rounded	\$0	\$0	\$674,000	\$674,000	\$674,000	\$673,000	\$3,643,000	\$3,648,000	\$3,652,000	\$3,657,000	\$3,662,000	\$3,667,000
<i>NTUA Power Rate</i>													
	Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Navajo	Fixed	\$0	\$0	\$638,599	\$638,599	\$638,599	\$638,599	\$2,674,341	\$2,674,341	\$2,674,341	\$2,674,341	\$2,674,341	\$2,674,341
	Variable	\$0	\$0	\$95,540	\$95,011	\$94,469	\$93,914	\$493,021	\$502,290	\$511,789	\$521,524	\$531,501	\$541,725
	Total	\$0	\$0	\$734,139	\$733,610	\$733,068	\$732,513	\$3,167,362	\$3,176,631	\$3,186,131	\$3,195,866	\$3,205,842	\$3,216,066
Gallup	Fixed	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Variable	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Jicarilla	Fixed	\$0	\$0	\$0	\$0	\$0	\$0	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852
	Variable	\$0	\$0	\$0	\$0	\$0	\$0	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342
	Total	\$0	\$0	\$0	\$0	\$0	\$0	\$846,194	\$846,194	\$846,194	\$846,194	\$846,194	\$846,194
<b>Total</b>	Fixed	\$0	\$0	\$638,599	\$638,599	\$638,599	\$638,599	\$3,319,193	\$3,319,193	\$3,319,193	\$3,319,193	\$3,319,193	\$3,319,193
	Variable	\$0	\$0	\$95,540	\$95,011	\$94,469	\$93,914	\$694,362	\$703,632	\$713,131	\$722,866	\$732,842	\$743,066
	Total	\$0	\$0	\$734,139	\$733,610	\$733,068	\$732,513	\$4,013,556	\$4,022,825	\$4,032,325	\$4,042,060	\$4,052,036	\$4,062,260
	Rounded	\$0	\$0	\$734,000	\$734,000	\$733,000	\$733,000	\$4,014,000	\$4,023,000	\$4,032,000	\$4,042,000	\$4,052,000	\$4,062,000

**Table D1- Scenario 1 - \$60 million/year Construction Schedule**  
**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Summary of Annual O,M&R Charges by User**  
**Project Completion In 2027**

page 2

2026	2027	2028	2029	2030	2035	2040	2045	2050	2055	2060	2065-76
\$2,674,341	\$6,809,483	\$6,809,483	\$6,809,483	\$6,809,483	\$6,809,483	\$6,809,483	\$6,809,483	\$6,809,483	\$6,809,483	\$6,809,483	\$6,809,483
\$254,080	\$1,989,609	\$2,038,781	\$2,089,172	\$2,140,813	\$2,418,875	\$2,733,171	\$2,733,171	\$2,733,171	\$2,733,171	\$2,733,171	\$2,733,171
\$2,928,421	\$8,799,092	\$8,848,264	\$8,898,655	\$8,950,296	\$9,228,358	\$9,542,654	\$9,542,654	\$9,542,654	\$9,542,654	\$9,542,654	\$9,542,654
\$0	\$1,300,776	\$1,300,776	\$1,300,776	\$1,300,776	\$1,300,776	\$1,300,776	\$1,300,776	\$1,300,776	\$1,300,776	\$1,300,776	\$1,300,776
\$0	\$774,462	\$774,462	\$774,462	\$774,462	\$774,462	\$774,462	\$774,462	\$774,462	\$774,462	\$774,462	\$774,462
\$0	\$2,075,238	\$2,075,238	\$2,075,238	\$2,075,238	\$2,075,238	\$2,075,238	\$2,075,238	\$2,075,238	\$2,075,238	\$2,075,238	\$2,075,238
\$644,852	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852
\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784
\$743,636	\$743,636	\$743,636	\$743,636	\$743,636	\$743,636	\$743,636	\$743,636	\$743,636	\$743,636	\$743,636	\$743,636
\$3,319,193	\$8,755,111	\$8,755,111	\$8,755,111	\$8,755,111	\$8,755,111	\$8,755,111	\$8,755,111	\$8,755,111	\$8,755,111	\$8,755,111	\$8,755,111
\$352,864	\$2,862,855	\$2,912,027	\$2,962,418	\$3,014,059	\$3,292,121	\$3,606,417	\$3,606,417	\$3,606,417	\$3,606,417	\$3,606,417	\$3,606,417
\$3,672,057	\$11,617,966	\$11,667,138	\$11,717,529	\$11,769,170	\$12,047,232	\$12,361,528	\$12,361,528	\$12,361,528	\$12,361,528	\$12,361,528	\$12,361,528
\$3,672,000	\$11,618,000	\$11,667,000	\$11,718,000	\$11,769,000	\$12,047,000	\$12,362,000	\$12,362,000	\$12,362,000	\$12,362,000	\$12,362,000	\$12,362,000
2026	2027	2028	2029	2030	2035	2040	2045	2050	2055	2060	2065-76
\$2,674,341	\$6,809,483	\$6,809,483	\$6,809,483	\$6,809,483	\$6,809,483	\$6,809,483	\$6,809,483	\$6,809,483	\$6,809,483	\$6,809,483	\$6,809,483
\$552,202	\$4,212,017	\$4,316,016	\$4,422,594	\$4,531,814	\$5,119,918	\$5,784,654	\$5,784,654	\$5,784,654	\$5,784,654	\$5,784,654	\$5,784,654
\$3,226,543	\$11,021,500	\$11,125,499	\$11,232,077	\$11,341,298	\$11,929,401	\$12,594,137	\$12,594,137	\$12,594,137	\$12,594,137	\$12,594,137	\$12,594,137
\$0	\$1,300,776	\$1,300,776	\$1,300,776	\$1,300,776	\$1,300,776	\$1,300,776	\$1,300,776	\$1,300,776	\$1,300,776	\$1,300,776	\$1,300,776
\$0	\$1,676,268	\$1,676,268	\$1,676,268	\$1,676,268	\$1,676,268	\$1,676,268	\$1,676,268	\$1,676,268	\$1,676,268	\$1,676,268	\$1,676,268
\$0	\$2,977,044	\$2,977,044	\$2,977,044	\$2,977,044	\$2,977,044	\$2,977,044	\$2,977,044	\$2,977,044	\$2,977,044	\$2,977,044	\$2,977,044
\$644,852	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852	\$644,852
\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342
\$846,194	\$846,194	\$846,194	\$846,194	\$846,194	\$846,194	\$846,194	\$846,194	\$846,194	\$846,194	\$846,194	\$846,194
\$3,319,193	\$8,755,112	\$8,755,112	\$8,755,112	\$8,755,112	\$8,755,112	\$8,755,112	\$8,755,112	\$8,755,112	\$8,755,112	\$8,755,112	\$8,755,112
\$753,544	\$6,089,627	\$6,193,626	\$6,300,203	\$6,409,424	\$6,997,528	\$7,662,264	\$7,662,264	\$7,662,264	\$7,662,264	\$7,662,264	\$7,662,264
\$4,072,737	\$14,844,739	\$14,948,737	\$15,055,315	\$15,164,536	\$15,752,639	\$16,417,375	\$16,417,375	\$16,417,375	\$16,417,375	\$16,417,375	\$16,417,375
\$4,073,000	\$14,845,000	\$14,949,000	\$15,055,000	\$15,165,000	\$15,753,000	\$16,417,000	\$16,417,000	\$16,417,000	\$16,417,000	\$16,417,000	\$16,417,000

**Table D2 - 2040**  
**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Allocation of Annual Fixed O,M&R Costs by User**  
**Jan-07 \$**

<i>San Juan Branch</i>		<i>Joint Costs</i>									
		<b>Pumping Plants</b>		<b>Pipelines</b>	<b>Elec.Trans. Line</b>	<b>NIIP Canal</b>	<b>Water Treatment Plant Fixed O,M&amp;R</b>				
		Pumping Plants	Annual Maintenance	Annual Maintenance	Annual Maintenance	Annual Maintenance	Annual Maintenance	Operators	Equipment Replacement	Dredging	Misc. @ 10%
Reach	End										
1	Water Treatment Plant (WTP)	River	\$153,101	\$0	\$6,699		\$845,000	\$605,000	\$212,000	\$166,200	\$1,828,200
2	NAPI turnout	01	\$302,893	\$12,240	\$2,322						
3	Shiprock Junction		\$0	\$125,693	\$0						
4	Sanostee turnout	02, 03	\$532,344	\$133,690	\$5,825						
5	Burnham Junction		\$0	\$70,008	\$0						
6	Newcomb turnout		\$0	\$26,423	\$21,882						
7	Sheepsprings turnout	04	\$248,187	\$68,553	\$15,486						
8	Naschitti turnout	05	\$232,852	\$37,160	\$39,976						
9	Tohatchi turnout	06	\$270,720	\$113,365	\$16,705						
10	Coyote Canyon Junction		\$0	\$36,846	\$6,305						
11	Twin Lakes turnout	07	\$255,331	\$16,410	\$16,105						
12	Ya-ta-hey Junction	08	\$269,788	\$32,493	\$2,322						
13	Gallup Junction		\$0	\$16,420	\$1,181						
14	Navajo Chapters		\$0	\$0	\$5,904						
					\$0						
10.1	Coyote Canyon turnout	11	\$141,952	\$20,240	\$3,503						
10.2	Standing Rock turnout	12	\$173,953	\$42,222	\$3,503						
10.3	Dalton Pass turnout	13	\$188,735	\$10,374	\$3,503						
					\$0						
12.1	Rock Springs turnout	09	\$206,164	\$23,066	\$3,503						
12.2	Window Rock turnout	10	\$193,980	\$37,473	\$20,917						
<i>Cutter Branch</i>											
Reach	End										
21	WTP	Reservoir	\$0	\$0	\$4,377	\$35,000	\$845,000	\$85,000	\$1,000	\$93,100	\$1,024,100
22	Huerfano turnout	01, 02, 03	\$637,697	\$79,328	\$113,109						
23	Nageezi turnout	04	\$192,144	\$32,044	\$3,503						
24	Jicarilla turnout	05	\$215,611	\$40,063	\$41,982						
25	Counselor turnout	06	\$199,548	\$22,994	\$10,208						
26	Torreon turnout		\$0	\$15,707	\$1,181						
<b>Total</b>			<b>\$4,415,000</b>	<b>\$1,012,812</b>	<b>\$350,000</b>	<b>\$35,000</b>	<b>\$1,690,000</b>	<b>\$690,000</b>	<b>\$213,000</b>	<b>\$259,300</b>	<b>\$2,852,300</b>

Annual pipeline OM&R estimated at 0.5% of capital cost  
 Pumping plant maintenance estimated at \$3,170,000 for San Juan Branch, & \$1,245,000 for Cutter Branch, per Bob Brown, BOR, 9/27/07  
 Annual electric transmission line OM&R estimated at \$350,000





**Table D3 - 2040**  
**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Projection of Peak Flows by Reach, Annually 2014-2030 and then by 5-Year Period, 2035 - 2076**

<i>San Juan Branch</i>		Design Capacity by Reach cfs	Design Peak Deliveries by Reach cfs	Total Deliveries (peak flows)																								
				2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2035	2040	2045	2050	2055	2060-76		
Number	End			cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs			
1	Water Treatment Plant (WTP)	59.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
2	NAPI turnout	59.18	0.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.72	0.74	0.76	0.86	0.97	0.97	0.97	0.97	
3	Shiprock Junction	58.21	6.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.89	5.01	5.13	5.26	5.95	6.72	6.72	6.72	6.72	6.72	
4	Sanostee turnout	51.49	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45	1.49	1.53	1.57	1.77	2.00	2.00	2.00	2.00	2.00	
5	Burnham Junction	49.49	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.21	0.21	0.24	0.27	0.27	0.27	0.27	0.27	
6	Newcomb turnout	49.22	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11	1.13	1.16	1.19	1.34	1.52	1.52	1.52	1.52	1.52	
7	Sheepsprings turnout	47.70	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.52	0.53	0.55	0.62	0.70	0.70	0.70	0.70	0.70	
8	Naschitti turnout	47.00	1.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	1.15	1.18	1.21	1.36	1.54	1.54	1.54	1.54	1.54	
9	Tohatchi turnout	45.46	1.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45	1.48	1.52	1.56	1.76	1.99	1.99	1.99	1.99	1.99	
10	Coyote Canyon Junction	43.47	5.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.68	3.77	3.86	3.96	4.48	5.06	5.06	5.06	5.06	5.06	
11	Twin Lakes turnout	38.41	1.88	0.00	0.00	1.04	1.07	1.10	1.12	1.15	1.18	1.21	1.24	1.27	1.30	1.33	1.37	1.40	1.44	1.47	1.66	1.88	1.88	1.88	1.88	1.88	1.88	
12	Ya-ta-hey Junction	36.53	14.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.69	10.96	11.23	11.51	13.01	14.70	14.70	14.70	14.70	14.70	
13	Gallup Junction	21.83	13.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.47	13.47	13.47	13.47	13.47	13.47	13.47	13.47	13.47	13.47	
14	Navajo Chapters	8.36	8.36	0.00	0.00	2.55	2.52	2.49	2.47	2.44	2.41	2.38	2.35	2.32	2.29	2.26	6.08	6.23	6.39	6.54	7.40	8.36	8.36	8.36	8.36	8.36	8.36	
			59.18	0.00	0.00	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	46.71	47.54	48.38	49.25	53.91	59.18	59.18	59.18	59.18	59.18	59.18	
10.1	Coyote Canyon turnout	5.06	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91	0.93	0.95	0.98	1.11	1.25	1.25	1.25	1.25	1.25	
10.2	Standing Rock turnout	3.81	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.10	0.10	0.10	0.12	0.13	0.13	0.13	0.13	0.13	
10.3	Dalton Pass turnout	3.68	3.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.68	2.74	2.81	2.88	3.26	3.68	3.68	3.68	3.68	3.68	
			5.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.68	3.77	3.86	3.96	4.48	5.06	5.06	5.06	5.06	5.06	
12.1	Rock Springs turnout	14.70	3.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.32	2.38	2.44	2.50	2.82	3.19	3.19	3.19	3.19	3.19	
12.2	Window Rock turnout	11.51	11.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.37	8.58	8.79	9.01	10.18	11.51	11.51	11.51	11.51	11.51	
			14.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.69	10.96	11.23	11.51	13.01	14.70	14.70	14.70	14.70	14.70	
<i>Cutter Branch</i>						2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2035	2040	2045	2050	2055	2060-76
21	WTP	8.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
22	Huerfano turnout	8.34	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.31	0.32	0.33	0.34	0.35	0.35	0.36	0.37	0.38	0.39	0.44	0.50	0.50	0.50	0.50	0.50	0.50	
23	Nageezi turnout	7.84	1.05	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.66	0.68	0.69	0.71	0.73	0.75	0.76	0.78	0.80	0.82	0.93	1.05	1.05	1.05	1.05	1.05	1.05	
24	Jicarilla turnout	6.79	2.15	0.00	0.00	0.00	0.00	0.00	0.00	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	
25	Counselor turnout	4.64	2.63	0.00	0.00	0.00	0.00	0.00	0.00	1.61	1.65	1.69	1.73	1.78	1.82	1.87	1.91	1.96	2.01	2.06	2.33	2.63	2.63	2.63	2.63	2.63	2.63	
26	Torreon turnout	2.01	2.01	0.00	0.00	0.00	0.00	0.00	0.00	1.23	1.26	1.29	1.33	1.36	1.39	1.43	1.46	1.50	1.54	1.57	1.78	2.01	2.01	2.01	2.01	2.01	2.01	
			8.34	0.00	0.00	0.00	0.00	0.00	0.00	5.94	6.04	6.13	6.23	6.33	6.44	6.54	6.65	6.76	6.88	7.00	7.63	8.34	8.34	8.34	8.34	8.34	8.34	

Note: Peak flows = average flows times 1.3 peaking factor

**Table D4, page 1**  
**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Projection of Peak Flows in Each Reach Allocated to Each Party, Annually 2014-2030**  
**and then by 5-Year Period, 2035 - 2076**

		Navajo																						
Reach	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2035	2040	2045	2050	2055	2060-76	
	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	cfs	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.24	34.07	34.91	35.78	40.44	45.71	45.71	45.71	45.71	
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.24	34.07	34.91	35.78	40.44	45.71	45.71	45.71	45.71	
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.54	33.34	34.17	35.02	39.58	44.74	44.74	44.74	44.74	
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.65	28.34	29.04	29.76	33.64	38.02	38.02	38.02	38.02	
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.20	26.85	27.51	28.19	31.87	36.02	36.02	36.02	36.02	
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.00	26.64	27.31	27.98	31.63	35.75	35.75	35.75	35.75	
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.89	25.51	26.14	26.79	30.28	34.23	34.23	34.23	34.23	
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.39	24.99	25.61	26.24	29.66	33.53	33.53	33.53	33.53	
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.27	23.84	24.43	25.04	28.30	31.99	31.99	31.99	31.99	
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.82	22.36	22.91	23.48	26.54	30.00	30.00	30.00	30.00	
11	0.00	0.00	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	18.14	18.59	19.05	19.52	22.06	24.94	24.94	24.94	24.94		
12	0.00	0.00	2.55	2.52	2.49	2.47	2.44	2.41	2.38	2.35	2.32	2.29	2.26	16.77	17.19	17.61	18.05	20.40	23.06	23.06	23.06	23.06		
13	0.00	0.00	2.55	2.52	2.49	2.47	2.44	2.41	2.38	2.35	2.32	2.29	2.26	6.08	6.23	6.39	6.54	7.40	8.36	8.36	8.36	8.36		
14	0.00	0.00	2.55	2.52	2.49	2.47	2.44	2.41	2.38	2.35	2.32	2.29	2.26	6.08	6.23	6.39	6.54	7.40	8.36	8.36	8.36	8.36		
10.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.68	3.77	3.86	3.96	4.48	5.06	5.06	5.06	5.06		
10.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.77	2.84	2.91	2.98	3.37	3.81	3.81	3.81	3.81		
10.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.68	2.74	2.81	2.88	3.26	3.68	3.68	3.68	3.68		
12.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.69	10.96	11.23	11.51	13.01	14.70	14.70	14.70	14.70		
12.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.37	8.58	8.79	9.01	10.18	11.51	11.51	11.51	11.51		
		Navajo																						
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2035	2040	2045	2050	2055	2060-76	
21	0.00	0.00	0.00	0.00	0.00	0.00	3.79	3.89	3.98	4.08	4.18	4.29	4.39	4.50	4.61	4.73	4.85	5.48	6.19	6.19	6.19	6.19	6.19	
22	0.00	0.00	0.00	0.00	0.00	0.00	3.79	3.89	3.98	4.08	4.18	4.29	4.39	4.50	4.61	4.73	4.85	5.48	6.19	6.19	6.19	6.19	6.19	
23	0.00	0.00	0.00	0.00	0.00	0.00	3.49	3.57	3.66	3.75	3.84	3.94	4.04	4.14	4.24	4.35	4.45	5.03	5.69	5.69	5.69	5.69	5.69	
24	0.00	0.00	0.00	0.00	0.00	0.00	2.84	2.91	2.99	3.06	3.14	3.21	3.29	3.37	3.46	3.54	3.63	4.11	4.64	4.64	4.64	4.64	4.64	
25	0.00	0.00	0.00	0.00	0.00	0.00	2.84	2.91	2.99	3.06	3.14	3.21	3.29	3.37	3.46	3.54	3.63	4.11	4.64	4.64	4.64	4.64	4.64	
26	0.00	0.00	0.00	0.00	0.00	0.00	1.23	1.26	1.29	1.33	1.36	1.39	1.43	1.46	1.50	1.54	1.57	1.78	2.01	2.01	2.01	2.01	2.01	



Table D5, page 1  
 Navajo - Gallup Water Supply Project  
 San Juan River PNM Alternative - 2040  
 Projection of Flows by Reach  
 Projection of Peak Flows in Each Reach Allocated to Each Party, Annually 2014-2030  
 and then by 5-Year Period, 2035 - 2076

Reach	Navajo																							
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2035	2040	2045	2050	2055	2060-76	
1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	71.16%	71.66%	72.16%	72.65%	75.01%	77.24%	77.24%	77.24%	77.24%	77.24%
2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	71.16%	71.66%	72.16%	72.65%	75.01%	77.24%	77.24%	77.24%	77.24%	77.24%
3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	70.72%	71.23%	71.73%	72.22%	74.61%	76.86%	76.86%	76.86%	76.86%	76.86%
4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	67.24%	67.78%	68.31%	68.84%	71.41%	73.84%	73.84%	73.84%	73.84%	73.84%
5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	66.04%	66.59%	67.13%	67.67%	70.29%	72.78%	72.78%	72.78%	72.78%	72.78%
6	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	65.87%	66.42%	66.97%	67.50%	70.13%	72.63%	72.63%	72.63%	72.63%	72.63%
7	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	64.89%	65.45%	66.00%	66.54%	69.21%	71.76%	71.76%	71.76%	71.76%	71.76%
8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	64.42%	64.98%	65.53%	66.08%	68.77%	71.34%	71.34%	71.34%	71.34%	71.34%
9	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	63.33%	63.90%	64.46%	65.02%	67.75%	70.37%	70.37%	70.37%	70.37%	70.37%
10	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	61.83%	62.40%	62.98%	63.55%	66.33%	69.01%	69.01%	69.01%	69.01%	69.01%
11	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	57.38%	57.98%	58.58%	59.17%	62.09%	64.93%	64.93%	64.93%	64.93%	64.93%
12	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	55.46%	56.06%	56.66%	57.26%	60.23%	63.13%	63.13%	63.13%	63.13%	63.13%
13	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	31.10%	31.63%	32.16%	32.70%	35.45%	38.30%	38.30%	38.30%	38.30%	38.30%
14	0.00%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
10.1	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
10.2	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
10.3	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
12.1	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
12.2	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Navajo																								
2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2035	2040	2045	2050	2055	2060-76		
21	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	63.82%	64.38%	64.94%	65.50%	66.05%	66.60%	67.14%	67.68%	68.21%	68.74%	69.26%	71.81%	74.22%	74.22%	74.22%	74.22%	74.22%	
22	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	63.82%	64.38%	64.94%	65.50%	66.05%	66.60%	67.14%	67.68%	68.21%	68.74%	69.26%	71.81%	74.22%	74.22%	74.22%	74.22%	74.22%	
23	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	61.85%	62.43%	63.00%	63.57%	64.14%	64.70%	65.26%	65.81%	66.36%	66.90%	67.44%	70.07%	72.58%	72.58%	72.58%	72.58%	72.58%	
24	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	56.94%	57.54%	58.13%	58.73%	59.32%	59.91%	60.50%	61.08%	61.66%	62.24%	62.81%	65.63%	68.34%	68.34%	68.34%	68.34%	68.34%	
25	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
26	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	



Table D6, page 1  
 Navajo - Gallup Water Supply Project  
 San Juan River PNM Alternative - 2040  
 Allocation of Annual Variable O,M&R Costs by User  
 CRSP Power Rates  
 Jan-07 \$

San Juan Branch		Dedicated Variable OM&R Costs at Design Capacity (all Navajo)	Joint Variable O,M&R at Design Capacity					Projected Peak Flows as a Percentage of Design Flow by Year																								
			Pump Plant Energy	WTP Energy	WTP Chemicals	WTP Misc.	Sub Total	Navajo Dam OM&R	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2035	2040	2045	2050	2055	2060-70	
1	Water Treatment Plant (WTP)		\$34,799	\$187,000	\$943,000	\$113,000	\$1,277,799	\$32,955	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	78.93%	80.33%	81.75%	83.22%	91.10%	100.00%	100.00%	100.00%	100.00%	100.00%
2	NAPI turnout		\$341,805				\$341,805		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	78.93%	80.33%	81.75%	83.22%	91.10%	100.00%	100.00%	100.00%	100.00%	100.00%
3	Shiprock Junction		\$0				\$0		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	79.14%	80.42%	81.84%	83.30%	91.14%	100.00%	100.00%	100.00%	100.00%	100.00%
4	Sarasotee turnout	\$4,234					\$4,234		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	79.86%	81.19%	82.56%	83.96%	91.49%	100.00%	100.00%	100.00%	100.00%	100.00%
5	Burnham Junction		\$0				\$0		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	80.15%	81.46%	82.81%	84.19%	91.61%	100.00%	100.00%	100.00%	100.00%	100.00%
6	Newcomb turnout	\$3,218					\$3,218		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	80.19%	81.50%	82.84%	84.22%	91.63%	100.00%	100.00%	100.00%	100.00%	100.00%
7	Sheepsprings turnout	\$1,482					\$1,482		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	80.43%	81.72%	83.05%	84.41%	91.73%	100.00%	100.00%	100.00%	100.00%	100.00%
8	Naschitti turnout	\$3,281					\$3,281		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	80.54%	81.83%	83.15%	84.50%	91.78%	100.00%	100.00%	100.00%	100.00%	100.00%
9	Tohatchi turnout	\$4,213					\$4,213		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	80.81%	82.08%	83.38%	84.71%	91.89%	100.00%	100.00%	100.00%	100.00%	100.00%
10	Coyote Canyon Junction		\$0				\$0		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	81.18%	82.42%	83.70%	85.01%	92.04%	100.00%	100.00%	100.00%	100.00%	100.00%
11	Twin Lakes turnout	\$3,980					\$3,980		0.00%	0.00%	9.35%	9.35%	9.35%	9.35%	9.35%	9.35%	9.35%	9.35%	9.35%	9.35%	9.35%	9.35%	82.29%	83.46%	84.66%	85.89%	92.51%	100.00%	100.00%	100.00%	100.00%	100.00%
12	Ya-ta-hey Junction		\$199,530				\$199,530		0.00%	0.00%	6.97%	6.90%	6.83%	6.76%	6.68%	6.60%	6.52%	6.44%	6.35%	6.27%	6.18%	6.10%	82.78%	83.92%	85.09%	86.28%	92.72%	100.00%	100.00%	100.00%	100.00%	100.00%
13	Gallup Junction		\$0				\$0		0.00%	0.00%	11.67%	11.55%	11.43%	11.30%	11.18%	11.05%	10.91%	10.77%	10.63%	10.49%	10.34%	89.56%	90.25%	90.95%	91.68%	95.59%	100.00%	100.00%	100.00%	100.00%	100.00%	
14	Navajo Chapters	\$17,696					\$17,696		0.00%	0.00%	30.47%	30.16%	29.84%	29.52%	29.18%	28.84%	28.49%	28.13%	27.77%	27.39%	27.00%	0.00%	72.73%	74.53%	76.38%	78.27%	88.47%	100.00%	100.00%	100.00%	100.00%	100.00%
10.1	Coyote Canyon turnout	\$2,625					\$11,108		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	72.73%	74.53%	76.38%	78.27%	88.47%	100.00%	100.00%	100.00%	100.00%	100.00%
10.2	Standing Rock turnout	\$296					\$13,840		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	72.73%	74.53%	76.38%	78.27%	88.47%	100.00%	100.00%	100.00%	100.00%	100.00%
10.3	Dalton Pass turnout	\$7,790					\$18,369		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	72.73%	74.53%	76.38%	78.27%	88.47%	100.00%	100.00%	100.00%	100.00%	100.00%
12.1	Rock Springs turnout	\$6,753					\$53,821		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	72.73%	74.53%	76.38%	78.27%	88.47%	100.00%	100.00%	100.00%	100.00%	100.00%
12.2	Window Rock turnout	\$24,365					\$38,353		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	72.73%	74.53%	76.38%	78.27%	88.47%	100.00%	100.00%	100.00%	100.00%	100.00%
	subtotal	\$79,933					\$3,083,929	\$32,955																								
<b>Cutter Branch</b>																																
21	WTP			\$22,000	\$133,000	\$15,500	\$170,500	\$4,644	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	71.25%	72.38%	73.53%	74.72%	75.93%	77.18%	78.45%	79.76%	81.10%	82.47%	83.87%	91.44%	100.00%	100.00%	100.00%	100.00%	100.00%	
22	Huerfano turnout	\$1,058					\$128,815		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	71.25%	72.38%	73.53%	74.72%	75.93%	77.18%	78.45%	79.76%	81.10%	82.47%	83.87%	91.44%	100.00%	100.00%	100.00%	100.00%	100.00%	
23	Nageezi turnout	\$2,223					\$28,378		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	71.89%	72.99%	74.12%	75.28%	76.47%	77.68%	78.93%	80.21%	81.51%	82.86%	84.23%	91.63%	100.00%	100.00%	100.00%	100.00%	100.00%	
24	Jicarilla turnout						\$39,927		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	73.53%	74.57%	75.63%	76.72%	77.84%	78.99%	80.16%	81.36%	82.59%	83.86%	85.15%	92.12%	100.00%	100.00%	100.00%	100.00%	100.00%	
25	Counselor turnout	\$5,546					\$24,253		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	61.27%	62.79%	64.34%	65.94%	67.57%	69.25%	70.97%	72.73%	74.53%	76.38%	78.27%	88.47%	100.00%	100.00%	100.00%	100.00%	100.00%	
26	Torecon turnout	\$4,255					\$0		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	61.27%	62.79%	64.34%	65.94%	67.57%	69.25%	70.97%	72.73%	74.53%	76.38%	78.27%	88.47%	100.00%	100.00%	100.00%	100.00%	100.00%	
		\$93,015					\$2,062,302	\$209,000	\$1,076,000	\$128,500	\$3,475,802	\$37,599																				

CRSP rates used in this table are \$0.01043 per KWH plus \$53.16 per year per KW.  
 Navajo Dam OM&R estimated at \$1.00 per acre-foot; Gallup's share assumed included in payments to Jicarilla Apache Nation; therefore Jicarilla assumed to pay both Jicarilla and Gallup OM&R directly to dam operator.

Table D6, page 2  
 Navajo - Gallup Water Supply Project  
 San Juan River PNM Alternative - 2040  
 Allocation of Annual Variable O,M&R Costs by User  
 CRSP Power Rates  
 Jan-07 \$

Navajo Share of Variable O,M&R Costs by Year																								
Reach	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2035	2040	2045	2050	2055	2060-76	
1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$736,290	\$754,550	\$773,263	\$792,440	\$895,699	\$1,012,412	\$1,012,412	\$1,012,412	\$1,012,412	\$1,012,412
2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$192,002	\$196,764	\$201,644	\$206,644	\$233,571	\$264,007	\$264,007	\$264,007	\$264,007	\$264,007
3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$242,571	\$248,559	\$254,696	\$260,985	\$294,848	\$333,124	\$333,124	\$333,124	\$333,124	\$333,124
5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,581	\$2,623	\$2,666	\$2,710	\$2,949	\$3,218	\$3,218	\$3,218	\$3,218	\$3,218
7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$87,396	\$89,553	\$91,763	\$94,029	\$106,227	\$120,014	\$120,014	\$120,014	\$120,014	\$120,014
8	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$71,470	\$73,219	\$75,012	\$76,849	\$86,740	\$97,920	\$97,920	\$97,920	\$97,920	\$97,920
9	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$114,672	\$117,485	\$120,367	\$123,322	\$139,228	\$157,208	\$157,208	\$157,208	\$157,208	\$157,208
10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
11	\$0	\$0	\$16,141	\$16,141	\$16,141	\$16,141	\$16,141	\$16,141	\$16,141	\$16,141	\$16,141	\$16,141	\$16,141	\$16,141	\$82,911	\$84,933	\$87,004	\$89,128	\$100,559	\$113,481	\$113,481	\$113,481	\$113,481	\$113,481
12	\$0	\$0	\$13,914	\$13,772	\$13,627	\$13,479	\$13,326	\$13,170	\$13,010	\$12,847	\$12,679	\$12,507	\$12,330	\$91,603	\$93,875	\$96,203	\$98,589	\$111,435	\$125,956	\$125,956	\$125,956	\$125,956	\$125,956	\$125,956
13	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
14	\$0	\$0	\$5,392	\$5,337	\$5,281	\$5,225	\$5,164	\$5,104	\$5,042	\$4,978	\$4,913	\$4,847	\$4,778	\$12,870	\$13,189	\$13,516	\$13,851	\$15,656	\$17,696	\$17,696	\$17,696	\$17,696	\$17,696	\$17,696
10.1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,988	\$10,235	\$10,489	\$10,749	\$12,150	\$13,733	\$13,733	\$13,733	\$13,733	\$13,733
10.2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,281	\$10,536	\$10,797	\$11,065	\$12,506	\$14,136	\$14,136	\$14,136	\$14,136	\$14,136
10.3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19,024	\$19,496	\$19,980	\$20,475	\$23,143	\$26,159	\$26,159	\$26,159	\$26,159	\$26,159
12.1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$44,053	\$45,146	\$46,265	\$47,413	\$53,591	\$60,574	\$60,574	\$60,574	\$60,574	\$60,574
12.2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$45,612	\$46,744	\$47,903	\$49,091	\$55,488	\$62,718	\$62,718	\$62,718	\$62,718	\$62,718
21	\$0	\$0	\$0	\$0	\$0	\$0	\$79,641	\$81,616	\$83,640	\$85,715	\$87,840	\$90,019	\$92,251	\$94,539	\$96,884	\$99,286	\$101,749	\$115,007	\$129,993	\$129,993	\$129,993	\$129,993	\$129,993	\$129,993
22	\$0	\$0	\$0	\$0	\$0	\$0	\$59,328	\$60,793	\$62,294	\$63,832	\$65,408	\$67,024	\$68,679	\$70,375	\$72,114	\$73,896	\$75,722	\$85,553	\$96,665	\$96,665	\$96,665	\$96,665	\$96,665	\$96,665
23	\$0	\$0	\$0	\$0	\$0	\$0	\$14,216	\$14,554	\$14,899	\$15,254	\$15,617	\$15,989	\$16,371	\$16,762	\$17,162	\$17,573	\$17,993	\$20,258	\$22,819	\$22,819	\$22,819	\$22,819	\$22,819	\$22,819
24	\$0	\$0	\$0	\$0	\$0	\$0	\$16,716	\$17,131	\$17,555	\$17,991	\$18,437	\$18,894	\$19,363	\$19,843	\$20,335	\$20,839	\$21,356	\$24,139	\$27,284	\$27,284	\$27,284	\$27,284	\$27,284	\$27,284
25	\$0	\$0	\$0	\$0	\$0	\$0	\$18,257	\$18,709	\$19,173	\$19,649	\$20,136	\$20,635	\$21,147	\$21,672	\$22,209	\$22,760	\$23,324	\$26,364	\$29,799	\$29,799	\$29,799	\$29,799	\$29,799	\$29,799
26	\$0	\$0	\$0	\$0	\$0	\$0	\$2,607	\$2,672	\$2,738	\$2,806	\$2,875	\$2,947	\$3,020	\$3,095	\$3,171	\$3,250	\$3,330	\$3,764	\$4,255	\$4,255	\$4,255	\$4,255	\$4,255	\$4,255
Total	\$0	\$0	\$35,447	\$35,251	\$35,049	\$34,843	\$225,397	\$229,890	\$234,494	\$239,212	\$244,047	\$249,002	\$254,080	\$1,989,609	\$2,038,781	\$2,089,172	\$2,140,813	\$2,418,875	\$2,733,171	\$2,733,171	\$2,733,171	\$2,733,171	\$2,733,171	\$2,733,171

Table D6, page 3  
 Navajo - Gallup Water Supply Project  
 San Juan River PNM Alternative - 2040  
 Allocation of Annual Variable O,M&R Costs by User  
 CRSP Power Rates  
 Jan-07 \$

Gallup Share of Variable O,M&R Costs by Year																							
Reach	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2035	2040	2045	2050	2055	2060-76
1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$298,342	\$298,342	\$298,342	\$298,342	\$298,342	\$298,342	\$298,342	\$298,342	\$298,342
2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$77,798	\$77,798	\$77,798	\$77,798	\$77,798	\$77,798	\$77,798	\$77,798	\$77,798
3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$116,522	\$116,522	\$116,522	\$116,522	\$116,522	\$116,522	\$116,522	\$116,522	\$116,522
5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$46,644	\$46,644	\$46,644	\$46,644	\$46,644	\$46,644	\$46,644	\$46,644	\$46,644
8	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$38,019	\$38,019	\$38,019	\$38,019	\$38,019	\$38,019	\$38,019	\$38,019	\$38,019
9	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$64,421	\$64,421	\$64,421	\$64,421	\$64,421	\$64,421	\$64,421	\$64,421	\$64,421
10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
11	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$59,141	\$59,141	\$59,141	\$59,141	\$59,141	\$59,141	\$59,141	\$59,141	\$59,141
12	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$73,574	\$73,574	\$73,574	\$73,574	\$73,574	\$73,574	\$73,574	\$73,574	\$73,574
13	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
14	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10.1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10.2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10.3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
12.1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
12.2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
21	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
22	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
23	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
24	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
25	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$774,462	\$774,462	\$774,462	\$774,462	\$774,462	\$774,462	\$774,462	\$774,462	\$774,462

Table D6, page 4  
 Navajo - Gallup Water Supply Project  
 San Juan River PNM Alternative - 2040  
 Allocation of Annual Variable O,M&R Costs by User  
 CRSP Power Rates  
 Jan-07 \$

Reach	Jicarilla Share of Variable O,M&R Costs by Year																							
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2035	2040	2045	2050	2055	2060-76	
1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
11	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
12	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
13	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
14	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10.1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10.2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10.3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
12.1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
12.2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
21	\$0	\$0	\$0	\$0	\$0	\$0	\$45,151	\$45,151	\$45,151	\$45,151	\$45,151	\$45,151	\$45,151	\$45,151	\$45,151	\$45,151	\$45,151	\$45,151	\$45,151	\$45,151	\$45,151	\$45,151	\$45,151	\$45,151
22	\$0	\$0	\$0	\$0	\$0	\$0	\$33,208	\$33,208	\$33,208	\$33,208	\$33,208	\$33,208	\$33,208	\$33,208	\$33,208	\$33,208	\$33,208	\$33,208	\$33,208	\$33,208	\$33,208	\$33,208	\$33,208	\$33,208
23	\$0	\$0	\$0	\$0	\$0	\$0	\$7,782	\$7,782	\$7,782	\$7,782	\$7,782	\$7,782	\$7,782	\$7,782	\$7,782	\$7,782	\$7,782	\$7,782	\$7,782	\$7,782	\$7,782	\$7,782	\$7,782	\$7,782
24	\$0	\$0	\$0	\$0	\$0	\$0	\$12,643	\$12,643	\$12,643	\$12,643	\$12,643	\$12,643	\$12,643	\$12,643	\$12,643	\$12,643	\$12,643	\$12,643	\$12,643	\$12,643	\$12,643	\$12,643	\$12,643	\$12,643
25	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784	\$98,784

Table D7, page 1  
 Navajo - Gallup Water Supply Project  
 San Juan River PNM Alternative - 2040  
 Allocation of Annual Variable O,M&R Costs by User  
 NTUA Power Rates  
 Jan-07 \$

San Juan Branch		Dedicated Variable OM&R Costs at Design Capacity (all Navajo)	Joint Variable O,M&R at Design Capacity					Projected Flow as a Percentage of Design Flow by Year																									
			Pump Plant Energy	WTP Energy	WTP Chemicals	WTP Misc.	Sub Total	Navajo Dam OM&R	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2035	2040	2045	2050	2055	2060-70		
1	Water Treatment Plant (WTP)		\$93,794	\$511,354	\$943,000	\$145,438	\$1,693,583	\$32,955	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	78.93%	80.33%	81.75%	83.22%	91.10%	100.00%	100.00%	100.00%	100.00%	100.00%
2	NAPI turnout		\$921,270				\$921,270		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	78.93%	80.33%	81.75%	83.22%	91.10%	100.00%	100.00%	100.00%	100.00%	100.00%
3	Shiprock Junction		\$0				\$0		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	79.86%	81.19%	82.56%	83.96%	91.49%	100.00%	100.00%	100.00%	100.00%	100.00%
4	Sarasotee turnout	\$11,411					\$1,200,523		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	80.15%	81.46%	82.81%	84.19%	91.61%	100.00%	100.00%	100.00%	100.00%	100.00%
5	Burnham Junction						\$0		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	80.19%	81.50%	82.84%	84.22%	91.63%	100.00%	100.00%	100.00%	100.00%	100.00%
6	Newcomb turnout	\$8,673					\$0		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	80.43%	81.72%	83.05%	84.41%	91.73%	100.00%	100.00%	100.00%	100.00%	100.00%
7	Sheepsprings turnout	\$3,994					\$445,199		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	80.54%	81.83%	83.15%	84.50%	91.78%	100.00%	100.00%	100.00%	100.00%	100.00%
8	Naschitti turnout	\$8,844					\$357,554		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	80.81%	82.08%	83.38%	84.71%	91.89%	100.00%	100.00%	100.00%	100.00%	100.00%
9	Tohatchi turnout	\$11,354					\$586,004		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	81.18%	82.42%	83.70%	85.01%	92.04%	100.00%	100.00%	100.00%	100.00%	100.00%
10	Coyote Canyon Junction						\$0		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	81.18%	82.42%	83.70%	85.01%	92.04%	100.00%	100.00%	100.00%	100.00%	100.00%
11	Twin Lakes turnout	\$10,727					\$454,541		0.00%	0.00%	9.35%	9.35%	9.35%	9.35%	9.35%	9.35%	9.35%	9.35%	9.35%	9.35%	9.35%	9.35%	9.35%	82.29%	83.46%	84.66%	85.89%	92.51%	100.00%	100.00%	100.00%	100.00%	100.00%
12	Ya-ta-hey Junction						\$537,794		0.00%	0.00%	6.97%	6.90%	6.83%	6.76%	6.68%	6.60%	6.52%	6.44%	6.35%	6.27%	6.18%	6.10%	6.02%	82.78%	83.92%	85.09%	86.28%	92.72%	100.00%	100.00%	100.00%	100.00%	100.00%
13	Gallup Junction						\$0		0.00%	0.00%	11.67%	11.55%	11.43%	11.30%	11.18%	11.05%	10.91%	10.77%	10.63%	10.49%	10.34%	10.20%	89.26%	90.25%	90.95%	91.68%	95.59%	100.00%	100.00%	100.00%	100.00%	100.00%	
14	Navajo Chapters	\$47,698					\$0		0.00%	0.00%	30.47%	30.16%	29.84%	29.52%	29.18%	28.84%	28.49%	28.13%	27.77%	27.39%	27.00%	26.61%	72.73%	74.53%	76.38%	78.27%	88.47%	100.00%	100.00%	100.00%	100.00%	100.00%	
10.1	Coyote Canyon turnout	\$7,075					\$29,940		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	72.73%	74.53%	76.38%	78.27%	88.47%	100.00%	100.00%	100.00%	100.00%	100.00%
10.2	Standing Rock turnout	\$799					\$37,304		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	72.73%	74.53%	76.38%	78.27%	88.47%	100.00%	100.00%	100.00%	100.00%	100.00%
10.3	Dalton Pass turnout	\$20,997					\$49,511		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	72.73%	74.53%	76.38%	78.27%	88.47%	100.00%	100.00%	100.00%	100.00%	100.00%
12.1	Rock Springs turnout	\$18,201					\$145,064		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	72.73%	74.53%	76.38%	78.27%	88.47%	100.00%	100.00%	100.00%	100.00%	100.00%
12.2	Window Rock turnout	\$65,672					\$103,373		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	72.73%	74.53%	76.38%	78.27%	88.47%	100.00%	100.00%	100.00%	100.00%	100.00%
<b>Cutter Branch</b>									0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	71.25%	72.38%	73.53%	74.72%	75.93%	77.18%	78.45%	79.76%	81.10%	82.47%	83.87%	91.44%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
21	WTP			\$63,030	\$133,000	\$19,603	\$215,633	\$4,644	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	71.25%	72.38%	73.53%	74.72%	75.93%	77.18%	78.45%	79.76%	81.10%	82.47%	83.87%	91.44%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
22	Huerfano turnout	\$2,853					\$347,195		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	71.25%	72.38%	73.53%	74.72%	75.93%	77.18%	78.45%	79.76%	81.10%	82.47%	83.87%	91.44%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
23	Nageezi turnout	\$5,991					\$76,487		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	71.89%	72.99%	74.12%	75.28%	76.47%	77.68%	78.93%	80.21%	81.51%	82.86%	84.23%	91.63%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
24	Jicarilla turnout						\$107,615		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	73.53%	74.57%	75.63%	76.72%	77.84%	78.99%	80.16%	81.36%	82.59%	83.86%	85.15%	92.12%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
25	Counselor turnout	\$14,949					\$65,368		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	61.27%	62.79%	64.34%	65.94%	67.57%	69.25%	70.97%	72.73%	74.53%	76.38%	78.27%	88.47%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
26	Torecon turnout	\$11,468					\$0		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	61.27%	62.79%	64.34%	65.94%	67.57%	69.25%	70.97%	72.73%	74.53%	76.38%	78.27%	88.47%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
		\$250,706					\$5,558,536	\$574,384	\$1,076,000	\$165,038	\$7,373,958	\$37,599																					

NTUA rates used in this table are \$0.200 per KWH plus \$198.00 per year per KW.  
 Navajo Dam OM&R estimated at \$1.00 per acre-foot; Gallup's share assumed included in payments to Jicarilla Apache Nation; therefore Jicarilla assumed to pay both Jicarilla and Gallup OM&R directly to dam operator.

Table D7, page 2  
 Navajo - Gallup Water Supply Project  
 San Juan River PNM Alternative - 2040  
 Allocation of Annual Variable O,M&R Costs by User  
 NTUA Power Rates  
 Jan-07 \$

Navajo Share of Variable O,M&R Costs by Year																							
Reach	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2035	2040	2045	2050	2055	2060-76
1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$969,849	\$993,901	\$1,018,550	\$1,043,810	\$1,179,823	\$1,333,560	\$1,333,560	\$1,333,560	\$1,333,560
2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$517,505	\$530,339	\$543,492	\$556,970	\$629,546	\$711,579	\$711,579	\$711,579	\$711,579
3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$653,803	\$669,944	\$686,484	\$703,435	\$794,707	\$897,872	\$897,872	\$897,872	\$897,872
5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,955	\$7,069	\$7,185	\$7,304	\$7,947	\$8,673	\$8,673	\$8,673	\$8,673
7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$235,558	\$241,372	\$247,330	\$253,435	\$286,312	\$323,473	\$323,473	\$323,473	\$323,473
8	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$192,634	\$197,348	\$202,180	\$207,131	\$233,791	\$263,925	\$263,925	\$263,925	\$263,925
9	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$309,075	\$316,657	\$324,426	\$332,389	\$375,262	\$423,722	\$423,722	\$423,722	\$423,722
10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
11	\$0	\$0	\$43,506	\$43,506	\$43,506	\$43,506	\$43,506	\$43,506	\$43,506	\$43,506	\$43,506	\$43,506	\$43,506	\$223,470	\$228,919	\$234,503	\$240,225	\$271,038	\$305,865	\$305,865	\$305,865	\$305,865	\$305,865
12	\$0	\$37,501	\$37,501	\$37,501	\$37,501	\$37,501	\$37,501	\$37,501	\$37,501	\$37,501	\$37,501	\$37,501	\$37,501	\$246,898	\$253,021	\$259,296	\$265,726	\$300,552	\$339,489	\$339,489	\$339,489	\$339,489	\$339,489
13	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
14	\$0	\$0	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534	\$14,534
10.1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$26,920	\$27,587	\$28,271	\$28,973	\$32,748	\$37,015	\$37,015	\$37,015	\$37,015	\$37,015
10.2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$27,711	\$28,398	\$29,102	\$29,824	\$33,710	\$38,103	\$38,103	\$38,103	\$38,103	\$38,103
10.3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,278	\$52,550	\$53,853	\$55,188	\$62,380	\$70,508	\$70,508	\$70,508	\$70,508	\$70,508
12.1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$118,737	\$121,681	\$124,699	\$127,791	\$144,443	\$163,265	\$163,265	\$163,265	\$163,265	\$163,265
12.2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$122,940	\$125,989	\$129,114	\$132,316	\$149,557	\$169,045	\$169,045	\$169,045	\$169,045	\$169,045
21	\$0	\$0	\$0	\$0	\$0	\$0	\$100,164	\$102,648	\$105,194	\$107,803	\$110,476	\$113,216	\$116,024	\$118,901	\$121,850	\$124,872	\$127,968	\$144,643	\$163,491	\$163,491	\$163,491	\$163,491	\$163,491
22	\$0	\$0	\$0	\$0	\$0	\$0	\$159,909	\$163,856	\$167,902	\$172,047	\$176,296	\$180,650	\$185,112	\$189,684	\$194,370	\$199,172	\$204,093	\$230,592	\$260,543	\$260,543	\$260,543	\$260,543	\$260,543
23	\$0	\$0	\$0	\$0	\$0	\$0	\$38,316	\$39,226	\$40,158	\$41,113	\$42,092	\$43,095	\$44,123	\$45,177	\$46,256	\$47,363	\$48,497	\$54,602	\$61,503	\$61,503	\$61,503	\$61,503	\$61,503
24	\$0	\$0	\$0	\$0	\$0	\$0	\$45,055	\$46,172	\$47,317	\$48,490	\$49,693	\$50,925	\$52,188	\$53,483	\$54,809	\$56,168	\$57,561	\$65,062	\$73,540	\$73,540	\$73,540	\$73,540	\$73,540
25	\$0	\$0	\$0	\$0	\$0	\$0	\$49,207	\$50,427	\$51,678	\$52,959	\$54,273	\$55,619	\$56,998	\$58,412	\$59,860	\$61,345	\$62,866	\$71,058	\$80,317	\$80,317	\$80,317	\$80,317	\$80,317
26	\$0	\$0	\$0	\$0	\$0	\$0	\$7,026	\$7,200	\$7,379	\$7,562	\$7,749	\$7,941	\$8,138	\$8,340	\$8,547	\$8,759	\$8,976	\$10,146	\$11,468	\$11,468	\$11,468	\$11,468	\$11,468
Total	\$0	\$0	\$95,540	\$95,011	\$94,469	\$93,914	\$493,021	\$502,290	\$511,789	\$521,524	\$531,501	\$541,725	\$552,202	\$4,212,017	\$4,316,016	\$4,422,594	\$4,531,814	\$5,119,918	\$5,784,654	\$5,784,654	\$5,784,654	\$5,784,654	\$5,784,654

Table D7, page 3  
 Navajo - Gallup Water Supply Project  
 San Juan River PNM Alternative - 2040  
 Allocation of Annual Variable O,M&R Costs by User  
 NTUA Power Rates  
 Jan-07 \$

Gallup Share of Variable O,M&R Costs by Year																							
Reach	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2035	2040	2045	2050	2055	2060-76
1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$392,979	\$392,979	\$392,979	\$392,979	\$392,979	\$392,979	\$392,979	\$392,979	\$392,979
2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$209,691	\$209,691	\$209,691	\$209,691	\$209,691	\$209,691	\$209,691	\$209,691	\$209,691
3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$314,062	\$314,062	\$314,062	\$314,062	\$314,062	\$314,062	\$314,062	\$314,062	\$314,062
5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$125,720	\$125,720	\$125,720	\$125,720	\$125,720	\$125,720	\$125,720	\$125,720	\$125,720
8	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$102,473	\$102,473	\$102,473	\$102,473	\$102,473	\$102,473	\$102,473	\$102,473	\$102,473
9	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$173,636	\$173,636	\$173,636	\$173,636	\$173,636	\$173,636	\$173,636	\$173,636	\$173,636
10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
11	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$159,403	\$159,403	\$159,403	\$159,403	\$159,403	\$159,403	\$159,403	\$159,403	\$159,403
12	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$198,305	\$198,305	\$198,305	\$198,305	\$198,305	\$198,305	\$198,305	\$198,305	\$198,305
13	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
14	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10.1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10.2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10.3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
12.1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
12.2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
21	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
22	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
23	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
24	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
25	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
26	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,676,268	\$1,676,268	\$1,676,268	\$1,676,268	\$1,676,268	\$1,676,268	\$1,676,268	\$1,676,268	\$1,676,268

Table D7, page 4  
 Navajo - Gallup Water Supply Project  
 San Juan River PNM Alternative - 2040  
 Allocation of Annual Variable O,M&R Costs by User  
 NTUA Power Rates  
 Jan-07 \$

Reach	Jicarilla Share of Variable O,M&R Costs by Year																									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2035	2040	2045	2050	2055	2060-76			
1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
7	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
8	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
9	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
11	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
12	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
13	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
14	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
10.1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
10.2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
10.3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
12.1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
12.2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0		
21	\$0	\$0	\$0	\$0	\$0	\$0	\$56,786	\$56,786	\$56,786	\$56,786	\$56,786	\$56,786	\$56,786	\$56,786	\$56,786	\$56,786	\$56,786	\$56,786	\$56,786	\$56,786	\$56,786	\$56,786	\$56,786			
22	\$0	\$0	\$0	\$0	\$0	\$0	\$89,505	\$89,505	\$89,505	\$89,505	\$89,505	\$89,505	\$89,505	\$89,505	\$89,505	\$89,505	\$89,505	\$89,505	\$89,505	\$89,505	\$89,505	\$89,505	\$89,505			
23	\$0	\$0	\$0	\$0	\$0	\$0	\$20,975	\$20,975	\$20,975	\$20,975	\$20,975	\$20,975	\$20,975	\$20,975	\$20,975	\$20,975	\$20,975	\$20,975	\$20,975	\$20,975	\$20,975	\$20,975	\$20,975			
24	\$0	\$0	\$0	\$0	\$0	\$0	\$34,075	\$34,075	\$34,075	\$34,075	\$34,075	\$34,075	\$34,075	\$34,075	\$34,075	\$34,075	\$34,075	\$34,075	\$34,075	\$34,075	\$34,075	\$34,075	\$34,075			
25	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0			
26	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0			
Total	\$0	\$0	\$0	\$0	\$0	\$0	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342	\$201,342			

**Table D8 - 2040**  
**Navajo - Gallup Water Supply Project**  
**San Juan River PNM Alternative - 2040**  
**Cost of Water to Navajo Nation**  
 Discount rate = 2.875%

Year	peak cfs			Annual afy	Discounted		CRSP charge \$4.12/af	Discounted to 2027	
	Main Lateral	Cutter Lateral	Total		Peak cfs	Annual afy			
2014	1	-	-	-	-	-	\$0	\$0	
2015	2	-	-	-	-	-	\$0	\$0	
2016	3	3.59	-	3.59	2,000	4.91	2,732	\$8,231	\$11,242
2017	4	3.59	-	3.59	2,000	4.77	2,655	\$8,231	\$10,928
2018	5	3.59	-	3.59	2,000	4.64	2,581	\$8,231	\$10,623
2019	6	3.59	-	3.59	2,000	4.51	2,509	\$8,231	\$10,326
2020	7	3.59	3.70	7.29	4,061	8.89	4,952	\$16,711	\$20,379
2021	8	3.59	3.79	7.38	4,112	8.75	4,874	\$16,922	\$20,059
2022	9	3.59	3.89	7.48	4,164	8.62	4,798	\$17,137	\$19,747
2023	10	3.59	3.98	7.57	4,218	8.48	4,724	\$17,358	\$19,442
2024	11	3.59	4.08	7.67	4,273	8.35	4,652	\$17,585	\$19,145
2025	12	3.59	4.18	7.77	4,329	8.23	4,582	\$17,816	\$18,856
2026	13	3.59	4.29	7.88	4,387	8.10	4,513	\$18,054	\$18,573
2027	14	32.44	4.39	36.83	20,510	36.83	20,510	\$84,407	\$84,407
2028	15	33.24	4.50	37.74	21,018	36.69	20,431	\$86,500	\$84,083
2029	16	34.07	4.61	38.68	21,540	36.55	20,352	\$88,645	\$83,760
2030	17	34.91	4.73	39.64	22,074	36.41	20,274	\$90,844	\$83,438
2031	18	35.78	4.85	40.62	22,621	36.27	20,196	\$93,097	\$83,118
2032	19	36.67	4.97	41.63	23,182	36.13	20,119	\$95,405	\$82,799
2033	20	37.57	5.09	42.66	23,757	35.99	20,042	\$97,771	\$82,481
2034	21	38.51	5.21	43.72	24,346	35.85	19,965	\$100,196	\$82,164
2035	22	39.46	5.34	44.81	24,950	35.72	19,888	\$102,681	\$81,849
2036	23	40.44	5.48	45.92	25,569	35.58	19,812	\$105,227	\$81,534
2037	24	41.44	5.61	47.06	26,203	35.44	19,736	\$107,837	\$81,221
2038	25	42.47	5.75	48.22	26,853	35.31	19,660	\$110,511	\$80,909
2039	26	43.52	5.89	49.42	27,519	35.17	19,584	\$113,252	\$80,599
2040	27	45.71	6.19	51.90	28,900	35.90	19,993	\$118,939	\$82,280
2041	28	45.71	6.19	51.90	28,900	34.90	19,434	\$118,939	\$79,981
2042	29	45.71	6.19	51.90	28,900	33.92	18,891	\$118,939	\$77,746
2043	30	45.71	6.19	51.90	28,900	32.98	18,363	\$118,939	\$75,573
2044	31	45.71	6.19	51.90	28,900	32.06	17,850	\$118,939	\$73,461
2045	32	45.71	6.19	51.90	28,900	31.16	17,351	\$118,939	\$71,408
2046	33	45.71	6.19	51.90	28,900	30.29	16,866	\$118,939	\$69,412
2047	34	45.71	6.19	51.90	28,900	29.44	16,395	\$118,939	\$67,473
2048	35	45.71	6.19	51.90	28,900	28.62	15,937	\$118,939	\$65,587
2049	36	45.71	6.19	51.90	28,900	27.82	15,491	\$118,939	\$63,754
2050	37	45.71	6.19	51.90	28,900	27.04	15,058	\$118,939	\$61,972
2051	38	45.71	6.19	51.90	28,900	26.29	14,638	\$118,939	\$60,240
2052	39	45.71	6.19	51.90	28,900	25.55	14,228	\$118,939	\$58,557
2053	40	45.71	6.19	51.90	28,900	24.84	13,831	\$118,939	\$56,920
2054	41	45.71	6.19	51.90	28,900	24.14	13,444	\$118,939	\$55,330
2055	42	45.71	6.19	51.90	28,900	23.47	13,069	\$118,939	\$53,783
2056	43	45.71	6.19	51.90	28,900	22.81	12,703	\$118,939	\$52,280
2057	44	45.71	6.19	51.90	28,900	22.18	12,348	\$118,939	\$50,819
2058	45	45.71	6.19	51.90	28,900	21.56	12,003	\$118,939	\$49,399
2059	46	45.71	6.19	51.90	28,900	20.95	11,668	\$118,939	\$48,019
2060	47	45.71	6.19	51.90	28,900	20.37	11,342	\$118,939	\$46,677
2061	48	45.71	6.19	51.90	28,900	19.80	11,025	\$118,939	\$45,372
2062	49	45.71	6.19	51.90	28,900	19.25	10,717	\$118,939	\$44,104
2063	50	45.71	6.19	51.90	28,900	18.71	10,417	\$118,939	\$42,872
2064	51	45.71	6.19	51.90	28,900	18.18	10,126	\$118,939	\$41,674
2065	52	45.71	6.19	51.90	28,900	17.68	9,843	\$118,939	\$40,509
2066	53	45.71	6.19	51.90	28,900	17.18	9,568	\$118,939	\$39,377
2067	54	45.71	6.19	51.90	28,900	16.70	9,301	\$118,939	\$38,276
2068	55	45.71	6.19	51.90	28,900	16.24	9,041	\$118,939	\$37,207
2069	56	45.71	6.19	51.90	28,900	15.78	8,788	\$118,939	\$36,167
2070	57	45.71	6.19	51.90	28,900	15.34	8,542	\$118,939	\$35,156
2071	58	45.71	6.19	51.90	28,900	14.91	8,304	\$118,939	\$34,174
2072	59	45.71	6.19	51.90	28,900	14.50	8,072	\$118,939	\$33,219
2073	60	45.71	6.19	51.90	28,900	14.09	7,846	\$118,939	\$32,290
2074	61	45.71	6.19	51.90	28,900	13.70	7,627	\$118,939	\$31,388
2075	62	45.71	6.19	51.90	28,900	13.31	7,414	\$118,939	\$30,511
2076	63	45.71	6.19	51.90	28,900	12.94	7,206	\$118,939	\$29,658
2077	64	45.71	6.19	51.90	28,900	12.58	7,005	\$118,939	\$28,829
2078	65	45.71	6.19	51.90	28,900	12.23	6,809	\$118,939	\$28,024
2079	66	45.71	6.19	51.90	28,900	11.89	6,619	\$118,939	\$27,240
2080	67	45.71	6.19	51.90	28,900	11.55	6,434	\$118,939	\$26,479
2081	68	45.71	6.19	51.90	28,900	11.23	6,254	\$118,939	\$25,739
Total					1,440.25	802,003	\$6,426,324	\$3,300,617	
Annual Equivalent					54.65	30,434		30,434	
Total PV per acre foot								\$108.45	

Note: Navajo annual equivalent is calculated for the purpose of determining the leveled cost per acre foot to amortize the present value capital costs over the 61 year period of water deliveries. CRSP charge for water has a present value of \$108.45 per acre foot. This charge was amortized over 50 years at the CRSP interest rate of 2.875% to determine an annual charge of \$4.12 per acre foot. This charge is then applied to all water delivered to the Navajos.