

Chapter 8
Triennial Cost Allocation Proceeding
Workpapers

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Southern California Gas Company
July 2018

Table 1

	Total Transmission Costs (\$000)		
	(A) SoCalGas	(B) SDG&E	C = (A) + (B) Total
Capital-related Costs	126,159	24,661	150,820
O&M, A&G Expenses	118,140	14,993	133,133
	<u>244,299</u>	<u>39,654</u>	<u>283,954</u>

Table 2

	SoCalGas' Backbone Transmission Costs (\$000)		
	(A) SoCalGas Transmission	(B) Backbone Transmission	C = (A) x (B) SoCalGas Backbone
Capital-related Costs	126,159	71.1%	89,672
O&M, A&G Expenses	118,140	71.0%	83,900
	<u>244,299</u>		<u>173,572</u>

Table 3

	Embedded Backbone Transmission Costs for 2020							
	(A) SoCalGas (\$000)	(B) SDG&E (\$000)	C = (A) + (B) Combined Backbone Costs (\$000)	(D) PSEP Balancing Accounts (\$000)	(E) = C + (D) Total Backbone Costs (\$000)	(F) Throughput Assumption MDth/d	(G) = (F) x 365 Annual Throughput Assumption MDth	(H) = (E)/(G) BTS Rate \$/Dth
Backbone Transmission Costs	173,572	39,654	213,226	49,191	262,417	2,690	981,800	0.2673

PSEP Balancing Accounts			
PSRMA-BBT SCG	\$2,976		
PSRMA-BBT SDG&E	\$0		
SECCBA-BBT SCG	\$12,290		
SECCBA-BBT SDG&E	\$234		
SEEBBA-BBT SCG	\$15,527		
SEEBBA-BBT SDG&E	\$0		
TIMPBA-BBT SCG w/o FFU \$000	\$15,002		
TIMPBA-BBT SDGE w/o FFU \$000	\$3,162	\$49,191	<==Excludes BTBA
BTBA w/o FFU \$000	(\$9,143)		
Total	\$40,048		

Table 22
SoCalGas Embedded Storage Cost

	(\$MM)
	2020-2022
Capital-related Cost	71.2
O&M, A&G Expenses	<u>57.5</u>
Total Existing Storage	128.7
ACTR	<u>32.9</u>
Total Embedded Storage Cost	<u>161.6</u>

Table 23

Storage Service Allocation	Injection 44.6%	Inventory 29.2%	Withdrawal 26.2%	Total Storage 100.0%
<u>2020-22 Embedded Storage Cost Allocation</u>				
	Allocated Capacity	Total Capacity	Units	Costs(\$MM)
Core Reservation				
Inventory	82.5	119.5	Bcf	\$ 32.6
Injection(summer)	445	790	MMcfd	\$ 33.0
Injection(winter)	155	500	MMcfd	
Withdrawal(winter)	2,000	2,400	MMcfd	\$ 22.6
Withdrawal(summer)	400	1,240	MMcfd	
Total Core				\$ 88.2
Load Balancing				
Inventory	16	119.5	Bcf	\$ 6.3
Injection(summer)	345	790	MMcfd	\$ 39.0
Injection(winter)	345	500	MMcfd	
Withdrawal(winter)	400	2,400	MMcfd	\$ 19.7
Withdrawal(summer)	840	1,240	MMcfd	
Total Load Balancing				\$ 65.1
Reliability				
Inventory	21	119.5	Bcf	\$ 8.3
Injection(summer)	-	790	MMcfd	\$ -
Injection(winter)	-	500	MMcfd	
Withdrawal(winter)	-	2,400	MMcfd	\$ -
Withdrawal(summer)	-	1,240	MMcfd	
				\$ 8.3
Total Storage Cost				\$161.6

2020-22 Storage Capacity Allocations (MMcfd)

	Inventory Bcf	Withdrawal Winter	Withdrawal Summer	Injection Summer	Injection Winter
Total	119.5	2,400	1,240	790	500
Balancing	16	400	840	345	345
Core	82.5	2,000	400	445	155
Reliability	21	0	0	0	0

SoCalGas Emdeded Backbone/Local Transmission Costs

Row	(A) 2016 SoCalGas Backbone Transmission Costs (\$000)	(B) 2016 SoCalGas Local Transmission Costs (\$000)	(C) 2016 SoCalGas Total Transmission Costs (\$000)	(D) 2016 SoCalGas' Backbone Transmission/Total Transmission Costs (%)
1 a) Depreciation *	36,308	14,938	51,246	70.8%
2 b) Return *	37,104	14,983	52,087	71.2%
3 c) Taxes *	16,260	6,566	22,826	71.2%
4 Subtotal:Capital-Related Costs	89,672	36,488	126,159	71.1%
5 O&M **	70,592	28,809	99,401	71.0%
6 A&G **	13,308	5,431	18,739	71.0%
7 Total	173,572	70,727	244,299	71.0%

* Based on SoCalGas' transmission capital-related costs.

** Based on SoCalGas' transmission pipeline mileage.

2016 SoCalGas Backbone/Local Transmission Assets

2016 SoCalGas Transmission (\$000)				% of Net						
Row	Total Transmission (\$)		Book Cost	Accum Depr	Net Book Value	Book Value	Depreciation	Footage	Footage %	Miles
1	365	Land, Land rights, Rights-of-Way	24,338	(14,738)	9,600		(1,218)			
2	366	Structures & Improvements	47,806	(21,115)	26,691		1,139	11,095,246	71.0%	BBT 2,101
3	367	Mains : Backbone Transmission	1,020,628	(428,797)	591,831		25,082	4,527,989	29.0%	LT 858
4	367	Mains : Local Transmission	498,585	(209,471)	289,114		11,989	15,623,235	100.0%	Total Transmission 2,959
5	368	Compressor Station Equipment	229,722	(104,763)	124,959		4,040			
6	369	Measuring & Regulating Station Equipment	91,510	(25,635)	65,875		2,719			
7	370	Communication Equipment	7,088	(657)	6,431		147			
8	371	Other Equipment	5,585	(3,220)	2,365		219			
9		Total Transmission	1,925,261	(808,395)	1,116,866	100.0%	44,118			
Backbone Transmission (\$)										
10	365	Land, Land rights, Rights-of-Way	17,285	(10,466)	6,818		(865)			
11	366	Structures & Improvements	33,950	(14,995)	18,955		809.0			
12	367	Mains : Backbone Transmission	1,020,628	(428,797)	591,831		25,082			
13	368	Compressor Station Equipment	229,722	(104,763)	124,959		4,040			
14	369	Measuring & Regulating Station Equipment	64,988	(18,205)	46,783		1,931			
15	370	Communication Equipment	5,033	(466)	4,567		105			
16	371	Other Equipment	3,966	(2,287)	1,680		155			
17		Total Backbone	1,375,573	(579,980)	795,593	71.2%	31,258		70.8%	BBT % of Depreciation
Local Transmission (\$)										
18	365	Land, Land rights, Rights-of-Way	7,054	(4,271)	2,782		(353)			
19	366	Structures & Improvements	13,855	(6,120)	7,736		330			
20	367	Mains : Local Transmission	498,585	(209,471)	289,114		11,989			
21	369	Measuring & Regulating Station Equipment	26,522	(7,430)	19,092		788			
22	370	Communication Equipment	2,054	(190)	1,864		43			
23	371	Other Equipment	1,619	(933)	685		63			
24		Total Local	549,688	(228,415)	321,274	28.8%	12,861			

Backbone Transmission Pipeline NBV, Depreciation, Footage Details

Tag Number	Sum of Net Book Value	Sum of Dep. Expense	Sum of Footage (Ft)	BB	LT
53	\$ (7,236)	\$ 815	6,617	100%	0%
85	\$ 41,749,576	\$ 1,735,263	773,189	100%	0%
103	\$ 380,993	\$ 15,191	50,203	100%	0%
119	\$ 10,203,487	\$ 410,091	89,825	100%	0%
127	\$ 271,759	\$ 8,554	-	100%	0%
169	\$ (2,483)	\$ 418	1,392	100%	0%
174	\$ (118)	\$ 35	-	100%	0%
203	\$ 420,879	\$ 15,972	47,889	100%	0%
225	\$ 7,227,714	\$ 683,995	434,432	100%	0%
235	\$ 71,029,971	\$ 2,571,905	1,243,997	100%	0%
245	\$ (1,940)	\$ 1,639	7,275	100%	0%
247	\$ 4,319,976	\$ 181,808	128,719	100%	0%
293	\$ 2,568,728	\$ 84,468	62,722	100%	0%
294	\$ (6,547)	\$ 1,524	3,493	100%	0%
300	\$ 6,413	\$ 240	-	100%	0%
303	\$ (972)	\$ 1,394	6,947	100%	0%
309	\$ (3,851)	\$ 1,614	3,853	100%	0%
324	\$ 8,946,448	\$ 473,918	188,376	75%	25%
335	\$ 15,318,065	\$ 1,046,986	344,098	100%	0%
404	\$ 18,207,859	\$ 602,854	240,298	80%	20%
406	\$ 6,333,462	\$ 300,363	229,459	86%	14%
963	\$ 22,344	\$ 944	1,291	100%	0%
1004	\$ 10,550,174	\$ 395,479	186,851	100%	0%
1005	\$ 3,893,250	\$ 276,642	204,725	100%	0%
1027	\$ 8,010,598	\$ 265,435	182,013	100%	0%
1028	\$ 5,594,822	\$ 255,999	182,356	100%	0%
1030	\$ 4,092,578	\$ 211,827	166,899	100%	0%
1031	\$ 37,680	\$ 5,037	5,654	100%	0%
1180	\$ 3,987,180	\$ 151,273	20,130	100%	0%
1181	\$ 2,416,220	\$ 102,264	27,756	100%	0%
1185	\$ 3,442,935	\$ 232,680	81,655	100%	0%
1186	\$ 10,103	\$ 1,114	576	100%	0%
1187	\$ 1,523	\$ 668	595	100%	0%
1192	\$ 2,787,121	\$ 285,716	63,000	100%	0%
1201	\$ (2,092)	\$ 1,120	2,006	100%	0%
1215	\$ 30	\$ 119	172	100%	0%
1216	\$ 30	\$ 119	175	100%	0%
1220	\$ 3,834	\$ 148	205	100%	0%
1221	\$ 336,694	\$ 10,402	339	100%	0%
1229	\$ 645,186	\$ 20,260	156	100%	0%
2000	\$ 34,974,755	\$ 1,576,861	1,069,173	90%	10%
2001	\$ 40,086,408	\$ 1,770,952	954,629	97%	3%
2005	\$ (9,805)	\$ 1,085	1,501	100%	0%

Backbone Transmission Pipeline NBV, Depreciation, Footage Details

Tag Number	Sum of Net Book Value	Sum of Dep. Expense	Sum of Footage (Ft)	BB	LT
2051	\$ 2,571,985	\$ 278,559	238,875	100%	0%
3000	\$ 50,311,135	\$ 1,808,812	731,721	82%	18%
3003	\$ 6,757,966	\$ 300,032	95,349	62%	38%
3006	\$ (1,232)	\$ 173	20	100%	0%
3008	\$ (24,747)	\$ 11,255	10,926	100%	0%
3009	\$ (1,726)	\$ 449	564	100%	0%
4000	\$ 38,926,077	\$ 1,568,847	620,485	100%	0%
4002	\$ 5,690,049	\$ 451,304	256,567	100%	0%
5000	\$ 20,686,771	\$ 1,543,905	643,630	100%	0%
5002	\$ 112,249	\$ 2,285	3,972	100%	0%
5010	\$ (1,043,037)	\$ (25,478)	868	100%	0%
5012	\$ (3,395)	\$ 2,550	981	100%	0%
5015	\$ 748	\$ 555	1,533	100%	0%
5034	\$ 3,804	\$ 747	500	100%	0%
5036	\$ 27,355	\$ 4,320	92	100%	0%
5041	\$ 890,966	\$ 27,595	1,795	100%	0%
5043	\$ 191,879	\$ 14,832	6,435	100%	0%
6900	\$ 29,033,131	\$ 1,246,719	189,050	100%	0%
6901	\$ 15,540	\$ 1,325	1,539	100%	0%
6904	\$ 736,665	\$ 18,215	3,648	100%	0%
6905	\$ 24,904,315	\$ 968,794	167,543	100%	0%
6906	\$ 7,593,196	\$ 238,825	95,723	100%	0%
6907	\$ 1,189	\$ 45	590	100%	0%
6916	\$ 66,805,921	\$ 1,833,922	205,681	100%	0%
7039	\$ 5,913,425	\$ 299,244	95,765	100%	0%
7053	\$ 751,041	\$ 61,920	43,552	100%	0%
7200	\$ 420,162	\$ 76,128	47,750	100%	0%
8100	\$ 499,881	\$ 34,171	529	100%	0%
8105	\$ 903,091	\$ 31,237	110,932	100%	0%
8106	\$ 849,907	\$ 28,903	124,080	100%	0%
8107	\$ 37,514	\$ 1,296	4,593	100%	0%
8108	\$ 82,379	\$ 2,862	13,042	100%	0%
8109	\$ 10,589,619	\$ 319,059	303,688	100%	0%
8110	\$ 1,217,399	\$ 25,987	58,345	100%	0%
3011	\$ 3,770	\$ 260	174	100%	0%
3012	\$ 1,545	\$ 106	68	100%	0%
3600	\$ -	\$ -	-	100%	0%
Total BBT	583,300,289	24,884,951	11,095,246		
Total BBT (%)	67%	68%	71%		
Local T	284,946,704	11,894,867	4,527,989		
Local T(%)	33%	32%	29%		
Total SCG Transmission	868,246,994	36,779,819	15,623,235		

Local Transmission Pipeline NBV, Depreciation, Footage Details

Tag Number	Sum of Net Book Value	Sum of Dep. Expense	Sum of Footage (Ft)	BB	LT
12	\$ 24,519	\$ 3,234	748	0%	100%
104	\$ 67,341	\$ 4,324	16,571	0%	100%
115	\$ 7,462,395	\$ 482,161	95,865	0%	100%
133	\$ 254,980	\$ 2,260	16,998	0%	100%
145	\$ 16,246	\$ 2,796	4,089	0%	100%
160	\$ 1,516,778	\$ 46,306	1	0%	100%
173	\$ (30,975)	\$ 3,664	27,541	0%	100%
202	\$ 15,167	\$ 2,592	4,425	0%	100%
214	\$ (11,444)	\$ 2,913	19,949	0%	100%
222	\$ (3,797)	\$ 543	9,956	0%	100%
317	\$ 1,371,291	\$ 44,034	11,594	0%	100%
321	\$ (520)	\$ 279	1,515	0%	100%
324	\$ 2,982,149	\$ 157,973	62,792	75%	25%
325	\$ 7,743,052	\$ 272,466	10,964	0%	100%
404	\$ 4,551,965	\$ 150,714	60,075	80%	20%
406	\$ 1,031,029	\$ 48,896	37,354	86%	14%
407	\$ 9,263,223	\$ 318,110	66,159	0%	100%
408	\$ (172,169)	\$ 4,525	645	0%	100%
512	\$ 414,848	\$ 20,502	15,605	0%	100%
765	\$ 26,145,077	\$ 1,381,919	186,314	0%	100%
767	\$ 1,207,554	\$ 59,638	28,836	0%	100%
775	\$ 580,248	\$ 16,234	149	0%	100%
800	\$ 5,379,619	\$ 200,301	137,223	0%	100%
1003	\$ 2,159,158	\$ 171,054	209,156	0%	100%
1010	\$ 5,287,749	\$ 201,177	168,109	0%	100%
1011	\$ 779,355	\$ 39,937	26,346	0%	100%
1013	\$ 2,512,127	\$ 96,552	24,808	0%	100%
1014	\$ 5,932,524	\$ 295,710	123,975	0%	100%
1015	\$ 18,006,495	\$ 534,584	50,643	0%	100%
1016	\$ 5,901,362	\$ 276,843	72,548	0%	100%
1017	\$ 13,101,509	\$ 423,546	73,173	0%	100%
1018	\$ 6,578,479	\$ 295,874	130,266	0%	100%
1019	\$ 1,692,751	\$ 146,217	77,123	0%	100%
1020	\$ 2,862,366	\$ 107,387	31,849	0%	100%
1021	\$ (11,040)	\$ 3,312	4,986	0%	100%
1022	\$ 1,104,527	\$ 31,632	279	0%	100%
1023	\$ 35,399	\$ 3,690	4,657	0%	100%
1024	\$ 911,609	\$ 38,139	8,683	0%	100%
1025	\$ 13,476	\$ 2,127	1,554	0%	100%
1026	\$ 5,246,907	\$ 235,455	269,733	0%	100%
1029	\$ (4,538)	\$ 817	6,878	0%	100%
1129	\$ 2,124,669	\$ 65,720	10,938	0%	100%
1132	\$ (1,838)	\$ 350	2,454	0%	100%
1167	\$ 6,890,793	\$ 205,240	13,300	0%	100%
1170	\$ 4,660,088	\$ 90,504	31,331	0%	100%
1171	\$ (22,762)	\$ 4,205	6,269	0%	100%
1172	\$ 4,256,966	\$ 188,955	20,675	0%	100%
1173	\$ 6,358,167	\$ 181,784	15,349	0%	100%
1174	\$ (2,183)	\$ 3,257	5,561	0%	100%
1175	\$ 1,282,800	\$ 47,002	10,494	0%	100%
1176	\$ 1,451,747	\$ 59,605	20,077	0%	100%
1200	\$ 2,193,645	\$ 90,737	13,045	0%	100%
1202	\$ 4,698,044	\$ 302,706	40,116	0%	100%
1203	\$ 40,410	\$ 2,324	5,457	0%	100%
1205	\$ 2,890,637	\$ 252,914	41,100	0%	100%
1207	\$ 82,109	\$ 7,584	601	0%	100%
1209	\$ 212,347	\$ 18,112	9,720	0%	100%
1211	\$ 10,718	\$ 871	225	0%	100%
1218	\$ 233,107	\$ 17,175	5,543	0%	100%

Local Transmission Pipeline NBV, Depreciation, Footage Details

Tag Number	Sum of Net Book Value	Sum of Dep. Expense	Sum of Footage (Ft)	BB	LT
1219	\$ 260,264	\$ 19,176	8,359	0%	100%
1230	\$ 2,603,197	\$ 93,996	7,477	0%	100%
1233	\$ 32,534	\$ 1,268	882	0%	100%
1234	\$ 8,134	\$ 317	212	0%	100%
1236	\$ 89,999	\$ 3,992	474	0%	100%
1241	\$ 84,477	\$ 3,035	470	0%	100%
1242	\$ -	\$ -	4,669	0%	100%
1243	\$ (7,420)	\$ (233)	17,794	0%	100%
1244	\$ 203,019	\$ 6,164	9,757	0%	100%
1249	\$ 1	\$ 0	168	0%	100%
2000	\$ 3,831,854	\$ 173,755	118,797	90%	10%
2001	\$ 1,158,640	\$ 51,900	29,535	97%	3%
2002	\$ 3,793,909	\$ 156,240	34,567	0%	100%
2003	\$ 5,494,201	\$ 289,500	141,419	0%	100%
2006	\$ 1,397,221	\$ 62,231	29,393	0%	100%
2007	\$ 13,047	\$ 1,903	169	0%	100%
3000	\$ 11,045,866	\$ 397,135	160,622	82%	18%
3001	\$ 2,578,650	\$ 104,722	27,544	0%	100%
3002	\$ 12,551	\$ 3,503	2,031	0%	100%
3003	\$ 4,808,014	\$ 202,432	58,439	62%	38%
3004	\$ (1,343)	\$ 302	204	0%	100%
3005	\$ 644,538	\$ 18,871	323	0%	100%
3007	\$ 3,932,143	\$ 150,763	23,254	0%	100%
6000	\$ 2,975,176	\$ 86,107	40,874	0%	100%
6001	\$ 1,256,717	\$ 74,662	355,216	0%	100%
6902	\$ 5,756,359	\$ 330,534	166,298	0%	100%
6903	\$ 3,768,540	\$ 139,276	75,909	0%	100%
6911	\$ 895,972	\$ 23,645	5,410	0%	100%
6912	\$ (13,972)	\$ (438)	5,566	0%	100%
6913	\$ (10,141)	\$ (318)	9,048	0%	100%
6914	\$ 36,788,323	\$ 1,117,192	115,876	0%	100%
6915	\$ 49,320	\$ 1,547	1,850	0%	100%
7000	\$ 7,561,441	\$ 382,498	412,381	0%	100%
7025	\$ 67,593	\$ 5,934	21,996	0%	100%
7038	\$ 904,081	\$ 25,203	2,695	0%	100%
7042	\$ 143,255	\$ 14,016	22,937	0%	100%
7043	\$ 83,182	\$ 9,153	3,431	0%	100%
7044	\$ 336,976	\$ 27,004	29,010	0%	100%
7049	\$ 178,617	\$ 16,498	16,955	0%	100%
7051	\$ 123,499	\$ 11,586	16,260	0%	100%
7052	\$ 219,525	\$ 21,659	24,341	0%	100%
7054	\$ 329,897	\$ 29,472	15,722	0%	100%
7055	\$ 456,644	\$ 38,949	40,858	0%	100%
7056	\$ 241,243	\$ 20,577	33,633	0%	100%
7058	\$ 328,606	\$ 28,028	30,364	0%	100%
7059	\$ 135,839	\$ 10,747	19,819	0%	100%
7067	\$ 104,532	\$ 7,199	7,983	0%	100%
8032	\$ 164,307	\$ 14,014	11,938	0%	100%
8038	\$ 261,546	\$ 13,775	5,702	0%	100%
8045	\$ 77,916	\$ 5,569	2,376	0%	100%
8019	\$ 7,009	\$ 220	-	0%	100%
8115	\$ (16,214)	\$ 843	131	0%	100%
8116	\$ 544,547	\$ 15,160	1,800	0%	100%
8118	\$ 1	\$ -	2,650	0%	100%
8119	\$ (35,383)	\$ 14,102	12	0%	100%
1246	\$ 1	\$ -	-	0%	100%
Local T	284,946,704	11,894,867	4,527,989		

Southern California Gas Company
Storage and Transmission Embedded Cost Study (\$000)

	2016 SCG FERC Form 2		Storage	Transmission	Storage	Transmission	Functionalized A&G
Storage							
814 UndStr Op-Supervision & Engineering	13,664	13,664			100%		
815 UndStr Op-Maps & Records	41	41			100%		
816 UndStr Op-Wells Expenses	6,526	6,526			100%		
817 UndStr Op-Lines Expense	274	274			100%		
818 UndStr Op-Compressor Station Expense	3,393	3,393			100%		
819 UndStr Op-Compress Station Fuel & Power (GRC Excluded)	0	0			100%		
820 UndStr Op-Meas & Reg Station Expenses	9	9			100%		
821 UndStr Op-Purification Expenses	727	727			100%		
823 UndStr Op-Gas Losses (GRC Excluded)	0	0			100%		
824 UndStr Op-Other Expenses	9,114	9,114			100%		
825 UndStr Op-Storage Well Royalties	651	651			100%		
826 UndStr Op-Rents	186	186			100%		
830 Maintenance Supervision & Engineering	0	0			100%		
831 UndStr Mnt-Structures & Improvements	1,823	1,823			100%		
832 UndStr Mnt-Reservoirs & Wells	928	928			100%		
833 UndStr Mnt-Lines	205	205			100%		
834 UndStr Mnt-Compressor Station Equipment	4,952	4,952			100%		
835 UndStr Mnt-Meas & Reg Station Equipment	965	965			100%		
836 UndStr Mnt-Purification Equipment	735	735			100%		
837 UndStr Mnt-Other Equipment	1,649	1,649			100%		
Total Storage O&M Expenses	45,842	45,842					
Transmission							
850 Tran Op-Supervision & Engineering	26,331		26,331		100%		
851 Tran Op-System Control & Load Dispatching	2,788		2,788		100%		
852 Tran Op-Communication System Expenses	20		20		100%		
853 Tran Op-Compressor Station Labor & Expenses	3,316		3,316		100%		
854 Tran Op-Gas From Comp Sta Fuel (GRC Excluded)	0		0		100%		
855 Tran Op-Other Fuel & Power for Comp Sta (GRC Excluded)	0		0		100%		
856 Tran Op-Mains Expenses	9,315		9,315		100%		
857 Tran Op-Measuring & Regulating Station Expenses	2,424		2,424		100%		
858 Tran Op-Transmission & Compression Of Gas By Other	0		0		100%		
859 Tran Op-Other Expenses (PBR excl Haz Waste)	2,232		2,232		100%		
860 Tran Op-Rents	5,092		5,092		100%		
861 Maintenance Supervision & Engineering	0		0		100%		
862 Tran Mnt-Structures & Improvements	0		0		100%		
863 Tran Mnt-Mains	42,697		42,697		100%		
864 Tran Mnt-Compressor Station Equipment	7,007		7,007		100%		
865 Tran Mnt-Measuring & Regulating Station Equipment	278		278		100%		
866 Maintenance of Communication Equipment	70		70		100%		
867 Tran Mnt-Other Equipment	129		129		100%		
Total Transmission O&M Expenses	101,701		101,701				
A&G FERC Account							
920 AdmGen Op-Salaries Plus Payroll taxes	77,573	3,245	3,241	4.2%	4.2%	50%	
921 AdmGen Op-Office Supplies & Expenses	15,051	630	629	4.2%	4.2%		
922 AdmGen Op-(Less) Administrative Exp Transferred	(6,444)	(270)	(269)	4.2%	4.2%		
923 AdmGen Op-Outside Services Employed - General	114,478	4,789	4,784	4.2%	4.2%		
924 AdmGen Op-Property Insurance	4,767	199	199	4.2%	4.2%		
925 AdmGen Op-Injuries & Damages	37,627	1,574	1,572	4.2%	4.2%		
926 AdmGen Op-Employee Pensions & Benefits	144,270	6,036	6,028	4.2%	4.2%		
927 AdmGen Op-Franchise Requirements	0	0	0	4.2%	4.2%		
928 AdmGen Op-Regulatory Commission Expenses	5,102	213	213	4.2%	4.2%		
930.2 A&G Op-MiscGen Exp(PBR Ex Public Purpose RDD)	12,070	505	504	4.2%	4.2%		
931 AdmGen Op-Rents	24,070	1,007	1,006	4.2%	4.2%		
932 AdmGen Mnt-General Plant	19,890	832	831	4.2%	4.2%		
	448,452	18,761	18,739				
Storage O&M Expenses		\$45,842		100.0%			
Storage A&G Expenses		\$18,761		4.2%		50.0%	
Total Storage O&M, A&G Expenses		\$64,603					
Functionalized Return:							
Storage	\$25,225	\$25,225		100.0%			
General Plant	\$21,449	\$897		4.2%		50.0%	
Total Storage Return		\$26,122					
Functionalized Depreciation:							
Storage	\$28,164	\$28,164		100.0%			
General Plant	\$131,697	\$5,510		4.2%		50.0%	
Total Storage Depreciation		\$33,674					
Functionalized Taxes:							
Storage	\$11,055	\$11,055		100.0%			
General Plant	\$9,400	\$393		4.2%		50.0%	
Total Storage Taxes		\$11,448					
Transmission O&M Expenses			\$101,701		100.0%		
Transmission A&G Expenses			\$18,739		4.2%	50.0%	
Total Transmission O&M, A&G Expenses			\$120,440				
Functionalized Return:							
Transmission	\$51,190		\$51,190		100.0%		
General Plant	\$21,449		\$896		4.2%	50.0%	
Total Transmission Return			\$52,087				
Functionalized Depreciation:							
Transmission	\$45,743		\$45,743		100.0%		
General Plant	\$131,697		\$5,503		4.2%	50.0%	
Total Transmission Depreciation			\$51,246				
Functionalized Taxes:							
Transmission Taxes	\$22,434		\$22,434		100.0%		
General Plant	\$9,400		\$393		4.2%	50.0%	
Total Transmission Taxes			\$22,826				
Miscellaneous Revenues							
493 - Rent from Gas Property	(\$471)	(\$20)	(\$20)	4.2%	4.2%		
495 - Crude Oil Sales	(\$3,467)	(\$3,467)		100.0%	0.0%		
495 - Goleta Storage Emission Credit Lease	(\$1,023)	(\$1,023)		100.0%	0.0%		
495 - Misc Other Gas Revenues (RECLAIM)	(\$306)	(\$306)		100.0%	0.0%		
495 - Shared Assets	(\$54,576)	(\$2,283)	(\$2,281)	4.2%	4.2%	50.0%	
	(\$7,099)	(\$2,300)					
Total Embedded Costs		\$128,748					\$244,299

SOUTHERN CALIFORNIA GAS COMPANY
2016 Utility Gas Plant in Service
By FERC Account for FERC Form 2
(Thousands of Dollars)

Appendix A, Table 1

		As of December 31, 2016				12/31/16	For the Year Ended 2016
ACCOUNT	ACCT NO.	INVESTMENT	ACCUM DEP	NET BOOK VALUE	Book Value Allocator	Weighted Avg Rate Base	DEPRECIATION EXPENSE
Intangible							
	301	76	-	76			-
	302	575	-	575			-
Total Intangible		651	-	651	0.0%	308	-
Gas Production							
	325						-
	330						-
	331						-
	332						-
	334						-
	336						-
Total Gas Prod		-	-	-	0.0%	-	-
Underground Storage							
	117.1	61,422	-	61,422			-
	350	22,501	(4)	22,496			(0.45)
	351	67,419	(20,622)	46,797			(1,918)
	352	387,908	(159,656)	228,253			(11,636)
	353	115,564	(96,028)	19,535			(1,998)
	354	162,905	(63,778)	99,127			(3,605)
	355	7,965	(2,542)	5,422			(314)
	356	151,579	(73,042)	78,537			(4,387)
	357	48,456	(12,628)	35,828			(2,986)
	358	48,860	17,164	66,024			(1,321)
Total Underground Storage		1,074,579	(411,137)	663,442	8.5%	314,248	(28,164)
Transmission							
	365	24,338	(14,738)	9,600			1,218
	366	47,806	(21,115)	26,691			(1,139)
	367	1,519,213	(638,268)	880,946			(37,072)
	368	229,722	(104,763)	124,959			(4,040)
	369	91,510	(25,635)	65,875			(2,719)
	370	7,088	(657)	6,431			(147)
	371	5,585	(3,220)	2,365			(219)
	372	110,649	118,834	229,484			(1,625)
Total Transmission		2,035,910	(689,560)	1,346,350	17.2%	637,716	(45,743)
Distribution							
	374	31,862	(2,007)	29,855			(1,994)
	375	270,254	(81,890)	188,364			(7,082)
	376	3,875,553	(2,212,560)	1,662,994			(92,655)
	378	105,866	(71,017)	34,848			(3,534)
	380	2,487,750	(1,996,849)	490,902			(65,463)
	381,382	840,641	(267,426)	573,215			(31,607)
	383	153,575	(63,943)	89,633			(4,418)
	387	44,701	(23,298)	21,404			(1,014)
	388	592,876	1,589,069	2,181,945			(9,934)
Total Distribution		8,403,079	(3,129,919)	5,273,160	67.2%	2,497,702	(217,701)
General Plant							
	389	1,417	(35)	1,382			(35)
	390	198,429	(186,185)	12,244			(3,619)
	391	1,008,409	(546,899)	461,511			(110,920)
	392	253	(286)	(33)			(38)
	393	99	(68)	31			(2)
	394	62,020	(24,856)	37,164			(2,566)
	395	4,732	(2,542)	2,189			(220)
	396	12	3	15			(3)
	397	67,446	(24,205)	43,241			(12,266)
	398	3,145	(976)	2,169			(392)
	399.1	4,988	(1,416)	3,572			(1,637)
Total General Plant		1,350,950	(787,464)	563,485	7.2%	266,902	(131,697)
Other Storage Plant		-	-	-			-
Total Utility Gas Plant In Service		12,865,170	(5,018,081)	7,847,089	100.0%	3,716,877	(423,306)
Total Investment		12,865,170					
Less: Cushion Gas 117.1		(61,422)					
Adj. Utility Plant - FERC Form 2		12,803,748					
Total Ratebase at 12-31-2016		12,803,748					
		3,716,877					

SOUTHERN CALIFORNIA GAS COMPANY
 Weighted Average Depreciated Rate Base
 TY2016 GRC Base for TCAP Filing
 (Thousands of Dollars)

Account Description	Recorded Year-End 2016	Recorded WARB 2016
Fixed Capital		
Plant In Service	12,118,910	11,769,586
Work-In-Progress (non-interest bearing)	323	507
Total Fixed Capital	12,119,233	11,770,092
Working Capital		
Materials & Supplies	40,572	34,134
Working Cash	(341)	(327)
Total Working Capital	40,231	33,808
Other		
Customer Advances For Construction	(95,469)	(98,178)
Deferred Revenue - ITCC	(38,365)	(37,113)
Total Other	(133,834)	(135,290)
Deductions For Reserves		
Accumulated Depreciation Reserve	6,776,087	6,662,064
Accumulated Deferred Taxes - Plant	1,468,169	1,335,451
Accumulated Deferred Taxes - CIAC	(127,913)	(45,782)
Accumulated Deferred Investment Tax Credits	0	0
Total Deductions For Reserves	8,116,343	7,951,733
Weighted Average Depreciated Rate Base	<u>3,909,287</u>	<u>3,716,877</u>

SoCalGas Capital-Related Functional Factors

Southern California Gas Company
Capital-Related Functional Factors
(\$000)

	Weighted Avg. Rate Base 2016	% Total	Functionalize Total Return	Functionalize Income Taxes	Functionalize Ad Valorem Tax	Functionalize Capital- Related Taxes
Storage Including Cushion Gas	\$314,248	8.5%	\$25,225	\$6,618,198	\$4,436,397	\$11,055
Transmission	\$637,716	17.2%	\$51,190	\$13,430,579	\$9,002,961	\$22,434
Distribution (ex NGV)	\$2,497,702	67.2%	\$200,494	\$52,602,654	\$35,261,297	\$87,864
General Plant & Intangibles	\$267,211	7.2%	\$21,449	\$5,627,569	\$3,772,345	\$9,400
Total NBV	\$3,716,877	100%	\$298,358	\$78,279	\$52,473	\$130,752

12/31/2016

Distribution of Salaries and Wages FERC Form 2 p. 355 (\$000)		Payroll Taxes (\$000)	Labor Factor to allocate A&G/General Plant	
Gas Supply	\$3,723,260		\$3,723,260	0.93%
Storage	\$33,661,496		\$33,661.5	8.37%
Transmission	\$33,622,251		\$33,622.3	8.36%
Distribution	\$214,597,220		\$331,305.7	82.35%
Customer Accounts	\$87,416,389			
Customer Service & Info	\$29,292,077			
A&G	\$54,064,621			
Total	\$456,377,314	\$35,165	\$402,312.7	100.00%
			\$456,377,314	

SoCalGas' Weighted Authorized Rate of Return
D. 12-12-034, page 53, Ordering Paragraph 3.

Capital Component	Capital Ratio	Rate	ROR%	Ratebase	Capital	Return
Long-Term Debt	45.60%	5.77%	2.63%	\$3,716,877	\$1,694,896	\$97,795
Preferred Stock	2.40%	6.00%	0.14%	\$3,716,877	\$89,205	\$5,352
Common Equity	52.00%	10.10%	5.25%	\$3,716,877	\$1,932,776	\$195,210
Total	100%		8.02%		\$3,716,877	\$298,358

Combined Tax Rate

SIT	8.84%
FIT	21.00%
Combined Tax Rate	27.98%

Calculation of Income Taxes to be collected in rates:

Preferrd Stock Return	\$5,352.303
Equity Return	\$195,210.367
Authorized after tax equity return	\$200,562.670
ROR Taxes to be collected in rates	27.98% \$77,933
Tax Intercept with Taxes Paid in 2016	\$346
State & Federal Income Tax	\$78,279

**San Diego Gas & Electric Company
Gas Transmission Embedded Cost Study (\$000)**

	2016 SDGE FERC Form 2	Transmission	Transmission	Functionalized A&G
Transmission				
850 Tran Op-Supervision & Engineering	2,950	2,950	100%	
851 Tran Op-System Control & Load Dispatching	674	674	100%	
852 Tran Op-Communication System Expenses	0	0	100%	
853 Tran Op-Compressor Station Labor & Expenses	2,496	2,496	100%	
854 Tran Op-Gas From Comp Sta Fuel (GRC Excluded)	0	0	100%	
855 Tran Op-Other Fuel & Power for Comp Sta (GRC Exc	0	0	100%	
856 Tran Op-Mains Expenses	974	974	100%	
857 Tran Op-Measuring & Regulating Station Expenses	253	253	100%	
858 Tran Op-Transmission & Compression Of Gas By Ott	0	0	100%	
859 Tran Op-Other Expenses (PBR excl Haz Waste)	98	98	100%	
860 Tran Op-Rents	3	3	100%	
861 Maintenance Supervision & Engineering	123	123	100%	
862 Tran Mnt-Structures & Improvements	0	0	100%	
863 Tran Mnt-Mains	2,208	2,208	100%	
864 Tran Mnt-Compressor Station Equipment	609	609	100%	
865 Tran Mnt-Measuring & Regulating Station Equipment	138	138	100%	
866 Maintenance of Communication Equipment	0	0	100%	
867 Tran Mnt-Other Equipment	0	0	100%	
Total Transmission O&M Expenses	\$10,526	\$10,526		
A&G FERC Account				
920 AdmGen Op-Salaries	14,230	880	6.2%	50%
921 AdmGen Op-Office Supplies & Expenses	2,992	185	6.2%	
922 AdmGen Op-(Less) Administrative Exp Transferred	(2,498)	(155)	6.2%	
923 AdmGen Op-Outside Services Employed - General	28,550	1,766	6.2%	
924 AdmGen Op-Property Insurance	3,611	223	6.2%	
925 AdmGen Op-Injuries & Damages	4,916	304	6.2%	
926 AdmGen Op-Employee Pensions & Benefits	10,589	655	6.2%	
927 AdmGen Op-Franchise Requirements	0	0	6.2%	
928 AdmGen Op-Regulatory Commission Expenses	3,739	231	6.2%	
930.2 A&G Op-MiscGen Exp(PBR Ex Public Purpose RDI	1,657	103	6.2%	
931 AdmGen Op-Rents	3,210	199	6.2%	
932 AdmGen Mnt-General Plant	2,799	173	6.2%	
	73,794	4,565		
Transmission O&M Expenses		\$10,526	100.0%	
Transmission A&G Expenses		\$4,565	6.2%	50.0%
Total Transmission O&M, A&G Expenses		\$15,091		
Functionalized Return:				
Transmission	\$10,166	\$10,166	100.0%	
General Plant	\$3,978	\$246	6.2%	50.0%
Total Transmission Return		\$10,412		
Functionalized Depreciation:				
Transmission	\$8,290	\$8,290	100.0%	
General Plant	\$20,312	\$1,257	6.2%	50.0%
Total Transmission Depreciation		\$9,547		
Functionalized Taxes:				
Transmission Taxes	\$4,591	\$4,591	100.0%	
General Plant	\$1,797	\$111	6.2%	50.0%
Total Transmission Taxes		\$4,702		
Miscellaneous Revenues	(\$1,581)	(\$98)	6.2%	50.0%
Total Embedded Costs		\$39,654		

Table 11						
SAN DIEGO GAS & ELECTRIC COMPANY						
2016 Utility Gas Plant in Service						
By FERC Account for FERC Form 2						
(\$000)						
As of December 31, 2016				12/31/2016	For the Year Ended 2016	
ACCOUNT	INVESTMENT	ACCUM DEP	NET BOOK VALUE	Book Value Allocator	Weighted Average Rate Base	DEPRECIATION EXPENSE
Transmission						
365.1- Land	4,649	-	4,649			
365.2- Rights-of-way	2,218	(1,387)	831			
366- Structures & Improvements	17,454	(10,014)	7,441			
367- Mains	229,038	(75,310)	153,728			
368- Compressor Station Eq	90,196	(68,614)	21,582			
369- Meas & Reg Station Eq	22,004	(16,694)	5,310			
371- Other Equipment	-	-	-			
372- Asset Retirement Costs for Transmission Plant	10,955	(220)	10,736			
Total Transmission	376,515	(172,239)	204,276	20.2%	130,511	8,290
Distribution						
374.2- Land and Land Rights	8,255	(6,895)	1,360			
374.1- Land and Land Rights	102	-	102			
375- Structures & Improvements	43	(61)	(18)			
376- Mains	682,441	(365,832)	316,609			
378- Meas & Reg Stations	18,056	(8,040)	10,016			
380- Services	266,982	(296,360)	(29,378)			
381- Meters & Regulators	157,500	(54,694)	102,806			
382- Meter Installations	95,781	(39,314)	56,467			
385- Industrial Meas & Reg Station Eq	1,517	(1,200)	317			
387.11- Other Equipment	994	(799)	195			
387- CNG Sta on SDGE Property	3,571	(3,499)	73			
388- Asset Retirement Costs for Distribution Plant	60,113	209,640	269,754			
Distribution Net Plant Total	\$1,295,356	(\$567,053)	\$728,303	71.9%	465,309	28,716
General Plant						
392- Transportation Eq	75	(100)	(26)			
394- Tools, Shop, & Garage Eq	10,149	(4,110)	6,039			
395- Laboratory Eq	283	(275)	8			
396- Power Operated Eq	16	(8)	8			
397- Communication Eq	2,705	(1,085)	1,620			
398- Misc Equipment	473	(72)	401			
General Plant Total	13,701	(5,650)	8,051			593
Common plant			\$71,889	7.9%	51,074	\$19,719
Total Utility Gas Plant In Service	1,685,572	(744,942)	1,012,520	100.0%	646,894	57,318

Excludes values for PSEP and Mobile Home Park Projects

SAN DIEGO GAS & ELECTRIC COMPANY

Rate Base Schedule

Balance as of December 31, 2016

(Thousands of Dollars)

Account Description	Ending Balance	Weighted Average Balance
Fixed Capital		
Plant In Service	1,870,874	1,809,150
Total Fixed Capital	1,870,874	1,809,150
Working Capital		
Materials & Supplies	3,270	3,311
Fuel in Storage	244	285
Working Cash	8,575	8,218
Total Working Capital	12,090	11,814
Other		
Customer Advances For Construction	(2,373)	(2,340)
Total Other	(2,373)	(2,340)
Deductions For Reserves		
Accumulated Depreciation Reserve	1,014,235	994,279
Accumulated Amortization Reserve	70,817	64,968
Accumulated Deferred Taxes - Plant	110,065	112,482
Total Deductions For Reserves	1,195,117	1,171,729
Total	\$ 685,474	\$ 646,894

San Diego Gas & Electric Company
Capital-Related Functional Factors
 (\$000)

	Weighted Avg. Rate Base 2016	% Total	Functionalize Total Return	Functionalize Income Taxes	Functionalize Ad Valorem Tax	Functionalize Capital- Related Taxes
Transmission	130,511	20.2%	\$10,166	\$2,535.193	\$2,056	\$4,591
Distribution (ex NGV)	465,309	71.9%	\$36,245	\$9,038.688	\$7,329	\$16,368
General, Common Plant	\$51,074	7.9%	\$3,978	\$992.119	\$804	\$1,797
Total NBV	646,894	100%	\$50,390	\$12,566	\$10,189	\$22,755

12/31/2016

Distribution of Salaries and Wages FERC Form 1 p. 355 (\$000)		Payroll Taxes (\$000)	Labor Factor to allocate A&G/General Plant	
Storage	\$83,140		\$83,140	0.20%
Transmission	\$5,146,380		\$5,146,380	12.37%
Distribution	\$25,859,355		\$36,365,768	87.43%
Customer Accounts	\$7,815,903			
Customer Service & Info	\$2,690,510			
A&G	\$13,104,290			
Total	\$54,699,578	\$4,176	\$41,595,288	100.00%
			\$54,699,578	

SDGE's Weighted Authorized Rate of Return
 D. 12-12-034, page 52, Ordering Paragraph 2.

Capital Component	Capital Ratio	Rate	ROR%	Ratebase	Capital	Return
Long-Term Debt	45.25%	5.00%	2.26%	\$646,894	\$292,720	\$14,636
Preferred Stock	2.75%	6.22%	0.17%	\$646,894	\$17,790	\$1,107
Common Equity	52.00%	10.30%	5.36%	\$646,894	\$336,385	\$34,648
Total	100%		7.79%		\$646,894	\$50,390

Combined Tax Rate	
SIT	8.84%
FIT	21.00%
Combined Tax Rate	27.98%

Calculation of Income Taxes to be collected in rates:	
Preferred Stock Return	\$1,107
Equity Return	\$34,648
Authorized after tax equity return	\$35,754.155
ROR Taxes to be collected in rates	27.98% \$13,893
Tax Intercept with Taxes Paid in 2016	(\$1,327)
State & Federal Income Tax	\$12,566

Table 1: Storage Allocation by Function

FERC Account		NBV (\$000)	INJ %	WD %	INV %		INJ (\$000)	WD (\$000)	INV (\$000)	Capital-Rel Cost(\$000)	% Distributed Rationale
350	Land/Rights-of-Way	22,496	0%	0%	100%	100%	\$0	\$0	\$22,496	\$ 97,344	Land/Rights-of-Way is required for the physical gas storage container (subsurface and surface) for inventory. Withdrawal and injection facilities are constructed within the surface and subsurface, thus 100% inventory.
351	Structures & Improvements	46,797	0%	0%	100%	100%	\$0	\$0	\$46,797		Structures consist of the offices and associated buildings required for personnel and equipment. Withdrawal and injection facilities are separate, thus 100% inventory.
352	Wells	228,253	25%	50%	25%	100%	\$57,063	\$114,126	\$57,063		Wells are required for withdrawal, injection, and inventory. There are approximately double the number of wells required for withdrawal than injection due to higher withdrawal capacity than injection capacity.
353	Lines	19,535	25%	50%	25%	100%	\$4,884	\$9,768	\$4,884		This allocation is consistent with the allocation for wells. 25/50/25
354	Compressor Station Equipment	374,627	100%	0%	0%	100%	\$374,627	\$0	\$0		Compression is 100% needed for injection. Not needed for withdrawal.
355	Meas. & Reg Equipment	5,422	25%	25%	50%	100%	\$1,356	\$1,356	\$2,711		The main purpose of the metering is for storage inventory and equally split for injection and withdrawal. Recommend 25/25/50.
356	Purification Equipment	78,537	0%	100%	0%	100%	\$0	\$78,537	\$0		Purification equipment is 100% needed for withdrawal. Not needed for injection.
357	Other Equipment	35,828	0%	0%	100%	100%	\$0	\$0	\$35,828		Same as Structures and Improvements
117.1	Cushion Gas	61,422	0%	67%	33%	100%	\$0	\$41,153	\$20,269		The purpose of cushion gas is primarily to provide a base pressure in the field so that a minimum field deliverability capacity can be achieved. Cushion gas is related to inventory in that total working gas capacity is the sum of cushion gas and working gas. Recommend keeping the historic split for consistency.
Total NBV		872,918					\$437,930	\$244,939	\$190,049	\$ 872,918	
Capital-Related Costs %							50%	28%	22%	100%	
Capital-Related Costs							\$48,836	\$27,315	\$21,193	\$97,344	
		O&M (\$000)	INJ %	WD %	INV %		INJ (\$000)	WD (\$000)	INV (\$000)		
814	Operation Supervision & Engineering	13,664	33%	33%	34%	100%	\$4,509	\$4,509	\$4,646		Equal split of personnel resources amongst withdrawal, injection, and inventory.
815	Maps & Records	41	0%	0%	100%	100%	\$0	\$0	\$41		Maps and Records are in the same category as Land/Right of Way. Thus 100% inventory.
816	Wells Expenses	6,526	25%	50%	25%	100%	\$1,632	\$3,263	\$1,632		Wells are required for withdrawal, injection, and inventory. There are approximately double the number of wells required for withdrawal than injection due to higher withdrawal capacity than injection capacity.
817	Line Expenses	274	25%	50%	25%	100%	\$68	\$137	\$68		This allocation is consistent with the allocation for wells. 25/50/25
818	Compressor Station Expenses	3,393	100%	0%	0%	100%	\$3,393	\$0	\$0		Compression is 100% needed for injection. Not needed for withdrawal.
820	Measuring & Regulating Station Expenses	9	25%	25%	50%	100%	\$2	\$2	\$4		The main purpose of the metering is for storage inventory and equally split for injection and withdrawal. Recommend 25/25/50.
821	Purification Expenses	727	0%	100%	0%	100%	\$0	\$727	\$0		Purification equipment is 100% needed for withdrawal. Not needed for injection.
824	Other Expenses	9,114	0%	0%	100%	100%	\$0	\$0	\$9,114		Other expenses relate to inventory.
825	Storage Well Royalties	651	0%	0%	100%	100%	\$0	\$0	\$651		Storage well royalty is based on the inventory.
826	Rents	186	0%	0%	100%	100%	\$0	\$0	\$186		Rents relate to inventory. Same as land/right-of-way
Total Operation		34,585					\$ 9,605	\$ 8,639	\$ 16,342	\$ 34,585	
830	Maintenance Supervision & Engineering	0	33%	33%	34%	100%	\$0	\$0	\$0		Equal split of personnel resources amongst withdrawal, injection, and inventory.
831	Maintenance of Structures & Improvements	1,823	0%	0%	100%	100%	\$0	\$0	\$1,823		Structures consist of the offices and associated buildings required for personnel and equipment. Withdrawal and injection facilities are separate, thus 100% inventory.
832	Maintenance of Reservoirs & Wells	928	25%	50%	25%	100%	\$232	\$464	\$232		Wells and reservoirs are required for withdrawal, injection, and inventory. Reservoir studies are predominately for inventory purposes. There are approximately double the number of wells required for withdrawal than injection due to higher withdrawal capacity than injection capacity.
833	Maintenance of Lines	205	25%	50%	25%	100%	\$51	\$102	\$51		This allocation is consistent with the allocation for wells. 25/50/25
834	Maintenance of Compressor Station Equipment	4,952	100%	0%	0%	100%	\$4,952	\$0	\$0		Compression is 100% needed for injection. Not needed for withdrawal.
835	Maintenance of Measuring & Regulating Station Equipment	965	25%	25%	50%	100%	\$241	\$241	\$482		The main purpose of the metering is for storage inventory and equally split for injection and withdrawal. Recommend 25/25/50.
836	Maintenance of Purification Equipment	735	0%	100%	0%	100%	\$0	\$735	\$0		Purification equipment is 100% needed for withdrawal. Not needed for injection.
837	Maintenance of Other Equipment	1,649	0%	0%	100%	100%	\$0	\$0	\$1,649		Other maintenance expenses relate to inventory.
Total Maintenance		11,257					\$5,476	\$1,543	\$4,238	\$ 11,257	
Storage O&M Excl. Fuel		45,842					\$ 15,081	\$ 10,182	\$ 20,579	\$ 45,842	
Capital and O&M Costs							INJ (\$000)	WD (\$000)	INV (\$000)	Total (\$000)	
							\$ 63,917	\$ 37,496	\$ 41,773	\$ 143,186	
% Allocation Inj, WD, Inv.							INJ	WD	INV		
							44.64%	26.19%	29.17%	100%	

Flow Date	Contract Rights - BTS1	G-BTS2 Net Sched	Interruptible Sched
10/1/2016	747,104	1,459,654	42,456
10/2/2016	747,104	1,382,329	11,309
10/3/2016	747,104	1,524,486	163,291
10/4/2016	714,133	1,699,019	187,785
10/5/2016	727,118	1,637,812	112,485
10/6/2016	758,484	1,738,734	64,046
10/7/2016	796,007	1,770,230	74,382
10/8/2016	795,769	1,553,751	49,463
10/9/2016	795,769	1,548,278	49,369
10/10/2016	797,169	1,725,149	125,402
10/11/2016	732,676	1,855,755	63,046
10/12/2016	721,933	1,639,719	163,578
10/13/2016	790,854	1,701,463	97,031
10/14/2016	747,654	1,637,504	67,652
10/15/2016	783,654	1,513,413	24,867
10/16/2016	747,654	1,517,993	55,332
10/17/2016	888,554	1,558,286	95,966
10/18/2016	775,035	1,828,949	67,478
10/19/2016	874,030	1,648,461	154,980
10/20/2016	814,554	1,947,778	89,773
10/21/2016	765,654	1,765,339	70,866
10/22/2016	747,654	1,518,183	6,860
10/23/2016	747,654	1,459,326	5,476
10/24/2016	811,654	1,628,889	56,899
10/25/2016	747,654	1,648,683	47,677
10/26/2016	812,054	1,723,439	34,037
10/27/2016	774,630	1,793,058	40,178
10/28/2016	736,302	1,726,618	7,087
10/29/2016	757,735	1,439,823	3,269
10/30/2016	757,735	1,382,870	10,920
10/31/2016	789,342	1,501,829	41,636
11/1/2016	701,217	1,638,482	16,486
11/2/2016	726,717	1,669,793	21,428
11/3/2016	816,810	1,760,575	47,747
11/4/2016	747,217	1,734,445	12,633
11/5/2016	702,017	1,569,718	14,183
11/6/2016	702,017	1,580,122	11,219
11/7/2016	772,017	1,790,937	39,228
11/8/2016	700,217	1,986,394	25,457
11/9/2016	759,211	1,955,353	29,398
11/10/2016	820,886	1,890,358	4,387
11/11/2016	875,617	1,721,833	1,535
11/12/2016	716,417	1,606,462	33,008
11/13/2016	716,417	1,629,287	26,596
11/14/2016	955,817	1,674,222	62,191
11/15/2016	742,617	1,865,661	13,025
11/16/2016	698,183	1,878,615	12,841
11/17/2016	737,397	2,170,228	14,756
11/18/2016	770,420	2,125,007	6,766
11/19/2016	703,342	1,718,246	43,371
11/20/2016	710,642	1,746,631	221,520
11/21/2016	809,942	1,781,167	159,000
11/22/2016	810,838	1,972,758	26,843
11/23/2016	793,752	1,986,590	56,833

Flow Date	Contract Rights - BTS1	G-BTS2 Net Sched	Interruptible Sched
11/24/2016	754,902	1,767,360	22,666
11/25/2016	763,402	1,852,869	81,506
11/26/2016	754,902	1,856,935	92,900
11/27/2016	754,902	1,818,770	163,038
11/28/2016	871,902	2,068,135	68,966
11/29/2016	814,552	2,024,680	137,925
11/30/2016	785,932	1,922,493	98,580
12/1/2016	879,324	2,424,140	29,923
12/2/2016	859,364	2,402,865	21,270
12/3/2016	832,545	2,094,643	48,163
12/4/2016	832,545	2,149,152	90,645
12/5/2016	854,945	2,229,258	36,550
12/6/2016	938,934	2,176,862	62,089
12/7/2016	908,104	2,206,875	21,301
12/8/2016	943,733	2,141,554	17,909
12/9/2016	918,956	2,181,577	2,636
12/10/2016	920,992	1,942,446	16,448
12/11/2016	920,992	1,911,659	29,777
12/12/2016	936,992	1,945,146	41,813
12/13/2016	925,002	2,103,297	10,520
12/14/2016	918,992	2,139,474	15,036
12/15/2016	923,980	2,145,701	4,333
12/16/2016	956,980	2,120,056	64,196
12/17/2016	940,068	1,968,226	50,981
12/18/2016	940,068	1,852,941	75,981
12/19/2016	940,068	1,956,277	84,344
12/20/2016	953,568	2,096,474	38,433
12/21/2016	954,452	2,125,407	55,673
12/22/2016	949,068	2,076,833	6,530
12/23/2016	949,068	2,141,334	45,486
12/24/2016	953,368	2,288,966	29,318
12/25/2016	953,368	2,242,358	33,650
12/26/2016	953,368	2,228,807	9,434
12/27/2016	953,368	2,227,570	23,637
12/28/2016	949,068	2,132,341	10,273
12/29/2016	949,068	2,129,176	20,989
12/30/2016	949,114	2,119,160	58,974
12/31/2016	949,068	2,122,117	47,611
1/1/2017	958,918	2,133,128	14,708
1/2/2017	958,918	2,154,020	26,614
1/3/2017	958,918	2,195,783	27,141
1/4/2017	952,918	2,075,634	9,468
1/5/2017	948,918	2,069,869	15,091
1/6/2017	948,918	1,872,193	16,634
1/7/2017	948,918	1,600,847	8,343
1/8/2017	948,918	1,759,714	4,711
1/9/2017	948,918	1,896,208	5,183
1/10/2017	948,918	2,096,456	4,658
1/11/2017	948,918	2,112,828	6,824
1/12/2017	948,918	2,099,297	47,928
1/13/2017	948,918	2,055,228	16,618
1/14/2017	948,918	2,095,500	24,974
1/15/2017	948,918	2,097,954	34,184
1/16/2017	948,918	2,121,306	31,303

Flow Date	Contract Rights - BTS1	G-BTS2 Net Sched	Interruptible Sched
1/17/2017	948,918	2,064,118	36,704
1/18/2017	948,918	2,131,725	90,597
1/19/2017	968,918	2,190,193	93,349
1/20/2017	948,918	2,301,474	36,169
1/21/2017	948,918	2,147,855	56,235
1/22/2017	948,918	2,168,614	90,019
1/23/2017	995,718	2,199,229	94,862
1/24/2017	959,218	2,140,376	95,220
1/25/2017	979,249	2,180,888	47,372
1/26/2017	988,918	2,111,817	37,039
1/27/2017	987,368	2,103,004	117,714
1/28/2017	948,918	1,910,516	16,778
1/29/2017	948,918	1,909,093	4,766
1/30/2017	956,918	1,954,111	29,135
1/31/2017	948,918	2,162,408	55,379
2/1/2017	875,223	2,154,818	49,191
2/2/2017	909,329	2,133,406	20,645
2/3/2017	875,223	2,037,928	38,811
2/4/2017	875,223	1,968,444	2,431
2/5/2017	875,223	1,911,881	508
2/6/2017	875,223	1,956,915	8,431
2/7/2017	874,688	2,066,467	12,852
2/8/2017	874,688	1,880,066	2,889
2/9/2017	875,588	1,702,734	308
2/10/2017	875,588	1,874,017	70,672
2/11/2017	875,588	1,842,008	1,446
2/12/2017	875,588	1,880,947	1,446
2/13/2017	875,588	1,904,457	16,319
2/14/2017	875,223	2,004,357	17,558
2/15/2017	875,223	1,914,939	1,996
2/16/2017	875,223	2,026,287	40,735
2/17/2017	875,223	2,170,997	90,043
2/18/2017	875,223	2,092,934	33,503
2/19/2017	875,223	2,061,338	13,340
2/20/2017	875,223	2,051,794	11,339
2/21/2017	875,223	2,101,790	11,371
2/22/2017	890,223	2,157,602	21,108
2/23/2017	947,923	2,201,867	45,951
2/24/2017	949,923	2,191,315	59,396
2/25/2017	949,923	2,255,807	70,911
2/26/2017	949,923	2,245,752	70,929
2/27/2017	949,923	2,329,748	78,400
2/28/2017	917,223	2,343,217	90,183
3/1/2017	952,386	2,033,662	55,468
3/2/2017	888,659	1,902,044	11,427
3/3/2017	885,286	1,770,119	8,237
3/4/2017	885,286	1,751,071	40,322
3/5/2017	885,286	1,754,780	69,269
3/6/2017	885,986	1,724,650	70,987
3/7/2017	903,186	1,837,289	59,085
3/8/2017	885,886	1,577,827	40,589
3/9/2017	893,886	1,624,256	36,788
3/10/2017	885,886	1,631,735	267
3/11/2017	885,886	1,433,724	366

Flow Date	Contract Rights - BTS1	G-BTS2 Net Sched	Interruptible Sched
3/12/2017	885,886	1,461,166	1,475
3/13/2017	885,886	1,542,955	67,194
3/14/2017	885,886	1,717,517	14,701
3/15/2017	885,886	1,707,591	503
3/16/2017	904,786	1,549,435	46,326
3/17/2017	885,886	1,557,287	5,174
3/18/2017	885,886	1,329,185	397
3/19/2017	885,886	1,411,662	397
3/20/2017	933,066	1,514,680	18,932
3/21/2017	958,086	1,630,312	9,097
3/22/2017	917,086	1,611,461	1,628
3/23/2017	975,880	1,628,076	4,881
3/24/2017	895,886	1,620,913	28,834
3/25/2017	885,886	1,403,796	4,796
3/26/2017	885,886	1,391,771	614
3/27/2017	902,686	1,566,035	31,007
3/28/2017	887,686	1,523,386	60
3/29/2017	895,874	1,391,130	50,913
3/30/2017	885,886	1,366,940	17,927
3/31/2017	885,886	1,424,266	7,204
4/1/2017	698,949	1,351,007	16,939
4/2/2017	698,949	1,386,563	48,746
4/3/2017	766,249	1,462,069	66,921
4/4/2017	729,749	1,553,732	13,995
4/5/2017	699,749	1,602,065	76,177
4/6/2017	680,949	1,618,813	47,375
4/7/2017	732,749	1,588,792	40,618
4/8/2017	744,249	1,480,795	1,886
4/9/2017	744,249	1,483,465	38,900
4/10/2017	774,249	1,555,871	78,367
4/11/2017	729,549	1,780,692	69,165
4/12/2017	712,949	1,790,371	28,581
4/13/2017	719,749	1,548,608	294,173
4/14/2017	687,478	1,667,926	51,921
4/15/2017	657,894	1,536,428	1,436
4/16/2017	657,894	1,561,861	1,426
4/17/2017	714,849	1,718,865	16,053
4/18/2017	734,749	1,745,694	15,383
4/19/2017	720,549	1,694,149	62,080
4/20/2017	727,446	1,689,689	29,632
4/21/2017	719,249	1,783,898	18,838
4/22/2017	650,591	1,678,367	29,532
4/23/2017	692,091	1,605,116	15,381
4/24/2017	715,840	1,653,856	28,134
4/25/2017	674,749	1,772,277	32,843
4/26/2017	722,149	1,725,426	14,678
4/27/2017	769,949	1,622,113	12,125
4/28/2017	716,949	1,634,561	20,883
4/29/2017	681,549	1,508,330	24,609
4/30/2017	661,249	1,478,644	42,913
5/1/2017	700,644	1,702,354	37,064
5/2/2017	739,989	1,748,204	34,191
5/3/2017	796,389	1,852,930	46,534
5/4/2017	779,573	1,984,069	43,773

Flow Date	Contract Rights - BTS1	G-BTS2 Net Sched	Interruptible Sched
5/5/2017	633,054	1,916,966	48,124
5/6/2017	712,289	1,623,581	5,261
5/7/2017	712,289	1,638,502	44,938
5/8/2017	771,889	1,863,516	79,197
5/9/2017	715,089	1,899,470	47,889
5/10/2017	672,938	1,850,736	24,461
5/11/2017	652,789	1,875,066	19,928
5/12/2017	694,644	1,675,965	23,641
5/13/2017	671,889	1,572,702	6,195
5/14/2017	671,889	1,567,179	18,573
5/15/2017	701,889	1,867,194	36,412
5/16/2017	706,248	1,845,370	10,069
5/17/2017	630,489	1,886,505	45,936
5/18/2017	630,489	1,902,712	25,302
5/19/2017	640,489	1,888,491	14,707
5/20/2017	793,764	1,595,820	6,743
5/21/2017	793,764	1,569,681	3,737
5/22/2017	842,164	1,883,142	23,553
5/23/2017	806,264	1,990,673	55,516
5/24/2017	811,764	1,830,689	73,186
5/25/2017	800,652	1,570,755	45,998
5/26/2017	723,209	1,641,419	12,635
5/27/2017	677,889	1,556,110	4,572
5/28/2017	677,889	1,551,844	2,783
5/29/2017	677,889	1,563,016	21,883
5/30/2017	708,289	1,752,499	30,472
5/31/2017	685,589	1,762,098	10,774
6/1/2017	666,434	1,691,915	13,374
6/2/2017	645,701	1,916,249	21,078
6/3/2017	685,201	1,581,879	18,755
6/4/2017	685,201	1,593,707	20,456
6/5/2017	745,201	1,775,585	45,465
6/6/2017	664,181	1,830,354	11,770
6/7/2017	673,427	1,780,676	9,401
6/8/2017	655,639	1,841,617	7,096
6/9/2017	625,101	1,627,348	2,220
6/10/2017	620,101	1,482,754	9,828
6/11/2017	620,101	1,425,336	2,048
6/12/2017	638,101	1,712,004	60,593
6/13/2017	665,101	1,632,068	17,606
6/14/2017	652,701	1,732,094	7,706
6/15/2017	650,101	1,937,486	15,086
6/16/2017	660,101	2,039,956	8,663
6/17/2017	683,991	1,812,160	23,328
6/18/2017	668,801	1,890,942	33,155
6/19/2017	848,332	2,081,382	80,728
6/20/2017	750,844	2,193,368	34,200
6/21/2017	779,145	2,250,482	46,714
6/22/2017	754,101	2,363,121	18,605
6/23/2017	739,939	2,129,548	9,038
6/24/2017	675,601	1,861,258	2,201
6/25/2017	675,601	2,011,588	41,035
6/26/2017	831,301	2,087,791	18,752
6/27/2017	707,201	1,845,041	12,386

Flow Date	Contract Rights - BTS1	G-BTS2 Net Sched	Interruptible Sched
6/28/2017	732,155	1,667,570	8,554
6/29/2017	703,601	1,640,274	1,731
6/30/2017	721,081	1,603,799	8,117
7/1/2017	700,559	1,517,441	19,586
7/2/2017	700,559	1,463,778	1,456
7/3/2017	700,559	1,620,819	34,823
7/4/2017	700,559	1,570,271	5,091
7/5/2017	904,436	1,688,089	73,341
7/6/2017	952,458	1,983,015	45,073
7/7/2017	890,130	2,149,895	26,776
7/8/2017	857,584	2,026,364	23,646
7/9/2017	850,084	1,839,222	67,703
7/10/2017	930,122	2,019,381	13,400
7/11/2017	890,184	1,897,334	32,270
7/12/2017	890,184	1,798,955	2,983
7/13/2017	881,454	1,839,062	54,660
7/14/2017	885,354	1,763,213	717
7/15/2017	800,654	1,740,346	2,610
7/16/2017	800,654	1,624,131	2,464
7/17/2017	888,499	1,852,985	18,292
7/18/2017	734,354	1,861,216	21,878
7/19/2017	798,240	1,826,643	69,507
7/20/2017	817,684	1,809,446	3,480
7/21/2017	720,775	1,808,003	1,635
7/22/2017	775,984	1,633,486	556
7/23/2017	775,984	1,596,628	481
7/24/2017	814,384	1,803,785	5,296
7/25/2017	782,684	1,796,446	12,675
7/26/2017	784,384	1,831,416	13,692
7/27/2017	769,352	1,877,229	20,682
7/28/2017	821,584	1,812,534	597
7/29/2017	736,484	1,526,183	957
7/30/2017	736,484	1,629,679	947
7/31/2017	787,484	1,970,641	32,923
8/1/2017	868,011	2,315,388	40,101
8/2/2017	882,211	2,311,218	21,336
8/3/2017	865,511	2,094,284	14,632
8/4/2017	885,511	1,970,683	27,202
8/5/2017	789,511	1,642,741	20,242
8/6/2017	789,511	1,611,021	2,131
8/7/2017	789,511	1,812,850	22,714
8/8/2017	822,011	1,806,069	36,398
8/9/2017	848,011	1,945,270	73,578
8/10/2017	894,111	1,872,391	71,398
8/11/2017	900,311	1,803,297	32,339
8/12/2017	785,511	1,703,906	12,455
8/13/2017	785,511	1,617,360	6,789
8/14/2017	795,511	1,807,619	26,416
8/15/2017	805,511	1,749,900	13,878
8/16/2017	805,511	1,747,435	3,171
8/17/2017	805,511	1,861,382	6,183
8/18/2017	808,511	1,904,227	5,706
8/19/2017	785,511	1,763,507	969
8/20/2017	785,511	1,757,198	565

Flow Date	Contract Rights - BTS1	G-BTS2 Net Sched	Interruptible Sched
8/21/2017	863,611	1,820,756	28,466
8/22/2017	858,011	1,866,693	28,980
8/23/2017	867,811	1,951,495	27,111
8/24/2017	910,511	1,956,121	3,880
8/25/2017	816,164	1,850,231	9,144
8/26/2017	924,611	1,892,249	20,552
8/27/2017	963,811	1,972,607	26,515
8/28/2017	914,511	2,156,139	83,178
8/29/2017	835,511	2,027,654	84,644
8/30/2017	835,511	2,087,332	33,471
8/31/2017	835,511	2,180,350	112,639
9/1/2017	908,192	2,197,495	80,504
9/2/2017	942,492	2,051,382	73,559
9/3/2017	942,492	2,054,213	105,472
9/4/2017	942,492	1,997,356	45,296
9/5/2017	942,492	2,089,596	77,948
9/6/2017	834,592	2,000,793	148,267
9/7/2017	877,336	1,984,556	106,699
9/8/2017	888,592	2,078,382	46,870
9/9/2017	778,592	1,848,526	6,602
9/10/2017	778,592	1,928,874	16,442
9/11/2017	860,562	2,156,069	94,651
9/12/2017	908,692	2,054,779	49,890
9/13/2017	817,792	1,960,596	25,382
9/14/2017	734,792	1,880,857	57,285
9/15/2017	692,192	1,830,297	9,589
9/16/2017	701,492	1,716,007	18,706
9/17/2017	701,492	1,715,994	100,429
9/18/2017	776,748	1,732,976	103,000
9/19/2017	831,992	1,756,603	43,387
9/20/2017	807,042	1,754,665	33,886
9/21/2017	696,842	1,732,162	76,426
9/22/2017	719,342	1,763,490	72,901
9/23/2017	692,842	1,685,168	16,410
9/24/2017	692,842	1,675,297	15,857
9/25/2017	761,242	1,716,185	60,497
9/26/2017	832,342	1,794,002	80,166
9/27/2017	811,242	1,776,372	74,121
9/28/2017	848,142	1,757,072	95,162
9/29/2017	764,442	1,781,686	113,710
9/30/2017	754,442	1,679,282	29,666
Q4 2016 - Q3 2017	297,956,923	670,165,971	13,677,054

10/1/16 - 9/30/17

Contract Rights: BTS1 (Dth/d)	G-BTS2 Net Sched (Dth/d)	Interruptible Scheduled (Dth/d)	Total (Dth/d)
816,320	1,836,071	37,471	2,689,863