# SOUTHERN CALIFORNIA GAS COMPANY 2020 TCAP

Section 1
Long Run Marginal Customer Cost Model

**Workpapers to the Prepared Written Testimony of Marjorie Schmidt-Pines** 

#### SCG 2020 TCAP LRMC Customer Cost/Rental Method RD Format

			Residential	CCI	G-AC	G-GEN	NGV	Total Core
	Marginal Customer Unit Cost @ various LRMC Allocation Methods							
1	Customer Cust \$/Cust/Year Rental Method		\$294.03	\$1,473.84	\$6,882.66	\$17,981.93	\$45,590.19	
2	Customer Cost \$/Cust/Year NCO Method		\$125.75	\$531.34	\$5,437.92	\$6,132.06	\$40,665.44	
3	Customer Cost \$/Cust/Year NCO Method w/Replacement Cost		\$274.36	\$933.78	\$5,877.21	\$12,233.90	\$43,094.27	
1								
2	Input from O&M Loader Model:							
3	Marginal A&G/Payroll Taxes Loading Factor as a % of O&M expenses	43.64%	SCG LRMC O&N	/I Loaders				
4	General Plant Loading Factor as a % or O&M expenses	44.94%	SCG LRMC O&N	/I Loaders				
5	Annualized Distribution Customer Related Costs \$000/yr	\$2,930,464	SCG LRMC O&N	/I Loaders				
6								
7	2017-20 Factor: Capital	1.1319	SCG LRMC O&N	/I Loaders				
8	2017-20 Factor: O&M	1.0981	SCG LRMC O&N	/ Loaders				

#### SCG 2020 TCAP LRMC Customer Cost/Rental Method RD Format

						Total Retail			South West	
		NCCI	EG Tier 1	EG Tier 2	EOR	NonCore	Long Beach	SDG&E	Gas	Vernon
	Marginal Customer Unit Cost @ various LRMC Allocation Methods									
1	Customer Cust \$/Cust/Year Rental Method	\$55,139.74	\$26,034.22	\$154,535.16	\$84,456.75		\$783,172.48	\$1,397,485.22	\$687,222.92	\$469,030.64
2	Customer Cost \$/Cust/Year NCO Method	\$18,929.39	\$20,371.66	\$33,959.11	\$39,249.98		\$315,310.40	\$297,570.68	\$376,146.69	\$235,810.55
3	Customer Cost \$/Cust/Year NCO Method w/Replacement Cost	\$27,140.52	\$22,729.66	\$53,761.93	\$47,610.41		\$554,810.76	\$860,621.08	\$535,387.79	\$355,196.79

2 Input from O&M Loader Model:

- 3 Marginal A&G/Payroll Taxes Loading Factor as a % of O&M expenses
- 4 General Plant Loading Factor as a % or O&M expenses
- 5 Annualized Distribution Customer Related Costs \$000/yr
- 2017-20 Factor: Capital
- 8 2017-20 Factor: O&M

#### SCG 2020 TCAP LRMC Customer Cost/Rental Method RD Format

		Total Whole				SYSTEM	
		sale	Ecogas	UBS	Total Noncore	TOTAL	Sources
	Marginal Customer Unit Cost @ various LRMC Allocation Methods						
1	Customer Cust \$/Cust/Year Rental Method		\$182,622.84	\$0.00			Cust MC
2	Customer Cost \$/Cust/Year NCO Method		\$132,198.71	\$0.00			Cust MC
3	Customer Cost \$/Cust/Year NCO Method w/Replacement Cost		\$158,011.01	\$0.00	\$2,677,683.46		Cust MC

2 Input from O&M Loader Model:

- 3 Marginal A&G/Payroll Taxes Loading Factor as a % of O&M expenses
- 4 General Plant Loading Factor as a % or O&M expenses
- 5 Annualized Distribution Customer Related Costs \$000/yr

- 2017-20 Factor: Capital
- 8 2017-20 Factor: O&M

Marginal Unit Costs																			
	Core												Core		Noncore Retail	1			
	Residential					Non-Residentia	•					Non-Residenti	u	_					
	Single	Multi	Master Meter		Residential	Commercial/Inc						Air	Natural Gas	Gas	G-30 - Noncor	e C&I		Small EG	Large EG
	Family (Detached		(up to 100,000	(100,001 therms		Very Small - up to 300	Small - 301 to 3 000	Medium - 3.001 to 50.000	Large - 50,001 to 250,000	Very Large - Over 250 000									
	(Detached homes)	Family	therms/year)	greater)	Total or Avg.	therms/year	therms/year	therms/vear	to 250,000 therms/vear	therms/year	Average	Conditioning	Vehicle	Engine	Distribution	Transmission	Total	< 3million	> 3million
-																			
2016 Number of Customers	3,674,386	1,721,561	120,217	49	5,516,213	88,060	63,785	49,146	2,258	331	203,580	9	245	718	534	20	554	250	63
Marginal Investment: 2016 \$/Customer																			
Meter & House Reg	\$378.33	\$209.17	\$1,805.27	\$19,464.95	\$356.80	\$606.59	\$1,309.98	\$2,824.17	\$8,953.92	\$12,576.46	\$1,474.36	\$8,989.56	\$49,799.80	\$5,591.55	\$93,227.93	\$396,314.38		\$70,473.40	\$766,675.11
Service Lines	\$1,773.76	\$1,773.65	\$9,356.02	\$130,050.51	\$1,940.10	\$9,046.73	\$11,048.15	\$15,681.51	\$45,448.16	\$80,180.63	\$11,794.90	\$7,575.11	\$85,563.97	\$209,792.28	\$313,478.61	\$851,964.79		\$102,268.50	\$367,802.70
Exclusive Use Facilities	\$0.00 \$2.152.09	\$0.00 \$1.982.82	\$0.00	\$0.00	\$0.00 \$2.296.91	\$0.00 \$9.653.32	\$0.00	\$0.00	\$0.00	\$0.00 \$92.757.09	\$0.00	\$0.00	\$0.00	\$0.00	\$11,753.92	\$28,220.26	\$13,193.02	\$0.00	\$197,632.73 \$1,332,110,55
Total	\$2,152.09	\$1,982.82	\$11,161.30	\$149,515.46	\$2,296.91	\$9,003.32	\$12,358.13	\$18,505.68	\$54,402.08	\$92,757.09	\$13,269.27	\$16,564.66	\$135,363.77	\$215,383.82	\$418,460.46	***********	\$451,835.01	\$172,741.89	\$1,332,110.55
Weighted RECC factors used to annualize SRM capital costs																			
Meter & House Reg	9.58%	9.55%	9.52%	9.44%	9.62%	9.54%	9.55%	9.52%	9.49%	9.51%	9.72%	9.50%	9.40%	9.46%	9.43%	9.40%	9.40%	9.40%	9.40%
Service Lines	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%
Exclusive Use															10.05%	10.05%	10.05%	10.05%	10.05%
Annualized Marginal Investment: \$/Cust.  Meter & House Reg	\$36.24	\$19.98	\$171.82	\$1,836.75	\$34.32	\$57.87	\$125.10	\$268.89	\$849.79	\$1,196.25	\$143.37	\$853.86	\$4,680.93	\$528.71	\$8,789.14	\$37,244.84	\$9,940.00	\$6,621.07	\$72,030.18
Service Lines	\$138.36	\$138.35	\$729.80	\$10.144.39	\$151.33	\$705.68	\$861.79	\$1.223.21	\$3.545.11	\$6.254.36	\$920.04	\$590.88	\$6,674.28	\$16.364.52	\$24 452 41	\$66,456,18	\$25.968.79	\$7,977.29	\$28,689,88
Exclusive Use Facilities	\$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	\$1.180.91	\$2 835 27	\$1 325 49	\$0.00	\$19.856.00
Total Annualized Marginal Investment: 2020 \$/Cust.	\$174.60	\$158.33	\$901.62	\$11,981.14	\$185.65	\$763.54	\$986.89	\$1,492.10	\$4,394.91	\$7,450.62	\$1,063.42	\$1,444.74	\$11,355.21	\$16,893.23	\$34,422.45	\$106,536.29	\$37,234.29	\$14,598.37	\$120,576.05
O&M: \$/Customer  Customer Services O&M Cost 2016\$'s \$000/year	\$79,783.59	\$37,381.03	\$2,610.33	\$1.06	\$119,776.01	\$3,911.12	\$4.238.61	\$11,867.83	\$1,305.03	\$188.90	\$21,511.49	\$4.42	\$84.48	\$132.33	\$0.00	\$0.00	\$361.16	\$49.05	\$12.36
2016 Number of Customers	3,674,386	1,721,561	120,217	\$1.06 49	5,516,213	\$3,911.12 88,060	63.785	49 146	2,258	331	203,580	\$4.43 9	\$84.48 245	718	534	20	554	250	63
Customer Services O&M \$/Customer 2016\$	\$21.71	\$21.71	\$21.71	\$21.71	\$21.71	\$44.41	\$66.45	\$241.48	\$577.96	\$570.68	\$105.67	\$492.10	\$344.83	\$184.30	\$0.00	\$0.00	\$651.92	\$196.19	\$196.19
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981
Customer Services O&M \$/Customer 2020\$	\$23.84	\$23.84	\$23.84	\$23.84	\$23.84	\$48.77	\$72.97	\$265.18	\$634.68	\$626.69	\$116.04	\$540.39	\$378.67	\$202.39	\$715.90	\$715.90	\$715.90	\$215.44	\$215.44
Contrary Assessed COM COACE's COOCE	670 504 00	600 007 40	60.074.05	60.07	6400 004 00	64 744 40	64 460 07	64 040 00	644040	6040.00	ØF 044 00	640.00	6444.05	6400.00	60.00	60.00	64 000 40	6040.05	645404
Customer Accounts O&M 2013\$'s \$000/yr 2016 Number of Customers	\$72,561.86 3.674.386	\$33,997.43 1.721.561	\$2,374.05 120.217	\$0.97 49	\$108,934.30 5.516.213	\$1,741.48 88.060	\$1,160.97 63.785	\$1,646.96 49.146	\$446.13 2.258	\$319.36 331	\$5,314.89 203.580	\$19.08 9	\$111.65 245	\$186.66 718	\$0.00 534	\$0.00 20	\$1,286.42 554	\$612.05 250	\$154.24 63
Customer Services O&M \$/Customer 2016\$	\$19.75	\$19.75	\$19.75	\$19.75	\$19.75	\$19.78	\$18.20	\$33.51	\$197.58	\$964.82	\$26.11	\$2,120.46	\$455.71	\$259.97	\$0.00	\$0.00	\$2.322.06	\$2,448.20	\$2,448,20
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981
Customer Accounts O&M \$/Customer 2020\$	\$21.69	\$21.69	\$21.69	\$21.69	\$21.69	\$21.72	\$19.99	\$36.80	\$216.97	\$1,059.52	\$28.67	\$2,328.57	\$500.44	\$285.49	\$2,549.96	\$2,549.96	\$2,549.96	\$2,688.48	\$2,688.48
Meter & House Reg O&M Total Cost	\$5,159,46	\$1,336.51	\$805.49	\$3.54	\$7.305.00	\$250.40	\$391.69	\$650.63	\$94.77	\$19.51	\$1.407.00	\$0.00	\$0.00	\$0.00			\$1,087.00	\$661.00	\$133.00
2016 Number of Customers	3,674,386	1,721,561	120,217	49	5,516,213	88,060	63,785	49.146	2,258	331	203,580	9	245	718	534	20	554	250	63
Customer Services O&M \$/Customer 2016\$	\$1.40	\$0.78	\$6.70	\$72.24	\$1.32	\$2.84	\$6.14	\$13.24	\$41.97	\$58.95	\$6.91	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1.962.09	\$2,644.00	\$2,111.11
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981
Meter & House Reg O&M \$/Customer 2020\$	\$1.54	\$0.85	\$7.36	\$79.33	\$1.45	\$3.12	\$6.74	\$14.54	\$46.09	\$64.74	\$7.59	\$0.00	\$0.00	\$0.00	\$2,154.66	\$2,154.66	\$2,154.66	\$2,903.49	\$2,318.31
W. 10. 1																			
Total Service Line Footage	000 004 000	58,515,142	11,541,382	13,966	007.005.400	12.666.284	6,872,167	0.405.000	548,173	444.470	00 000 004	050	54.540	000 744	405 477	40.540	404 700	40.077	40.070
	226,964,693	30,313,142	11,541,562	13,900	297,035,183	12,000,204	0,072,107	6,485,228	340,173	114,472	26,686,324	250	54,516	623,741	105,177	16,542	121,720	43,277	16,273
Percent of Total Footage	69.93%	18.03%	3.56%	0.00%	91.52%	3.90%	2.12%	2.00%	0.17%	0.04%	8.22%	0.00%	0.02%	0.19%	0.03%	0.01%	0.04%	0.01%	0.01%
Allocated SL O&M Costs \$000	\$20.713	\$5.340	\$1.053	0.00% \$1	\$27.108	\$1,156	\$627	\$592	\$50	\$10	\$2,435	\$0	\$5	\$57	\$10	\$2	\$11	\$4	\$1
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981
Allocated SL O&M Costs 2020\$'s	\$22,746	\$5,864	\$1,157	\$1	\$29,768	\$1,269	\$689	\$650	\$55	\$11	\$2,674	\$0	\$5	\$63	\$11	\$2	\$12	\$4	\$2
2016 Number of Customers	3,674,386	1,721,561	120,217	49	5,516,213	88,060	63,785	49,146	2,258	331	203,580	9	245	718	534	20	554	250	63
Service Lines O&M \$/Customer 2020\$	\$6.19	\$3.41	\$9.62	\$28.57	\$5.40	\$14.42	\$10.80	\$13.22	\$24.33	\$34.66	\$13.14	\$2.78	\$22.30	\$87.06	\$19.74	\$82.89	\$22.02	\$17.35	\$25.89
Customer Service & Information Cost (CSI) Costs Accounts (FERC	Accounts 907 to 91	10)-																	
2016 Number of Customers	3,674,386	1,721,561	120,217	49	5,516,213	88,060	63,785	49,146	2,258	331	203,580	9	245	718	534	20	554	250	63
Customer Services & Information O&M \$/Customer 2016\$	\$4.42	\$4.42	\$4.42	\$4.42	\$4.42	\$46.72	\$46.72	\$46.72	\$46.72	\$46.72	\$46.72	\$0.00	\$15,642.74	\$0.00	\$0.00	\$0.00	\$3,654.60	\$195.31	\$11,551.84
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981
Customer Accounts O&M \$/Customer 2020\$	\$4.85	\$4.85	\$4.85	\$4.85	\$4.85	\$51.31	\$51.31	\$51.31	\$51.31	\$51.31	\$51.31	\$0.00	\$17,177.99	\$0.00	\$0.00	\$0.00	\$4,013.28	\$214.47	\$12,685.60
Total Direct O&M \$/customer/yr	\$58.12	\$54.64	\$67.36	\$158.28	\$57.23	\$139.34	\$161.81	\$381.05	\$973.38	\$1,836.92	\$216.74	\$2,871.75	\$18,079.40	\$574.94	\$5,440.26	\$5,503.41	\$9,455.82	\$6,039.24	\$17,933.71
O&M Loaders: \$/Customer						1													
Administrative & General as % of O&M	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%
Administrative & General \$/customer/yr 2020\$'s	\$25.36	\$23.84	\$29.39	\$69.07	\$24.97	\$60.80	\$70.61	\$166.28	\$424.75	\$801.56	\$94.58	\$1,253.13	\$7,889.18	\$250.88	\$2,373.93	\$2,401.49	\$4,126.17	\$2,635.30	\$7,825.61
	1					1													
General Plant as % of O&M	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%
General Plant \$/customer/yr 2020\$'s	\$26.12	\$24.56	\$30.27	\$71.13	\$25.72	\$62.62	\$72.72	\$171.24	\$437.43	\$825.50	\$97.40	\$1,290.54	\$8,124.73	\$258.37	\$2,444.81	\$2,473.19	\$4,249.37	\$2,713.99	\$8,059.26
Materials & Supplies Loader:						1													
Per Customer Direct+A&G+GP O&M \$/customer/yr	\$109.59	\$103.04	\$127.03	\$298.48	\$107.93	\$262.76	\$305.14	\$718.58	\$1,835.55	\$3,463.98	\$408.72	\$5,415.41	\$34,093.31	\$1,084.20	\$10,258.99	\$10,378.08	\$17,831.35	\$11,388.53	\$33,818.59
2016 Number of Customers	3,674,386	1,721,561	120,217	49	5,516,213	88,060	63,785	49,146	2,258	331	203,580	9	245	718	534	20	554	250	63
Total Direct+A&G+GP O&M \$000/yr	\$402,679	\$177,391	\$15,271	\$15	\$595,356	\$23,138	\$19,463	\$35,315	\$4,145	\$1,147	\$83,208	\$49	\$8,353	\$778	\$5,478	\$208	\$9,879	\$2,847	\$2,131
Percent of Total	57.10%	25.15%	2.17%	0.00%	84.42%	3.28%	2.76%	5.01%	0.59%	0.16%	11.80%	0.01%	1.18%	0.11%	0.78%	0.03%	1.40%	0.40%	0.30%
Allocated M&S \$2,930,464.06 2016 Number of Customers	\$1,673,239 3,674,386	\$737,106 1,721,561	\$63,455 120,217	\$61 49	\$2,473,860 5,516,213	\$96,146 88,060	\$80,875 63,785	\$146,744 49,146	\$17,222 2,258	\$4,764 331	\$345,751 203,580	\$203	\$34,708 245	\$3,235 718	\$22,764 534	\$862 20	\$41,048 554	\$11,831 250	\$8,853 63
M&S Loader \$/customer/yr 2020\$s	\$0.46	\$0.43	\$0.53	\$1.24	\$0.45	\$1.09	\$1.27	\$2.99	\$7.63	\$14.39	\$1.70	\$22.50	\$141.67	\$4.51	\$42.63	\$43.12	\$74.09	\$47.32	\$140.53
<u> </u>																			
Total O&M Loaders \$/customer/yr	\$51.93	\$48.83	\$60.19	\$141.44	\$51.14	\$124.51	\$144.59	\$340.51	\$869.80	\$1,641.46	\$193.68	\$2,566.17	\$16,155.58	\$513.76	\$4,861.36	\$4,917.80	\$8,449.63	\$5,396.61	\$16,025.40
LRMC Rental Customer Cost \$/customer/year	\$284.65	\$261.80	\$1,029.18	\$12,280.86	\$294.03	\$1,027.39	\$1,293.30	\$2,213.66	\$6,238.09	\$10,928.99	\$1,473.84	\$6.882.66	\$45,590.19	\$17,981.93	\$44.724.07	\$116,957.50	\$55,139,74	\$26,034.22	\$154,535.16
outline out production for		<b>4201.03</b>	J.,020.10	Ţ.E,E00.00	<b>QE07.00</b>	V.,021.00	J.,200.00	72,210.00	-0,200.00	-10,020.00	J.,	-0,002.00	- 10,000.10	#11,001.00	, ,,,. <u></u> 01	-110,001.00	-00,100.74	+20,004.22	+ .04,000.10

Marginal Unit Costs								_		
		Noncore Wholesa	le							
							Total O&M Cost			
	EOR	Wholesale				International	for All			
							1			
	G-40	LB	SDG&E	SWG	Vernon	Ecogas	Customers			
	0-40		ODGGL	OWO	VOITIOII	Lougas	Customers	1		
2016 Number of Customers	33	1	1	1	1	1	5,721,670	cust 2		
2010 Number of Customers	33						3,721,070	Cust 2		
Marginal Investment: 2016 \$/Customer										
Meter & House Reg	\$262,839.23	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		cust 5		
Service Lines	\$222,966.35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		cust 5		
Exclusive Use Facilities	\$31,275.11	\$4,656,772.60	\$10,947,781.49	\$3,096,235.69	\$2,321,309.97	\$501,886.62		cust 6		
Total	\$517,080,69	\$4,656,772.60	\$10,947,781.49	\$3,096,235.69	\$2,321,309.97	\$501,886.62		cust 6		
Total	ψ517,000.05	\$4,030,772.00	\$10,547,701.45	\$5,050,255.05	92,321,303.31	\$301,000.02				
Weighted RECC factors used to annualize SRM capital costs										
Meter & House Req	9.39%	0	0	0	0	0		cust 10		
Service Lines	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%		cust 10		
Exclusive Use	10.05%	10.05%	10.05%	10.05%	10.05%	10.05%		cust 10		
Annualized Marginal Investment: \$/Cust.										
Meter & House Reg	\$24,672.44	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00				
Service Lines	\$17,392.14	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00				
Exclusive Use Facilities	\$3,142.18	\$467,862.08	\$1,099,914.53	\$311,076.23	\$233,220.09	\$50,424.13		1		
Total Annualized Marginal Investment: 2020 \$/Cust.	\$45,206.77	\$467,862.08	\$1,099,914.53	\$311,076.23	\$233,220.09	\$50,424.13		j		
O&M: \$/Customer								1		
Customer Services O&M Cost 2016\$'s \$000/year	\$1.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$141,932.81	cust 8		
2016 Number of Customers	33	1	1	1	1	1	5,721,670	cust 2		
Customer Services O&M \$/Customer 2016\$	\$45.48	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$24.81	1		
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	Loader Model		
Customer Services O&M \$/Customer 2020\$	\$49.95	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.24			
	+				<b>+</b>			1		
Customer Accounts O&M 2013\$'s \$000/yr	\$77.78	\$7.85	\$6.27	\$12.60	\$5.63	\$3.89	\$116,733.31	cust 8		
2016 Number of Customers	33	1	1	1	1	1		cust 0		
Customer Services O&M \$/Customer 2016\$	\$2,356.87	\$7,850.76	\$6,267.17	\$12,601.52	\$5,630.09	\$3,891.80	\$20.40	Cust Z		
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	Loader Model		
								Luadel Mudel		
Customer Accounts O&M \$/Customer 2020\$	\$2,588.19	\$8,621.27	\$6,882.26	\$13,838.29	\$6,182.65	\$4,273.76	\$22.40			
Marria Marria Des COM Taral Cons	670.00	640.00	640.00	605.00	60.00	60.00	640 740 00			
Meter & House Reg O&M Total Cost	\$70.00	\$13.00	\$13.00	\$25.00	\$2.00	\$2.00	\$10,718.00	cust 8		
2016 Number of Customers	33	1	1	1	1		5,721,670	cust 2		
Customer Services O&M \$/Customer 2016\$	\$2,121.21	\$13,000.00	\$13,000.00	\$25,000.00	\$2,000.00	\$2,000.00	\$1.87			
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	Loader Model		
Meter & House Reg O&M \$/Customer 2020\$	\$2,329.40	\$14,275.88	\$14,275.88	\$27,453.62	\$2,196.29	\$2,196.29	\$2.06			
Total Service										
Line Footage	11,524	0	0	0	0	0	324,549,532	cust 8		
	11,324	U	U	U	U	U	324,349,332	cust o		
Percent of										
Total Footage	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%			
Allocated SL O&M Costs \$000	\$1	\$0	\$0	\$0	\$0	\$0	\$29,619	cust 8		
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	Loader Model		
Allocated SL O&M Costs 2020\$'s	\$1	\$0	\$0	\$0	\$0	\$0	\$32,526		\$0	\$0
2016 Number of Customers	33	1	1	1	1	1	5,721,670	cust 2		
Service Lines O&M \$/Customer 2020\$	\$35.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5.68			
		•	-	•	•	•				
Customer Service & Information Cost (CSI) Costs Accounts (FERC	A						1	1		
2016 Number of Customers	33	1	1	1	1	1	5.721.670			
Customer Services & Information O&M \$/Customer 2016\$	\$14,319.86	\$130,781.85	\$123,834.41	\$143,287.23	\$105,771.08	\$57,682.49	\$7.26	\$0.00	S	0.00
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	Loader Model		
Customer Accounts O&M \$/Customer 2020\$	\$15,725.27	\$143,617.39	\$135,988.10	\$157,350.11	\$116,151.95	\$63,343.72	\$7.98			
			•					l		
								1		
Total Direct O&M \$/customer/yr	\$20,727,80	\$166,514,54	\$157,146.25	\$198,642.02	\$124,530.89	\$69,813.77	\$65.36			
					. , ,	,				
O&M Loaders: \$/Customer										
Administrative & General as % of O&M	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	cust 4. a&q		
Administrative & General \$/customer/yr 2020\$'s	\$9,044.85	\$72,660.82	\$68,572.84	\$86,680.07	\$54,340.70	\$30,464.16	\$28.52	0001 4, 009		
Administrative & General groupsomery 2020g a	\$3,044.03	\$72,000.02	900,372.04	φου,000.07	ψ54,540.70	\$30,404.10	\$20.5Z			
General Plant as % of O&M	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	cust 4, gen plant		
General Plant \$/customer/yr 2020\$'s	\$9.314.90	\$74.830.26	\$70.620.23	\$89.268.08	\$55.963.16	\$31,373,73	\$29.37	cust 4, gen plant		
General Flant \$/customer/yr 2020\$ \$	\$9,514.90	\$74,030.20	\$70,020.23	\$09,200.00	\$33,863.16	\$31,373.73	\$29.37			
Materials & Supplies Loader:										
Materials & Supplies Loader:  Per Customer Direct+A&G+GP O&M \$/customer/yr	\$39,087.56	\$244 DOE CO	\$206 220 24	\$274 E00 47	£224 024 TF	\$124 CE1 CC	1	1		
2016 Number of Customers		\$314,005.62	\$296,339.31	\$374,590.17	\$234,834.75	\$131,651.66	5 721 670	cust 2		
	33	1	1	1	1	1 0100		cust 2		
Total Direct+A&G+GP O&M \$000/yr	\$1,290	\$314	\$296	\$375	\$235	\$132	\$705,241.21	1		
Percent of Total	0.18%	0.04%	0.04%	0.05%	0.03%	0.02%	100.00%	I		
Allocated M&S \$2,930,464.06	\$5,360	\$1,305	\$1,231	\$1,557	\$976	\$547	\$2,930,464.06	Loader Model		
2016 Number of Customers	33	1	1	1	1	1	5,721,670	cust 2		
M&S Loader \$/customer/yr 2020\$s	\$162.42	\$1,304.78	\$1,231.37	\$1,556.52	\$975.80	\$547.05	\$0.51	1		
								1		
Total O&M Loaders \$/customer/yr	\$18,522.17	\$148,795.86	\$140,424.43	\$177,504.67	\$111,279.65	\$62,384.94	\$58.41	4		
	· · · · · · · · · · · · · · · · · · ·	·		·				1		
LRMC Rental Customer Cost \$/customer/year	\$84,456.75	\$783,172.48	\$1,397,485.22	\$687,222.92	\$469,030.64	\$182,622.84	\$123.77	1		

RMC Customer Cost/Rental Method  Marginal Unit Costs																			
-	Core												Core		Noncore Retai				
	Residential	N. 4. 40	Master Meter		Desidential	Non-Residenti Commercial/In						Non-Residentia		0	0.00 No.	- 001		0	1 50
	Single	Multi			Residential							Air	Natural Gas	Gas	G-30 - Noncor	B C&I		Small EG	Large EG
	Family (Detached		(up to 100,000	(100,001 therms per year and		Very Small - up to 300	Small - 301 to 3.000	Medium - 3.001 to 50.000	Large - 50,001 to 250,000	Very Large - Over 250,000									
	homes)	Family	therms/year)	greater)	Total or Avg.	therms/year	therms/year	therms/year	therms/year	therms/year	Average	Conditioning	Vehicle	Engine	Distribution	Transmission	Total	< 3million	> 3million
Total Rental Capital (\$000) before RECC			1	l I	\$12,670,237	\$850,072	\$788,263	\$909,480	\$122,840	\$30,703		\$149	\$33,164	\$154,646	\$223,458	\$25,530	\$250,317	\$43,185	\$83,923
NCO Method:																			
2016 Number of Customers	3.674.386	1,721,561	120,217	49	5,516,213	88.060	63,785	49.146	2,258	331	203,580	9	245	718	534	20	554	250	63
New Hookups Rate	0.54%	0.70%	0.19%	0.00%	0.59%	0.77%	0.72%	0.59%	0.35%	0.30%	0.70%	0.00%	3.67%	1.81%	0.19%	0.00%	0.18%	19.20%	0.00%
No of New Customer Hookups /year	19,921	12,121	234	0	32,276	679	457	290	8	1	1,435	0	9	13	1	0	1	10	0
Marginal Investment: \$/Customer																			
Meter & House Reg	\$378.33	\$209.17	\$1,805.27	\$19,464.95	\$356.80	\$606.59	\$1,309.98	\$2,824.17	\$8,953.92	\$12,576.46	\$1,474.36	\$8,989.56	\$49,799.80	\$5,591.55	\$93,227.93	\$396,314.38	\$105,723.45	\$70,473.40	\$766,675.1
Service Lines Exclusive Use Facilities	\$1,773.76 \$0.00	\$1,773.65 \$0.00	\$9,356.02 \$0.00	\$130,050.51 \$0.00	\$1,940.10 \$0.00	\$9,046.73 \$0.00	\$11,048.15 \$0.00	\$15,681.51 \$0.00	\$45,448.16 \$0.00	\$80,180.63 \$0.00	\$11,794.90 \$0.00	\$7,575.11 \$0.00	\$85,563.97 \$0.00	\$209,792.28 \$0.00	\$313,478.61 \$11.753.92	\$851,964.79 \$28,220,26	\$332,918.54 \$13.193.02	\$102,268.50 \$0.00	\$367,802.7 \$197.632.7
Total Marginal Investment \$/customer	\$2,152.09	\$1,982.82	\$11,161.30	\$149,515.46	\$2,296.91	\$9,653.32	\$12,358.13	\$18,505.68	\$54,402.08	\$92,757.09	\$13,269.27	\$16,564.66	\$135,363.77	\$215,383.82	\$418,460.46	\$28,220.26 ####################################	\$0.00	\$172,741.89	
Weighted PVRR for Meter & House Reg PVCC for Service Lines	129.06% 129.33%	129.13% 129.33%	129.12% 129.33%	129.23% 129.33%	129.03% 129.33%	129.10% 129.33%	129.09% 129.33%	129.11% 129.33%	129.12% 129.33%	129.08% 129.33%	128.89% 129.33%	129.11% 129.33%	129.30% 129.33%	129.21% 129.33%	129.28% 129.33%	129.30% 129.33%	129.30% 129.33%	129.31% 129.33%	129.31% 129.33%
PVCC for Service Lines	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.3376	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	128.33%
PVRR: Meter & House Reg \$/customer	\$488.29	\$270.10	\$2,330.94	\$25,154.06	\$460.37	\$783.12	\$1,691.00	\$3,646.40	\$11,561.12	\$16,233.41	\$1,900.30	\$11,606.23	\$64.391.70	\$7,224.81	\$120,526.94	\$512.451.44	\$136,701,70	\$91,131.66	\$991.414.8
Service Lines \$/customer	\$2 293 99	\$2,293,85	\$12,330.94	\$168.193.98	\$2 509 13	\$11 700 12	\$1,091.00	\$20,280.85	\$58,777.98	\$103.697.40	\$1,900.30		\$110,659,66	\$271.323.80	\$405,421.06	\$1 101 843 84		\$132 263 58	
PVRR of Hookup Cost \$/customer	\$2,782.28	\$2,563.95	\$14,431.06	\$193,348.05	\$2,969.50	\$12,483,24	\$15,979,54	\$23,927.25	\$70,339,10	\$119.930.81	\$17,154,62		\$175.051.36	\$278,548.61	\$525.948.01	###########		\$223.395.24	\$1,467,093.
Total PVRR of Hookup Cost for Class \$'s	\$55,425,885	\$31.077.696	\$3,376,867	\$0	\$95.843.660	\$8,476,117	\$7.302.651	\$6,938,904	\$562.713	\$119.931	\$24.616.875	\$0	\$1.575.462	\$3.621.132	\$525,948	\$0	\$567.264	\$2,233,952	\$0
PVRR of Hookup Cost \$/customer	\$15.08	\$18.05	\$28.09	\$0.00	\$17.37	\$96.25	\$114.49	\$141.19	\$249.21	\$362.33	\$120.92	\$0.00	\$6,430.46	\$5,043.36	\$984.92	\$0.00	\$1,023.94	\$8,935.81	\$0.00
O&M Cost w/Loaders \$/Cust.																			
Total Direct O&M	\$58.12	\$54.64	\$67.36	\$158.28	\$57.23	\$139.34	\$161.81	\$381.05	\$973.38	\$1,836.92	\$216.74		\$18,079.40	\$574.94	\$5,440.26	\$5,503.41	\$9,455.82	\$6,039.24	\$17,933.71
Total O&M Loaders \$/customer/yr	\$51.93	\$48.83	\$60.19	\$141.44	\$51.14	\$124.51	\$144.59	\$340.51	\$869.80	\$1,641.46	\$193.68	\$2,566.17	\$16,155.58	\$513.76	\$4,861.36	\$4,917.80	\$8,449.63	\$5,396.61	\$16,025.40
LRMC NCO Customer Cost \$/customer/year	\$125.13	\$121.52	\$155.65	\$299.72	\$125.75	\$360.10	\$420.89	\$862.75	\$2,092.39	\$3,840.70	\$531.34	\$5,437.92	\$40,665.44	\$6,132.06	\$11,286.54	\$10,421.20	\$18,929.39	\$20,371.66	\$33,959.11
NCO w/ Replacement Cost Adder																			
Marginal Investment: Meter & House Reg \$/Customer	\$378.33	\$209.17	\$1.805.27	\$19.464.95	\$356.80	\$606.59	\$1,309,98	\$2.824.17	\$8.953.92	\$12.576.46	\$1,474,36	\$8,989,56	\$49,799,80	\$5.591.55	\$93,227,93	\$396.314.38	\$105,723,45	\$70.473.40	\$766,675,1
Service Lines Replacement Cost	\$6,674,62	\$7,917.63	\$14,373.42	\$160,276.57	\$7,231.70	\$14,393.15	\$17,029.09	\$22,772.18	\$71.036.90	\$182,652.55	\$18.143.64		\$112,536.62	\$312,229.22	\$342,511.43	,	\$363,286.25	\$108,519.95	\$350,966.12
Exclusive Use Facilities	\$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	\$11.753.92	\$28.220.26	\$13,193.02	\$0.00	\$197.632.73
Total	\$2,152.09	\$1,982.82	\$11,161.30	\$149,515.46	\$2,296.91	\$9,653.32	\$12,358.13	\$18,505.68	\$54,402.08	\$92,757.09	\$13,269.27		\$135,363.77	\$215,383.82	\$418,460.46	############	\$0.00	\$172,741.89	
Weight of DVDD (on Marco A House Dec	400.000/	400 400/	400 400/	400 000/	400.000/	400 400/	400.000/	400 440/	400 400/	400.000/	400.000/	400 440/	400.000/	400.040/	400.000/	400.000/	400.000/	400.040/	400.040/
Weighted PVRR for Meter & House Reg PVCC for Service Lines	129.06%	129.13% 129%	129.12% 129%	129.23% 129%	129.03% 129%	129.10% 129%	129.09% 129%	129.11% 129%	129.12% 129%	129.08% 129%	128.89% 129%	129.11% 129%	129.30% 129%	129.21% 129%	129.28% 129%	129.30% 129%	129.30% 129%	129.31% 129%	129.31% 129%
PVCC for Service Lines PVCC for Exclusive Use Facilities (Meters)	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%
Weighted Replacement Factor for Meter & House Reg	1.79%	1.27%	1.63%	0.97%	1.96%	1.66%	1.77%	1.65%	1.82%	2.13%	2.75%	1.88%	0.40%	1.04%	0.37%	0.42%	0.38%	0.29%	0.29%
Replacement Factor for Service Lines	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Replacement Factor for Exclusive Use Facilities															4.00%	4.00%	4.00%	4.00%	4.00%
Meter & House Reg, Replacement	\$8.76	\$3.42	\$37.99	\$244.29	\$9.01	\$12.98	\$29.88	\$60.24	\$210.75	\$345.38	\$52.21	\$218.33	\$256.55	\$74.90	\$451.86	\$2,128.85	\$520.11	\$263.24	\$2,863.77
Service Lines, Replacement	\$128.84	\$152.83	\$277.45	\$3,093.81	\$139.59	\$277.83	\$328.71	\$439.57	\$1,371.22	\$3,525.73	\$350.23	\$220.96	\$2,172.29	\$6,026.94	\$6,611.48	\$17,719.60	\$7,012.49	\$2,094.75	\$6,774.68
Exclusive Use Facilities, Replace															\$604.51	\$1,451.38	\$678.52	\$0.00	\$10,164.36
Replacement Adder \$/Customer	\$137.60	\$156.25	\$315.44	\$3,338.10	\$148.60	\$290.81	\$358.59	\$499.81	\$1,581.97	\$3,871.11	\$402.43	\$439.29	\$2,428.84	\$6,101.84	\$7,667.85	\$21,299.83	\$8,211.13	\$2,358.00	\$19,802.81
NCO w/o Repl Cost \$/Cust/vr	\$125.13	\$121.52	\$155.65	\$299.72	\$125.75	\$360.10	\$420.89	\$862.75	\$2 092 39	\$3,840,70	\$531.34	\$5 437 92	\$40,665,44	\$6 132 06	\$11.286.54	\$10.421.20	\$18 929 39	\$20.371.66	\$33,959,11
NCO w/ Repl Cost: \$/Cust/vr.	\$262.73	\$277.77	\$471.09	\$3,637,83	\$274.36	\$650.91	\$779.49	\$1,362,56	\$3,674,36	\$7,711.81	\$933.78	\$5.877.21		\$12,233,90	\$18,954.39	\$31,721.04	\$27,140.52	\$22,729.66	\$53,761.93

Marginal Unit Costs								
		Noncore Wholesa	le					1
	EOR	Wholesale				International	Total O&M Cost for All	
	EUK	WHOlesale				memational	T IOI AII	
							H	
	G-40	LB	SDG&E	SWG	Vernon	Ecogas	Customers	
Total Rental Capital (\$000) before RECC	\$17,064	\$4,657	\$10,948	\$3,096	\$2,321	\$502		\$16,224,553
							H	
NCO Method:							H	
2016 Number of Customers	33	1	1	1	1	1	5,721,670	cust 2
New Hookups Rate No of New Customer Hookups /year	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	33,744	
110 of 11011 Outstation Floorage / your	Ü			Ü	Ü	ŭ	00,744	
Marginal Investment: \$/Customer							H	
Meter & House Reg Service Lines	\$262,839.23 \$222,966.35	\$0.00 \$0.00	\$0.00 \$0.00	\$0.00 \$0.00	\$0.00 \$0.00	\$0.00 \$0.00	11	cust 5 cust 5
Exclusive Use Facilities	\$31,275.11	\$4,656,772.60	\$10,947,781.49	\$3.096.235.69	\$2,321,309.97	\$501,886.62	H	cust 6, cust 7
Total Marginal Investment \$/customer	\$517,080.69	\$4,656,772.60	\$10,947,781.49	\$3,096,235.69	\$2,321,309.97	\$501,886.62	ı T	1
							H	
Weighted PVRR for Meter & House Reg	129.33%						H	cust 10
PVCC for Service Lines	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	H	2013 RECC
PVRR:							H	
Meter & House Reg \$/customer	\$339,919.37	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	H	
Service Lines \$/customer	\$288,361.79	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	ll	
PVRR of Hookup Cost \$/customer	\$628,281.17	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		
Total PVRR of Hookup Cost for Class \$'s  PVRR of Hookup Cost \$/customer	\$0.00	\$0.00	\$0 \$0.00	\$0.00	\$0.00	\$0 <b>\$0.00</b>	H	
1 VIII of Hookup Cost (Foustoille)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	H	
O&M Cost w/Loaders \$/Cust.							H	
Total Direct O&M	\$20,727,80	\$166.514.54	\$157.146.25	\$198,642.02	\$124,530.89	\$69,813.77	H	
Total O&M Loaders \$/customer/yr	\$18,522.17	\$148,795.86	\$140,424.43	\$177,504.67	\$111,279.65	\$62,384.94	H	
Total Odin Educid Gradianiany	ψ10,022.17	\$140,700.00	\$140,424.40	\$111,004.01	\$111,E70.00	Q02,004.04	H	
LRMC NCO Customer Cost \$/customer/year	\$39,249.98	\$315,310.40	\$297,570.68	\$376,146.69	\$235,810.55	\$132,198.71		1
								1
NCO w/ Replacement Cost Adder							H	
Marginal Investment: Meter & House Reg \$/Customer	\$262,839.23	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	H	cust 5
Service Lines Replacement Cost	\$313,328.03	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	H	cust 5
Exclusive Use Facilities	\$31,275.11	\$4,656,772.60	\$10,947,781.49	\$3,096,235.69	\$2,321,309.97	\$501,886.62	H	cust 6, cust 7
Total	\$517,080.69	\$4,656,772.60	\$10,947,781.49	\$3,096,235.69	\$2,321,309.97	\$501,886.62	H	
Weighted PVRR for Meter & House Reg	129.33%						H	cust 10
PVCC for Service Lines	129%						H	2013 RECC
PVCC for Exclusive Use Facilities (Meters)	129%	129%	129%	129%	129%	129%	H	
							H	
Weighted Replacement Factor for Meter & House Reg	0.21% 1.5%						H	cust 10
Replacement Factor for Service Lines Replacement Factor for Exclusive Use Facilities	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	H	cust 10
							H	
Meter & House Reg, Replacement	\$703.78						ıl	
Service Lines, Replacement	\$6,048.15						ıl	
Exclusive Use Facilities, Replace	\$1,608.50	\$239,500.36	\$563,050.40	\$159,241.10	\$119,386.24	\$25,812.30	<u> </u>	]
Replacement Adder \$/Customer	\$8,360.43	\$239,500.36	\$563,050.40	\$159,241.10	\$119,386.24	\$25,812.30		]
		·		·			11	
NCO w/o Repl Cost: \$/Cust/yr NCO w/ Repl Cost: \$/Cust/yr.	\$39,249.98 \$47,610.41	\$315,310.40 \$554,810.76	\$297,570.68 \$860,621.08	\$376,146.69 \$535,387.79	\$235,810.55 \$355,196.79	\$132,198.71 \$158,011.01	<del> </del>	4
reco w/ nepi cost: a/cust/yi.	\$47,010.4T	φ334,01U./δ	φ00U,0∠1.U8	4333,301.19	4000,190.79	\$130,U11.U1	<u> </u>	1

							Core							1
			Residential							Non-Resid	lential			
	Single	Multi	Master	Meter	Residential			G-10	)			Gas Air	Natrual Gas	Gas
	Family	Family	Small	Large	Total	Very Small	Small	Medium	Large	Very Large	Total	Conditioning	Vehicle	Engine
2016 Number of Customers	3,674,386	1.721.561	120.217	49	5,516,213	88.060	63.785	49,146	2.258	331	203,580	9	245	718

							Nonco	re						
							Non-Resid	ential						Total
			G-30		Small	Large	EOR		Whole	sale		Internat	tional	Over All
		Distribution	Transmission	Total	EG	EG	G-40	LB	SDG&E	SWG	Vernon	Mexacali	Rosarito	Customers
ſ	2016 Number of Customers	534	20	554	250	63	33	1	1	1	1	1	0	5.721.670

1) Residential Segmentation
1a) Segmentation of Residential Total Customer Counts into Bands

, •			Residential		
	Single	Multi	Master	Meter	
	Family	Family	Small	Large	Total
2016 Number of Customers	3,674,386	1,721,561	120,217	49	5,516,213
Percent of Total	67%	31%	2%	0%	100%

values from 'Number of Customers', cust 2 tab

1b) Segmentation of Residential Meter, Regulator & MSA Investment Costs into Bands

···, ···g					
			Residential		
	Single	Multi	Master	Meter	
	Family	Family	Small	Large	Total
Per Cust. Meter, Reg. & MSA Investment	\$378.33	\$209.17	\$1,805.27	\$19,464.95	
2016 Number of Customers	3,674,386	1,721,561	120,217	49	5,516,213
Total Meter, Reg. & MSA Investment	\$1,390,130,056	\$360,099,530	\$217,024,674	\$953,783	\$1,968,208,042
Percent of Total Meter, Reg. & MSA Investment	71%	18%	11%	0%	100%

note: used to segment Meters, Regulators & MSAs O&M Costs values from 'Investment Meters, REGs', cust 5 tab

### 2) G10 Segmentation

#### 2a) Segmentation of G-10 Total Customer Counts into Bands

			G-1	0		
	Very Small	Small	Medium	Large	Very Large	Total
2016 Number of Customers	88,060	63,785	49,146	2,258	331	203,580
Percent of Total	43%	31%	24%	1%	0%	100%

values from 'Number of Customers', cust 2 tab

2b) Segmentation of G-10 Meter, Regulator & MSA Investment Costs into Bands

			G-1	0		
	Very Small	Small	Medium	Large	Very Large	Total
Per Cust. Meter, Reg & MSA Investment	\$606.59	\$1,309.98	\$2,824.17	\$8,953.92	\$12,576.46	
2016 Number of Customers	88,060	63,785	49,146	2,258	331	203,580
Total Meter, Reg & MSA Investment	\$53,416,216	\$83,557,068	\$138,796,556	\$20,217,962	\$4,162,809	\$300,150,611
Percent of Total Meter, Reg & MSA Investment	18%	28%	46%	7%	1%	100%

note: used to segment Meters, Regulators & MSAs O&M Costs values from 'Investment Meters, REGs', cust 5 tab

#### 3) G 30 Segmentation

3a) Segmentation of G-30 total customer counts by Service Level

		G-30	
	Distribution	Transmission	Total
2016 Number of Customers	534	20	554
Percent of Total	96%	4%	100%

values from 'cust 2' tab

#### 3b) Allocation of G-30 Total Big GEMS Costs by Service Level

			G-30	
		Distribution	Transmission	Total
Meter/Reg Investment Cost Per Customer	2013 \$s	\$93,227.93	\$396,314.38	
2016 Number of Customers		534	20	554
Total Cost	2013 \$s	\$49,783,716	\$7,926,288	\$57,710,004
Percent of Total Cost		86%	14%	100%

note: used to segment Meters, Regulators & MSAs O&M Costs values from 'Investment Meters, REGs', cust 5 tab

#### SCG 2020 TCAP LRMC Customer Cost Average Per Customer Investment in Meters & Regulators by Customer Class

									Core						
				Residential							Non-Residential				
		Single	Multi	Maste	r Meter	Residential			G	-10			Gas Air	Natrual Gas	Gas
Investment Per Cu	stomer:	Family	Family	Small	Large	Average	Very Small	Small	Medium	Large	Very Large	Average	Conditioning	Vehicle	Engine
Meter, Reg.	2016 \$s	\$334.23	\$184.79	\$1,594.85	\$17,196.05	\$315.21	\$535.88	\$1,157.28	\$2,494.97	\$7,910.22	\$11,110.51	\$1,302.51	\$7,941.70	\$43,994.96	\$4,939.78
Meter, Reg.	2020 \$s	\$378.33	\$209.17	\$1,805.27	\$19,464.95	\$356.80	\$606.59	\$1,309.98	\$2,824.17	\$8,953.92	\$12,576.46	\$1,474.36	\$8,989.56	\$49,799.80	\$5,591.55
Total \$378.33 \$209.17 \$1,805.27 \$19,464.95 \$356						\$356.80	\$606.59	\$1,309.98	\$2,824.17	\$8,953.92	\$12,576.46	\$1,474.36	\$8,989.56	\$49,799.80	\$5,591.55

For Res and Non-Residential G10 customers we multiply 5 yr average meter size and pressure type combination for new customers per class times unit cost for each associated combination. For other classes we multiply average meter size and pressure type combination for all customers per class times unit cost for each associated combination.

#### Average Per Customer Investment in Service Lines by Customer Class

									Core						
				Residentia							Non-Residential				•
		Single	Multi	Maste	r Meter	Residential			G	-10			Gas Air	Natrual Gas	Gas
Investment Per Cu	stomer:	Family	Family	Small	Large	Average	Very Small	Small	Medium	Large	Very Large	Average	Conditioning	Vehicle	Engine
Service Lines	2016 \$s	\$1,567.00	\$1,566.90	\$8,265.45	\$114,891.36	\$1,713.96	\$7,992.22	\$9,760.34	\$13,853.62	\$40,150.56	\$70,834.49	\$10,420.05	\$6,692.13	\$75,590.33	\$185,338.15
Service Lines	2020 \$s	1,773.76	1,773.65	9,356.02	130,050.51	1,940.10	9,046.73	11,048.15	15,681.51	45,448.16	80,180.63	11,794.90	7,575.11	85,563.97	209,792.28
Total 1,773.76 1,773.65 9,356.02 130,050.51 1,940.1					1,940.10	9,046.73	11,048.15	15,681.51	45,448.16	80,180.63	11,794.90	7,575.11	85,563.97	209,792.28	

formerly tabs: 'Investment Meter, Reg' and 'Investment Service Lines'
For residential and non-residential G10 customers we multiply Ken's 5 yr average footage, pipe type, pipe size configuration per class times Distribution Managers' cost per foot each associated configuration.
For other classes we multiply average footage, pipe type and pipe size combination for all customers per class times unit cost for each associated combination.

#### Service Lines Replacement Costs

									Core						
				Residential							Non-Residential				
		Single	Multi	Master	r Meter	Residential			G-	-10		Gas Air	Natrual Gas	Gas	
, , , ,					Average	Very Small	Small	Medium	Large	Very Large	Average	Conditioning	Vehicle	Engine	
Service Lines Repla	ceme 2016 \$s	5,896.60	6,994.72	12,698.01	141,594.17	6,388.75	12,715.43	15,044.12	20,117.78	62,756.59	161,361.92	16,028.75	10,112.73	99,418.96	275,834.68
Service Lines			7,917.63	14,373.42	160,276.57	7,231.70	14,393.15	17,029.09	22,772.18	71,036.90	182,652.55	18,143.64	11,447.04	112,536.62	312,229.22
Total	Fotal         6,674.62         7,917.63         14,373.42         160,276.57         7,231.70				7,231.70	14,393.15	17,029.09	22,772.18	71,036.90	182,652.55	18,143.64	11,447.04	112,536.62	312,229.22	

#### SCG 2020 TCAP LRMC Customer Cost Average Per Customer Investment in

							Noncore							
							Non-Resident	al						Total
	<3 Million													
	G-30 SM. COGEN >3 Million EG EOR Wholesale International Over restment Per Customer: Distribution Transmission Average G-50 G-50 G-50 EB SDG&E SWG Vernon DGN Rosarito Custor												Over All	
Investment Per Cu	ustomer:	Distribution	Transmission	Average	G-50	G-50	G-40	LB	SDG&E	SWG	Vernon	DGN	Rosarito	Customers
Meter, Reg.	2016 \$s	\$82,360.96	\$350,118.57	\$97,210.60	\$62,258.77	\$677,308.75	\$241,675.42	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Meter, Reg.	2020 \$s	\$93,227.93	\$396,314.38	\$105,723.45	\$70,473.40	\$766,675.11	\$262,839.23	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Total		\$93,227.93	\$396,314.38	\$105,723.45	\$70,473.40	\$766,675.11	\$262,839.23	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	

For Res and Non-Residential G10 custo For other classes we multiply average m

Average Per Customer Investment in Service Lines by Customer Class

							Noncore							
							Non-Residenti	al						Total
			G-30		SM. COGEN	EG	EOR		Wh	olesale		Interna	ational	Over All
Investment Per Cu	istomer:	Distribution Transmission Average G-50 G-50 G-40 LB SDG&E SWG Vernon DGN Rosarito Custor												Customers
Service Lines	2016 \$s	\$276,938.43	\$752,656.77	\$294,112.38	\$90,347.72	\$324,930.32	\$196,976.60	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Service Lines	2020 \$s	313,478.61	851,964.79	332,918.54	102,268.50	367,802.70	222,966.35	0.00	0.00	0.00	0.00	0.00	0.00	
Total		313,478.61	851,964.79	332,918.54	102,268.50	367,802.70	222,966.35	0.00	0.00	0.00	0.00	0.00	0.00	

formerly tabs: 'Investment Meter, Reg' a For residential and non-residential G10 For other classes we multiply average for

#### Service Lines Replacement Cost

Service Lines Rep	placement Costs													
							Noncore							
							Non-Resident	ial						Total
			G-30		SM. COGEN	EG	EOR		Wh	olesale		Intern	ational	Over All
Investment Per Co	ustomer:	Distribution	Transmission	Average	G-50	G-50	G-40	LB	SDG&E	SWG	Vernon	DGN	Rosarito	Customers
Service Lines Repl	aceme 2016 \$s	302,587.08	810,971.81	320,940.32	95,870.48	310,056.27	276,805.41	0.00	0.00	0.00	0.00	0.00	0.00	
Service Lines	2020 \$s	342,511.43	917,974.12	363,286.25	108,519.95	350,966.12	313,328.03	0.00	0.00	0.00	0.00	0.00	0.00	
Total		342,511.43	917,974.12	363,286.25	108,519.95	350,966.12	313,328.03	0.00	0.00	0.00	0.00	0.00	0.00	

ke         Element         Size         Above Std         nonlabor s/meter         avg \$/meter         avg \$/mete	Total \$209 \$173 \$308 \$902 \$867 \$967 \$1,280
SGL     1     0     \$144     \$47     \$18       MULT     1     0     \$121     \$47     \$5       AG     3     0     \$166     \$124     \$18       CMB     3     \$363     \$427     \$112       LBS     3     1     \$161     \$427     \$279       SZ     4     0     \$171     \$577     \$219	\$173 \$308 \$902 \$867 \$967 \$967
AG 3 0 \$166 \$124 \$18 CMB 3 \$363 \$427 \$112 LBS 3 1 \$161 \$427 \$279 SZ 4 0 \$171 \$577 \$219	\$308 \$902 \$867 \$967 \$967
CMB     3     \$363     \$427     \$112       LBS     3     1     \$161     \$427     \$279       SZ     4     0     \$171     \$577     \$219	\$902 \$867 \$967 \$967
LBS 3 1 \$161 \$427 \$279 SZ 4 0 \$171 \$577 \$219	\$867 \$967 \$967
SZ 4 0 \$171 \$577 \$219	\$967 \$967
	\$967
SZ 5 0 \$171 \$577 \$219	\$1.280
CMB 4 \$309 \$713 \$258	Ψ1,200
CMB 5 \$309 \$713 \$258	\$1,280
@LBS 4 1 \$2,120 \$463 \$278	\$2,861
@LBS 5 1 \$2,120 \$463 \$278	\$2,861
STD 6 0 \$1,437 \$730 \$219	\$2,386
STD 7 0 \$1,437 \$730 \$219	\$2,386
LBS 6 1 \$3,386 \$730 \$279	\$4,395
LBS 7 1 \$3,386 \$730 \$279	\$4,395
STD 8 0 \$1,437 \$818 \$280	\$2,535
STD 9 0 \$1,437 \$818 \$280	\$2,535
LBS 8 1 \$3,386 \$818 \$640	\$4,844
LBS 9 1 \$3,386 \$818 \$640	\$4,844
TURBINE METERS 10 \$422,967 \$17,118 \$3,300	\$443,385
ROTARY METERS 10 \$4,770 \$4,433 \$3,300	\$12,503
ULTRASONIC METERS 12 \$906,081 \$119,284 \$0	\$1,025,365

ode	Rate	Meter Size (1)	Above	Number of customers	avg labor \$/meter	ova ¢lmot	avg \$/regulator	tot lab	tot met	tot reg	tot cost	Average Meter of Regulator CAPE Customer
0 0	SF	Size (1)	Std (2)	<b>(3)</b> 44.606	\$/meter \$143.91	avg \$/meter \$47.02	\$18.07	\$6,419,106	\$2,097,153	\$806,036	\$9,322,294	\$208.99
J	SF SF	3	0	30,792	\$143.91 \$166.35	\$47.02 \$123.97	\$18.07 \$18.07	\$5,122,146	\$2,097,153	\$556,415	\$9,322,294 \$9.495,735	\$208.99 \$308.38
	SF	3	1	19	\$161.18	\$427.15	\$279.00	\$3,062	\$8.116	\$5.301	\$16,479	\$867.33
	SF	4	0	5.457		\$576.52	\$219.00	\$934,503			\$5,275,633	\$966.76
	SF SF	4	1	34	\$171.25 \$2,120.25	\$462.92	\$278.00	\$934,503 \$72,088	\$3,146,047 \$15,739	\$1,195,083 \$9,452	\$5,275,633	\$966.76 \$2,861.17
	SF SF	5	0									
		5 6	0	282	\$171.25	\$576.52	\$219.00	\$48,292	\$162,577	\$61,758	\$272,628	\$966.76
	SF SF	6	1	985 41	\$1,437.05	\$729.76	\$219.00 \$279.00	\$1,415,492	\$718,818	\$215,715	\$2,350,024	\$2,385.81
		7	0		\$3,386.05	\$729.76		\$138,828	\$29,920	\$11,439	\$180,187	\$4,394.81
	SF	•	-	3	\$1,437.05	\$729.76	\$219.00	\$4,311	\$2,189	\$657	\$7,157	\$2,385.81
	SF	8	0	128	\$1,437.05	\$818.36	\$280.00	\$183,942	\$104,750	\$35,840	\$324,532	\$2,535.40
	SF	8	1	30	\$3,386.05	\$818.36	\$640.00	\$101,581	\$24,551	\$19,200	\$145,332	\$4,844.40
	SF	9	0	7	\$1,437.05	\$818.36	\$280.00	\$10,059	\$5,728	\$1,960	\$17,748	\$2,535.40
	SF	9	1	4	\$3,386.05	\$818.36	\$640.00	\$13,544	\$3,273	\$2,560	\$19,378	\$4,844.40
	SF	10	1	11	\$4,769.78	\$4,433.19	\$3,300.00	\$4,770	\$4,433	\$3,300	\$12,503	\$12,502.97
	tot SF			82,389				\$14,471,725	\$10,140,469	\$2,924,716	\$27,536,910	\$334.23
	MF	1	0	55,746	\$121.14	\$47.02	\$4.52	\$6,753,010	\$2,620,900	\$251,834	\$9,625,744	\$172.67
	MF	3	0	4,148	\$166.35	\$123.97	\$18.07	\$690,006	\$514,213	\$74,955	\$1,279,173	\$308.38
	MF	3	1	1	\$161.18	\$427.15	\$279.00	\$161	\$427	\$279	\$867	\$867.33
	MF	4	0	157	\$171.25	\$576.52	\$219.00	\$26,886	\$90,513	\$34,383	\$151,782	\$966.76
	MF	6	0	6	\$1,437.05	\$729.76	\$219.00	\$8,622	\$4,379	\$1,314	\$14,315	\$2,385.81
	ME	6	1	4	\$3,386.05	\$729.76	\$279.00	\$13,544	\$2,919	\$1,116	\$17,579	\$4,394.81
	MF	8	1	2	\$3,386.05	\$818.36	\$640.00	\$6,772	\$1,637	\$1,280	\$9.689	\$4.844.40
	tot MF			60,064		***************************************	******	\$7,499,001	\$3,234,987	\$365,161	\$11,099,150	\$184.79
	MM Band 1	1		470	£404.44	647.00	£4.50	<b>657.000</b>	#00.000	€0.407	f04.074	6470.07
	MM Band 1	3	0	473 141	\$121.14 \$166.35	\$47.02	\$4.52 \$18.07	\$57,299	\$22,238 \$17.479	\$2,137 \$2.548	\$81,674	\$172.67 \$308.38
		-				\$123.97		\$23,455			\$43,482	
	MM Band 1	3	1 0	13	\$161.18	\$427.15	\$279.00	\$2,095	\$5,553	\$3,627	\$11,275	\$867.33
	MM Band 1	4	-	204	\$171.25	\$576.52	\$219.00	\$34,935	\$117,609	\$44,676	\$197,220	\$966.76
	MM Band 1	4	1	37	\$2,120.25	\$462.92	\$278.00	\$78,449	\$17,128	\$10,286	\$105,863	\$2,861.17
	MM Band 1	5	0	14	\$171.25	\$576.52	\$219.00	\$2,397	\$8,071	\$3,066	\$13,535	\$966.76
	MM Band 1	6	0	151	\$1,437.05	\$729.76	\$219.00	\$216,994	\$110,194	\$33,069	\$360,258	\$2,385.81
	MM Band 1	6	1	39	\$3,386.05	\$729.76	\$279.00	\$132,056	\$28,461	\$10,881	\$171,398	\$4,394.81
	MM Band 1	7	0	2	\$1,437.05	\$729.76	\$219.00	\$2,874	\$1,460	\$438	\$4,772	\$2,385.81
	MM Band 1	8	0	60	\$1,437.05	\$818.36	\$280.00	\$86,223	\$49,101	\$16,800	\$152,124	\$2,535.40
	MM Band 1	8	1	63	\$3,386.05	\$818.36	\$640.00	\$213,321	\$51,556	\$40,320	\$305,197	\$4,844.40
	MM Band 1	9	0	11	\$1,437.05	\$818.36	\$280.00	\$15,808	\$9,002	\$3,080	\$27,889	\$2,535.40
	MM Band 1	9	1	35	\$3,386.05	\$818.36	\$640.00	\$118,512	\$28,642	\$22,400	\$169,554	\$4,844.40
	MM Band 1 tot MM 1	10	11	31 1,274	\$4,769.78	\$4,433.19	\$3,300.00	\$147,863 \$1,132,280	\$137,429 \$603.925	\$102,300 \$295,628	\$387,592 \$2,031,833	\$12,502.97 \$1,594.85
	OLIVIIVI I			1,214				ψ1,132,200	φυυσ,σ23	φ23J,020	φ2,031,033	φ1,J34.03
	MM Band 2	6	1	3	\$3,386.05	\$729.76	\$279.00	\$10,158	\$2,189	\$837	\$13,184	\$4,394.81
	MM Band 2	7	1	1	\$3,386.05	\$729.76	\$279.00	\$3,386	\$730	\$279	\$4,395	\$4,394.81
	MM Band 2	8	1	5	\$3,386.05	\$818.36	\$640.00	\$16,930	\$4,092	\$3,200	\$24,222	\$4,844.40
	MM Band 2	9	1	17	\$3,386.05	\$818.36	\$640.00	\$57,563	\$13,912	\$10,880	\$82,355	\$4,844.40
	MM Band 2	10	1	1	\$422,966.95	\$17,118.00	\$3,300.00	\$422,967	\$17,118	\$3,300	\$443,385	\$443,384.95
	MM Band 2	10	1	22	\$4,769.78	\$4,433.19	\$3,300.00	\$104,935	\$97,530	\$72,600	\$275,065	\$12,502.97
	tot MM 2			49				\$615,939	\$135,571	\$91,096	\$842,606	\$17,196.05

	B.:	Meter	Above	Number of customers	avg labor	•						Average Meter & Regulator CAPEX/
Code	Rate	Size (1)	Std (2)	(3)	\$/meter	avg \$/meter	avg \$/regulator	tot lab	tot met	tot reg	tot cost	Customer
S10	G10 Band 1	1	0	2,133	\$143.91	\$47.02	\$18.07	\$306,953	\$100,283	\$38,544	\$445,780	\$208.99
30	G10 Band 1	3	0	447	\$166.35	\$123.97	\$18.07	\$74,357	\$55,413	\$8,077	\$137,847	\$308.38
31	G10 Band 1	3	1	27	\$161.18	\$427.15	\$279.00	\$4,352	\$11,533	\$7,533	\$23,418	\$867.33
S40	G10 Band 1	4	0	309	\$171.25	\$576.52	\$219.00	\$52,916	\$178,143	\$67,671	\$298,730	\$966.76
41	G10 Band 1	4	1	24	\$2,120.25	\$462.92	\$278.00	\$50,886	\$11,110	\$6,672	\$68,668	\$2,861.17
S50	G10 Band 1	5	0	37	\$171.25	\$576.52	\$219.00	\$6,336	\$21,331	\$8,103	\$35,770	\$966.76
51	G10 Band 1	5	1	3	\$2,120.25	\$462.92	\$278.00	\$6,361	\$1,389	\$834	\$8,584	\$2,861.17
S60	G10 Band 1	6	0	88	\$1,437.05	\$729.76	\$219.00	\$126,460	\$64,219	\$19,272	\$209,951	\$2,385.81
61	G10 Band 1	6	1	43	\$3,386.05	\$729.76	\$279.00	\$145,600	\$31,380	\$11,997	\$188,977	\$4,394.81
S70	G10 Band 1	7	0	1	\$1,437.05	\$729.76	\$219.00	\$1,437	\$730	\$219	\$2,386	\$2,385.81
71	G10 Band 1	7	1	1	\$3,386.05	\$729.76	\$279.00	\$3,386	\$730	\$279	\$4,395	\$4,394.81
S80	G10 Band 1	8	0	23	\$1,437.05	\$818.36	\$280.00	\$33,052	\$18,822	\$6,440	\$58,314	\$2,535.40
81	G10 Band 1	8	1	26	\$3,386.05	\$818.36	\$640.00	\$88,037	\$21,277	\$16,640	\$125,954	\$4,844.40
91	G10 Band 1	9	1	6	\$3,386.05	\$818.36	\$640.00	\$20,316	\$4,910	\$3,840	\$29,066	\$4,844.40
100	G10 Band 1	10	1	5	\$4,769.78	\$4,433.19	\$3,300.00	\$23,849	\$22,166	\$16,500	\$62,515	\$12,502.97
	tot Band 1			3,173	* 1,1	* 1,100110	**,******	\$944,298	\$543,437	\$212,621	\$1,700,356	\$535.88
S10	G10 Band 2	1	0	551	\$143.91	\$47.02	\$18.07	\$79,293	\$25,905	\$9,957	\$115,155	\$208.99
30	G10 Band 2	3	0	517	\$166.35	\$123.97	\$18.07	\$86,001	\$64,091	\$9,342	\$159,434	\$308.38
31	G10 Band 2	3	1	22	\$161.18	\$427.15	\$279.00	\$3,546	\$9,397	\$6,138	\$19,081	\$867.33
S40	G10 Band 2	4	'n	615	\$171.25	\$576.52	\$219.00	\$105,318	\$354,557	\$134,685	\$594,560	\$966.76
41	G10 Band 2	4	1	49	\$2,120.25	\$462.92	\$278.00	\$103,892	\$22,683	\$13,622	\$140,197	\$2,861.17
S50	G10 Band 2	5	0	66	\$171.25	\$576.52	\$219.00	\$11,302	\$38,050	\$14,454	\$63,806	\$966.76
51	G10 Band 2	5	1	4	\$2,120.25	\$462.92	\$278.00	\$8,481	\$1,852	\$1,112	\$11,445	\$2,861.17
-		6	0	259								
S60	G10 Band 2		0		\$1,437.05	\$729.76	\$219.00	\$372,195	\$189,009	\$56,721	\$617,925	\$2,385.81
61	G10 Band 2	6	1	50	\$3,386.05	\$729.76	\$279.00	\$169,302	\$36,488	\$13,950	\$219,741	\$4,394.81
S70	G10 Band 2	7	0	1	\$1,437.05	\$729.76	\$219.00	\$1,437	\$730	\$219	\$2,386	\$2,385.81
71	G10 Band 2	7	1	1	\$3,386.05	\$729.76	\$279.00	\$3,386	\$730	\$279	\$4,395	\$4,394.81
S80	G10 Band 2	8	0	62	\$1,437.05	\$818.36	\$280.00	\$89,097	\$50,738	\$17,360	\$157,195	\$2,535.40
81	G10 Band 2	8	1	76	\$3,386.05	\$818.36	\$640.00	\$257,340	\$62,195	\$48,640	\$368,175	\$4,844.40
S90	G10 Band 2	9	0	3	\$1,437.05	\$818.36	\$280.00	\$4,311	\$2,455	\$840	\$7,606	\$2,535.40
91	G10 Band 2	9	1	23	\$3,386.05	\$818.36	\$640.00	\$77,879	\$18,822	\$14,720	\$111,421	\$4,844.40
100	G10 Band 2	10	1	6	\$4,769.78	\$4,433.19	\$3,300.00	\$28,619	\$26,599	\$19,800	\$75,018	\$12,502.97
	tot Band 2			2,305				\$1,401,399	\$904,302	\$361,839	\$2,667,540	\$1,157.28
S10	G10 Band 3	1	0	31	\$143.91	\$47.02	\$18.07	\$4,461	\$1,457	\$560	\$6,479	\$208.99
30	G10 Band 3	3	0	180	\$166.35	\$123.97	\$18.07	\$29,942	\$22,314	\$3,253	\$55,509	\$308.38
31	G10 Band 3	3	1	48	\$161.18	\$427.15	\$279.00	\$7,736	\$20,503	\$13,392	\$41,632	\$867.33
S40	G10 Band 3	4	0	695	\$171.25	\$576.52	\$219.00	\$119,018	\$400,679	\$152,205	\$671,901	\$966.76
41	G10 Band 3	4	1	58	\$2,120.25	\$462.92	\$278.00	\$122,974	\$26,849	\$16,124	\$165,948	\$2,861.17
S50	G10 Band 3	5	0	101	\$171.25	\$576.52	\$219.00	\$17,296	\$58,228	\$22,119	\$97,643	\$966.76
51	G10 Band 3	5	1	4	\$2,120.25	\$462.92	\$278.00	\$8,481	\$1,852	\$1,112	\$11,445	\$2,861.17
S60	G10 Band 3	6	0	625	\$1,437.05	\$729.76	\$219.00	\$898,155	\$456,103	\$136,875	\$1,491,132	\$2,385.81
61	G10 Band 3	6	1	117	\$3,386.05	\$729.76	\$279.00	\$396,168	\$85,382	\$32,643	\$514,193	\$4,394.81
S70	G10 Band 3	7	0	6	\$1,437.05	\$729.76	\$219.00	\$8,622	\$4,379	\$1,314	\$14,315	\$2,385.81
71	G10 Band 3	7	1	2	\$3,386.05	\$729.76	\$279.00	\$6,772	\$1,460	\$558	\$8,790	\$4,394.81
S80	G10 Band 3	8	0	234	\$1,437.05	\$818.36	\$280.00	\$336,269	\$191,495	\$65,520	\$593,284	\$2,535.40
81	G10 Band 3	8	1	212	\$3,386.05	\$818.36	\$640.00	\$717,842	\$173,491	\$135,680	\$1,027,013	\$4,844.40
S90	G10 Band 3	9	0	34	\$1,437.05	\$818.36	\$280.00	\$48,860	\$27,824	\$9,520	\$86,204	\$2,535.40
91	G10 Band 3	9	1	119	\$3,386.05	\$818.36	\$640.00	\$402,940	\$97,384	\$76,160	\$576,484	\$4,844.40
100	G10 Band 3	10	1	79	\$4,769.78	\$4,433.19	\$3,300.00	\$376,813	\$350,222	\$260,700	\$987,735	\$12,502.97
100	tot Band 3			2.545	ψ1,700.70	ψ1,100.10	ψ0,000.00	\$3,502,349	\$1,919,623	\$927,735	\$6,349,706	\$2.494.97
								, , , , , , , , , , , , , , , , , , , ,			1.7.	
41	G10 Band 4	4	1	1	\$2,120.25	\$462.92	\$278.00	\$2,120	\$463	\$278	\$2,861	\$2,861.17
61	G10 Band 4	6	1	5	\$3,386.05	\$729.76	\$279.00	\$16,930	\$3,649	\$1,395	\$21,974	\$4,394.81
S80	G10 Band 4	8	o o	2	\$1,437.05	\$818.36	\$280.00	\$2,874	\$1,637	\$560	\$5,071	\$2,535.40
81	G10 Band 4	8	1	31	\$3,386.05	\$818.36	\$640.00	\$104,967	\$25,369	\$19,840	\$150,176	\$4,844.40
S90	G10 Band 4	9	0	2	\$1,437.05	\$818.36	\$280.00	\$2,874	\$1,637	\$560	\$5,071	\$2,535.40
91	G10 Band 4	9	1	37	\$3,386.05	\$818.36	\$640.00	\$125,284	\$30,279	\$23,680	\$179,243	\$4,844.40
100	G10 Band 4	10	0	5	\$4,769.78	\$4,433.19	\$3,300.00	\$23,849	\$22,166	\$16,500	\$62,515	\$12,502.97
100	G10 Band 4	10	1	50	\$4,769.78	\$4,433.19	\$3,300.00	\$23,049	\$22,166	\$165.000	\$625.149	\$12,502.97 \$12.502.97
100	tot Band 4	10	1	133	\$4,769.78	\$4,433.19	\$3,300.00	\$238,489 \$517,388	\$221,660 \$306,859	\$165,000 \$227,813	\$625,149 \$1,052,060	\$12,502.97 \$7,910.22
	IUI Dallu 4			100				000, ۱۱ نو	\$300,00 <del>9</del>	\$221,013	Φ1,∪5∠,∪6∪	\$1,91U.ZZ

Code	Rate	Meter Size (1)	Above Std (2)	Number of customers (3)	avg labor \$/meter	avg \$/meter	avg \$/regulator	tot lab	tot met	tot reg	tot cost	Average Meter & Regulator CAPEX/ Customer
91	G10 Band 5	9	1	4	\$3,386.05	\$818.36	\$640.00	\$13,544	\$3,273	\$2,560	\$19,378	\$4,844.40
100	G10 Band 5	10	1	18	\$4,769.78	\$4,433.19	\$3,300.00	\$85,856	\$79,797	\$59,400	\$225,054	\$12,502.97
	tot Band 5	-		22			***************************************	\$99,400	\$83,071	\$61,960	\$244,431	\$11,110.51
61	GAC	6	1	1	\$3,386.05	\$729.76	\$279.00	\$3,386	\$730	\$279	\$4,395	\$4,394.81
S80	GAC	8	0	1	\$1,437.05	\$818.36	\$280.00	\$1,437	\$818	\$280	\$2,535	\$2,535.40
81	GAC	8	1	2	\$3,386.05	\$818.36	\$640.00	\$6,772	\$1,637	\$1,280	\$9,689	\$4,844.40
91	GAC	9	1	1	\$3,386.05	\$818.36	\$640.00	\$3,386	\$818	\$640	\$4,844	\$4,844.40
100	GAC	10	1	4	\$4,769.78	\$4,433.19	\$3,300.00	\$19,079	\$17,733	\$13,200	\$50,012	\$12,502.97
	tot GAC			9				\$34,060	\$21,736	\$15,679	\$71,475	\$7,941.70
S10	NGV		0	14	\$143.91	\$47.02	\$18.07	\$2.015	\$658	\$253	\$2,926	\$208.99
30	NGV	3	0	2	\$166.35	\$123.97	\$18.07	\$333	\$248	\$36	\$2,926 \$617	\$308.38
31	NGV	3	1	18	\$161.18	\$427.15	\$279.00	\$2,901	\$7,689	\$5,022	\$15,612	\$867.33
41	NGV	4	1	12	\$2,120.25	\$462.92	\$278.00	\$25,443	\$5,555	\$3,336	\$34,334	\$2.861.17
51	NGV	5	1	5	\$2,120.25	\$462.92	\$278.00	\$10,601	\$2,315	\$1,390	\$14,306	\$2,861.17
61	NGV	6	1	23	\$3,386.05	\$729.76	\$279.00	\$77,879	\$16,785	\$6,417	\$101,081	\$4,394.81
71	NGV	7	1	5	\$3,386.05	\$729.76	\$279.00	\$16,930	\$3,649	\$1,395	\$21,974	\$4,394.81
81	NGV	8	1	40	\$3,386.05	\$818.36	\$640.00	\$135,442	\$32,734	\$25,600	\$193,776	\$4,844.40
91	NGV	9	1	30	\$3,386.05	\$818.36	\$640.00	\$101,581	\$24,551	\$19,200	\$145,332	\$4,844.40
99	NGV	10	1	21	\$422,966.95	\$17,118.00	\$3,300.00	\$8,882,306	\$359,478	\$69,300	\$9,311,084	\$443,384.95
100	NGV	10	1	75	\$4,769.78	\$4,433.19	\$3,300.00	\$357,733	\$332,489	\$247,500	\$937,723	\$12.502.97
	tot NGV			245	<b>\$</b> 1,122112	<b>4</b> 1, 1001110	++,	\$9,613,165	\$786,150	\$379,449	\$10,778,764	\$43,994.96
S10	GEN	1	0	2	\$143.91	\$47.02	\$18.07	\$288	\$94	\$36	\$418	\$208.99
30	GEN	3	0	12	\$166.35	\$123.97	\$18.07	\$1,996	\$1,488	\$217	\$3,701	\$308.38
31	GEN	3	1	8	\$161.18	\$427.15	\$279.00	\$1,289	\$3,417	\$2,232	\$6,939	\$867.33
S40	GEN	4	0	45	\$171.25	\$576.52	\$219.00	\$7,706	\$25,943	\$9,855	\$43,504	\$966.76
41	GEN	4	1	19	\$2,120.25	\$462.92	\$278.00	\$40,285	\$8,796	\$5,282	\$54,362	\$2,861.17
S50	GEN	5	0	11	\$171.25	\$576.52	\$219.00	\$1,884	\$6,342	\$2,409	\$10,634	\$966.76
51	GEN	5	1	6	\$2,120.25	\$462.92	\$278.00	\$12,721	\$2,778	\$1,668	\$17,167	\$2,861.17
S60	GEN	6	0	109	\$1,437.05	\$729.76	\$219.00	\$156,638	\$79,544	\$23,871	\$260,053	\$2,385.81
61	GEN	6	1	113	\$3,386.05	\$729.76	\$279.00	\$382,623	\$82,463	\$31,527	\$496,614	\$4,394.81
S70	GEN	7	0	6	\$1,437.05	\$729.76	\$219.00	\$8,622	\$4,379	\$1,314	\$14,315	\$2,385.81
71	GEN	7	1	4	\$3,386.05	\$729.76	\$279.00	\$13,544	\$2,919	\$1,116	\$17,579	\$4,394.81
S80	GEN	8	0	114	\$1,437.05	\$818.36	\$280.00	\$163,823	\$93,293	\$31,920	\$289,036	\$2,535.40
81	GEN	8	1	161	\$3,386.05	\$818.36	\$640.00	\$545,154	\$131,755	\$103,040	\$779,949	\$4,844.40
S90	GEN	9	0	17	\$1,437.05	\$818.36	\$280.00	\$24,430	\$13,912	\$4,760	\$43,102	\$2,535.40
91	GEN	9	1	64	\$3,386.05	\$818.36	\$640.00	\$216,707	\$52,375	\$40,960	\$310,042	\$4,844.40
99	GEN	10	1	2	\$422,966.95	\$17,118.00	\$3,300.00	\$845,934	\$34,236	\$6,600	\$886,770	\$443,384.95
100	GEN tot GEN	10	1	25 718	\$4,769.78	\$4,433.19	\$3,300.00	\$119,244 \$2,542,890	\$110,830 \$654,562	\$82,500 \$349.307	\$312,574 \$3,546,759	\$12,502.97 \$4.939.78
	IOI GEN			/10				φ2,542,690	<del>Ф004,002</del>	\$349,307	\$3,346,739	\$4,939.76
51	G30 Tran	5	1	1	\$2,120.25	\$462.92	\$278.00	\$2,120	\$463	\$278	\$2,861	\$2,861.17
S60	G30 Tran	6	0	1	\$1,437.05	\$729.76	\$219.00	\$1,437	\$730	\$219	\$2,386	\$2,385.81
71	G30 Tran	7	1	1	\$3,386.05	\$729.76	\$279.00	\$3,386	\$730	\$279	\$4,395	\$4,394.81
91	G30 Tran	9	1	1	\$3,386.05	\$818.36	\$640.00	\$3,386	\$818	\$640	\$4,844	\$4,844.40
99	G30 Tran	10	1	4	\$422,966,95	\$17,118,00	\$3,300.00	\$1,691,868	\$68,472	\$13,200	\$1,773,540	\$443.384.95
100	G30 Tran	10	1	7	\$4,769.78	\$4,433.19	\$3,300.00	\$33,388	\$31,032	\$23,100	\$87,521	\$12,502.97
110	G30 Tran	10	1	5	\$906,080.94	\$119,284.00	\$0.00	\$4,530,405	\$596,420	\$0	\$5,126,825	\$1,025,364.94
	tot G30 Tran			20			·	\$6,265,990	\$698,665	\$37,716	\$7,002,371	\$350,118.57
											_	
31	G30 Dist	3	1	1	\$161.18	\$427.15	\$279.00	\$161	\$427	\$279	\$867	\$867.33
S40	G30 Dist	4	0	1	\$171.25	\$576.52	\$219.00	\$171	\$577	\$219	\$967	\$966.76
51	G30 Dist	5	1	1	\$2,120.25	\$462.92	\$278.00	\$2,120	\$463	\$278	\$2,861	\$2,861.17
61	G30 Dist	6	1	6	\$3,386.05	\$729.76	\$279.00	\$20,316	\$4,379	\$1,674	\$26,369	\$4,394.81
81	G30 Dist	8	1	38	\$3,386.05	\$818.36	\$640.00	\$128,670	\$31,098	\$24,320	\$184,087	\$4,844.40
S90	G30 Dist	9	0	2	\$1,437.05	\$818.36	\$280.00	\$2,874	\$1,637	\$560	\$5,071	\$2,535.40
91	G30 Dist	9	1	76	\$3,386.05	\$818.36	\$640.00	\$257,340	\$62,195	\$48,640	\$368,175	\$4,844.40
99	G30 Dist	10	1	89	\$422,966.95	\$17,118.00	\$3,300.00	\$37,644,058	\$1,523,502	\$293,700	\$39,461,260	\$443,384.95
100	G30 Dist	10	1	321	\$4,769.78	\$4,433.19	\$3,300.00	\$1,531,099	\$1,423,055	\$1,059,300	\$4,013,454	\$12,502.97
	tot G30 Dist			535				\$39,586,810	\$3,047,331	\$1,428,970	\$44,063,111	\$82,360.96

		Meter	Above	Number of customers	avg labor							Average Meter & Regulator CAPEX/
ode	Rate	Size (1)	Std (2)	(3)	\$/meter	avg \$/meter	avg \$/regulator	tot lab	tot met	tot reg	tot cost	Customer
1	Sml G50	3	1	1	\$161.18	\$427.15	\$279.00	\$161	\$427	\$279	\$867	\$867.33
1	Sml G50	5	1	2	\$2,120,25	\$462.92	\$278.00	\$4,240	\$926	\$556	\$5,722	\$2,861.17
1	Sml G50	6	1	99	\$3,386,05	\$729.76	\$279.00	\$335,219	\$72,247	\$27,621	\$435.086	\$4,394.81
1	Sml G50	7	1	1	\$3,386.05	\$729.76	\$279.00	\$3,386	\$730	\$279	\$4,395	\$4,394.81
1	Sml G50	8	1	49	\$3,386,05	\$818.36	\$640.00	\$165,916	\$40,099	\$31,360	\$237.376	\$4,844.40
I	Sml G50	9	1	37	\$3,386,05	\$818.36	\$640.00	\$125,284	\$30,279	\$23,680	\$179,243	\$4,844.40
)	Sml G50	10	1	30	\$422,966.95	\$17,118.00	\$3,300.00	\$12,689,008	\$513,540	\$99,000	\$13,301,548	\$443,384.95
00	Sml G50	10	1	30	\$4,769.78	\$4,433.19	\$3,300.00	\$143,093	\$132,996	\$99,000	\$375,089	\$12,502.97
0	Sml G50	10	1	1	\$906,080.94	\$119,284.00	\$0.00	\$906,081	\$119,284	\$0	\$1,025,365	\$1,025,364.94
	tot G50			250				\$14,372,389	\$910,528	\$281,775	\$15,564,692	\$62,258.77
	G50 EG	8	1	3	\$3,386.05	\$818.36	\$640.00	\$10,158	\$2,455	\$1,920	\$14,533	\$4,844.40
	G50 EG	9	1	1	\$3,386.05	\$818.36	\$640.00	\$3,386	\$818	\$640	\$4,844	\$4,844.40
	G50 EG	10	1	15	\$422,966.95	\$17,118.00	\$3,300.00	\$6,344,504	\$256,770	\$49,500	\$6,650,774	\$443,384.95
0	G50 EG	10	1	9	\$4,769.78	\$4,433.19	\$3,300.00	\$42,928	\$39,899	\$29,700	\$112,527	\$12,502.97
0	G50 EG	12	1	35	\$906,080.94	\$119,284.00	\$0.00	\$31,712,833	\$4,174,940	\$0	\$35,887,773	\$1,025,364.94
	tot G50 EG			63				\$38,113,809	\$4,474,882	\$81,760	\$42,670,451	\$677,308.75
	G40	7	4	1	\$3.386.05	\$729.76	\$279.00	\$3,386	\$730	\$279	\$4,395	\$4,394.81
	G40 G40	, 8	1	2	\$3,386.05	\$818.36	\$640.00	\$6,772	\$1,637	\$1,280	\$9,689	\$4,394.61 \$4,844.40
	G40	9	1	3	\$3,386.05	\$818.36	\$640.00	\$10,158	\$2,455	\$1,920	\$14,533	\$4,844.40
	G40	10	1	15	\$422.966.95	\$17,118.00	\$3.300.00	\$6,344,504	\$256,770	\$49,500	\$6.650.774	\$443.384.95
0	G40	10	1	7	\$4.769.78	\$4,433.19	\$3,300.00	\$33,388	\$31,032	\$23,100	\$87,521	\$12,502.97
•	tot G40	10		28	ψ1,100.10	ψ1,100.10	ψο,οοο.οο	\$6,398,209	\$292.624	\$76,079	\$6,766,912	\$241.675.42

	Pipe		New	
	Diameter		Business	Replacemen
Code	Inches	Pipe Type	\$/ft	\$/ft
0.5P	0.5	Р	\$91.55	\$133.24
1P	1	Р	\$92.90	\$164.92
2P	2	Р	\$223.00	\$291.44
3P	3	Р	\$279.28	\$357.77
4P	4	Р	\$288.94	\$835.13
6P	6	Р	\$1,224.04	\$1,057.43
3P	8	Р	\$1,769.02	\$1,629.24
0.5	0.5	S	\$293.61	\$404.07
0.75	0.75	S	\$293.61	\$404.07
1S	1	S	\$305.21	\$515.37
1.25	1.25	S	\$349.59	\$569.65
28	2	S	\$512.81	\$629.92
3S	3	S	\$543.96	\$645.55
48	4	S	\$601.81	\$659.11
6S	6	S	\$1,312.90	\$1,223.19
88	8	S	\$1,932.47	\$1,683.38
10S	10	S	\$2,510.02	\$2,475.18
12S	12	S	\$3,207.66	\$2,791.03
16S	16	S	\$8,106.28	\$7,077.29
208	20	S	\$8 106 28	\$7,077,29

<u>Calculation of Weighted Average Service Line and Service Line Replacement</u> Cost \$/customer

Calculation of Weighted Avera	ge Service Line and	Service Line	Replacemer	nt Cost \$/cus	tomer # New					Dawlasamant		
		Pipe			# New Customers		New		Service Line	Replacement Service Line		Replacement
		Diameter	Pipe frac	Pino Typo	last 5 years	Ava Lonath		Replacement	CAPEX	CAPEX	Service Line	Service Line
Code (1)	Rate	Inches	(2)	(3)	(4)	feet (5)	\$/ft (6)	\$/ft (6)	\$/customer	\$/customer	CAPEX \$'s	CAPEX \$'s
0.5P	SF	0	12	P	61,397	39.4	\$91.55	\$133.24	\$1,567	\$5,254	\$96,209,099	\$322,608,284
0.75	SF	0	34	S	96	30.0	\$293.61	\$404.07	\$1,567	\$12,122	\$150,432	\$1,163,711
1P	SF	1	0	Р	9,975	57.4	\$92.90	\$164.92	\$1,567	\$9,469	\$15,630,825	\$94,451,450
1S	SF	1	0	S	44	8.5	\$305.21	\$515.37	\$1,567	\$4,369	\$68,948	\$192,225
2P	SF	2	0	Р	44	274.6	\$223.00	\$291.44	\$1,567	\$80,034	\$68,948	\$3,521,486
	Tot SF				71,556				\$1,567	\$5,897	\$112,128,252	\$421,937,157
0.5P	MF	0	12	Р	2,466	34.9	\$91.55	\$133.24	\$1,567	\$4,656	\$3,864,222	\$11,480,911
0.75	MF	0	34	S	100	7.6	\$293.61	\$404.07	\$1,567	\$3,087	\$156,700	\$308,707
1P	MF	1	0	P	4,061	37.6	\$92.90	\$164.92	\$1,567	\$6,204	\$6,363,587	\$25,193,673
18	MF	1	0	S	107	27.6	\$305.21	\$515.37	\$1,567 \$1,567	\$14,204	\$167,669	\$1,519,827
1.25	MF	1	25	S	2	3.5	\$349.59	\$569.65	\$1,224	\$1,994	\$2,447	\$3,988
2P	MF	2	0	P	269	78.0	\$223.00	\$291.44	\$1,567	\$22,742	\$421,523	\$6,117,601
2S	MF	2	0	S	193	45.3		\$629.92	\$1,567 \$1,567	\$28,512	\$302,431	\$5,502,909
25 3P	MF	3	0	P	193	20.0	\$512.81 \$279.28	\$357.77	\$1,567 \$1,567	\$7,155	\$1,567	\$5,502,909 \$7,155
3S	MF	3	0	S	1	352.0						
33	Tot MF	<u> </u>	U	3	7,200	332.0	\$543.96	\$645.55	\$1,567 \$1,567	\$227,235 \$6,994.72	\$1,567 \$11,281,713	\$227,235 \$50,362,004
	TOUNI				7,200				\$1,507	φ0,334.7Z	\$11,201,713	φ30,302,004
0.5P	MM Band 1	0	12	Р	76	40.2	\$91.55	\$133.24	\$3,684	\$5,361	\$279,971	\$407,450
0.75	MM Band 1	0	34	S	21	5.8	\$293.61	\$404.07	\$1,706	\$2,348	\$35,823	\$49,300
1P	MM Band 1	1	0	Р	470	68.4	\$92.90	\$164.92	\$6,351	\$11,275	\$2,985,056	\$5,299,239
1S	MM Band 1	1	0	S	61	14.6	\$305.21	\$515.37	\$4,468	\$7,544	\$272,549	\$460,211
1.25	MM Band 1	1	25	S	7	1.3	\$349.59	\$569.65	\$450	\$733	\$3,147	\$5,128
2P	MM Band 1	2	0	P	89	90.0	\$223.00	\$291.44	\$20,065	\$26,223	\$1,785,829	\$2,333,871
2\$	MM Band 1	2	0	S	49	36.7	\$512.81	\$629.92	\$18,806	\$23,101	\$921,516	\$1,131,943
3P	MM Band 1	3	0	P	2	230.0	\$279.28	\$357.77	\$64,233	\$82,287	\$128,467	\$164,574
3S	MM Band 1	3	Ō	S	1	3.0	\$543.96	\$645.55	\$1,632	\$1,937	\$1,632	\$1,937
	Tot MM 1				776		*	• • • • • • • • • • • • • • • • • • • •	\$8,265	\$12,698	\$6,413,991	\$9,853,653
0.5P	MM Band 2	0	12	Р	1	222.0	\$91.55	\$133.24	\$20,325	\$29,579	\$20,325	\$29,579
0.75	MM Band 2	0	34	S	2	332.0	\$293.61	\$404.07	\$97,479	\$134,150	\$194,958	\$268,300
1S	MM Band 2	1	0	S	1	198.0	\$305.21	\$515.37	\$60,432	\$102,042	\$60,432	\$102,042
1.25	MM Band 2	1	25	S	3	96.3	\$349.59	\$569.65	\$33,676	\$54,874	\$101,028	\$164,623
2P	MM Band 2	2	0	Р	4	736.8	\$223.00	\$291.44	\$164,299	\$214,719	\$657,194	\$858,876
2S	MM Band 2	2	0	S	9	151.0	\$512.81	\$629.92	\$77,435	\$95,117	\$696,915	\$856,055
3P	MM Band 2	3	0	Р	1	96.0	\$279.28	\$357.77	\$26,810	\$34,346	\$26,810	\$34,346
3S	MM Band 2	3	0	S	7	287.0	\$543.96	\$645.55	\$156,117	\$185,274	\$1,092,817	\$1,296,915
4P	MM Band 2	4	0	Р	1	52.0	\$288.94	\$835.13	\$15,025	\$43,427	\$15,025	\$43,427
4S	MM Band 2	4	0	S	2	616.0	\$601.81	\$659.11	\$370,718	\$406,010	\$741,436	\$812,020
6S	MM Band 2	6	0	S	1	53.0	\$1,312.90	\$1,223.19	\$69,584	\$64,829	\$69,584	\$64,829
	Tot MM 2				32				\$114,891	\$141,594	\$3,676,524	\$4,531,013
2.55	0465	_	40	_	44.		004 ==	0400.01	AF 65=	A7.001	0550 117	
0.5P	G10 Band 1	0	12	P	111	55.0	\$91.55	\$133.24	\$5,037	\$7,331	\$559,117	\$813,698
0.75	G10 Band 1	0	34	S	140	8.2	\$293.61	\$404.07	\$2,397	\$3,299	\$335,586	\$461,832
1P	G10 Band 1	1	0	P	489	96.8	\$92.90	\$164.92	\$8,995	\$15,969	\$4,398,752	\$7,808,912
1S	G10 Band 1	1	0	S	184	4.0	\$305.21	\$515.37	\$1,228	\$2,073	\$225,872	\$381,395
1.25	G10 Band 1	1	25	S	1	2.0	\$349.59	\$569.65	\$699	\$1,139	\$699	\$1,139
2P	G10 Band 1	2	0	P	48	221.5	\$223.00	\$291.44	\$49,386	\$64,542	\$2,370,534	\$3,098,013
2S	G10 Band 1	2	0	S	23	2.1	\$512.81	\$629.92	\$1,092	\$1,342	\$25,123	\$30,860
3P	G10 Band 1	3	0	P P	2	101.5	\$279.28	\$357.77	\$28,346	\$36,314	\$56,693	\$72,627
4P	G10 Band 1	4	0	Р	1 000	41.0	\$288.94	\$835.13	\$11,847	\$34,240	\$11,847	\$34,240
	tot Band 1				999				\$7,992	\$12,715	\$7,984,223	\$12,702,716

					# New					Replacement		
		Pipe			Customers		New		Service Line	Service Line		Replacement
		Diameter	Pipe frac	Pipe Type	last 5 years	Avg Length	Business	Replacement	CAPEX	CAPEX	Service Line	Service Line
Code (1)	Rate	Inches	(2)	(3)	(4)	feet (5)	\$/ft (6)	\$/ft (6)	\$/customer	\$/customer	CAPEX \$'s	CAPEX \$'s
0.5P	G10 Band 2	0	12	P	78	60.4	\$91.55	\$133.24	\$5,532	\$8,051	\$431,491	\$627,961
0.75	G10 Band 2	0	34	S	207	7.1	\$293.61	\$404.07	\$2,085	\$2,869	\$431,581	\$593,940
1P	G10 Band 2	1	0	Р	629	104.3	\$92.90	\$164.92	\$9,686	\$17,194	\$6,092,202	\$10,815,219
1S	G10 Band 2	1	0	S	252	2.7	\$305.21	\$515.37	\$836	\$1,411	\$210,590	\$355,590
1.25	G10 Band 2	1	25	S	4	11.8	\$349.59	\$569.65	\$4,108	\$6,693	\$16,431	\$26,773
2P	G10 Band 2	2	0	P	101	206.1	\$223.00	\$291.44	\$45,950	\$60,051	\$4,640,958	\$6,065,192
2S	G10 Band 2	2	0	S	33	20.1	\$512.81	\$629.92	\$10,288	\$12,637	\$339,490	\$417,012
3P	G10 Band 2	3	0	P	3	709.0	\$279.28	\$357.77	\$198,006	\$253,658	\$594,019	\$760,975
0.	tot Band 2			•	1,307	7 00.0	Ψ2. 0.20	ψοστ	\$9,760	\$15,044	\$12,756,761	\$19,662,662
0.5P	G10 Band 3	0	12	Р	33	55.4	\$91.55	\$133.24	\$5,072	\$7,381	\$167,360	\$243,563
0.75	G10 Band 3	0	34	S	266	6.2	\$293.61	\$404.07	\$1,824	\$2,511	\$485,317	\$667,891
1P	G10 Band 3	1	0	P	694	95.2	\$92.90	\$164.92	\$8,841	\$15,694	\$6,135,402	\$10,891,911
1S	G10 Band 3	1	0	S	417	3.6	\$305.21	\$515.37	\$1,105	\$1,865	\$460,604	\$777,750
1.25	G10 Band 3	1	25	S	13	2.2	\$349.59	\$569.65	\$753	\$1,227	\$9,789	\$15,951
2P	G10 Band 3	2	0	P	276	219.7	\$223.00	\$291.44	\$48,986	\$64,019	\$13,520,091	\$17,669,187
2S	G10 Band 3	2	0	S	62	43.8	\$512.81	\$629.92	\$22,440	\$27,564	\$1,391,264	\$1,708,957
3P	G10 Band 3	3	0	P	7	801.9	\$279.28	\$357.77	\$223,939	\$286,880	\$1,567,573	\$2,008,157
4P	G10 Band 3	4	0	Р	6	283.8	\$288.94	\$835.13	\$82,011	\$237,038	\$492,067	\$1,422,227
6P	G10 Band 3	6	0	P	2	153.0	\$1,224.04	\$1,057.43	\$187,279	\$161,788	\$374,557	\$323,575
OI .	tot Band 3			•	1,776	100.0	Ψ1,224.04	ψ1,007.40	\$13,854	\$20,118	\$24,604,024	\$35,729,169
									,		· / /-	****
0.75	G10 Band 4	0	34	S	1	1.0	\$293.61	\$404.07	\$294	\$404	\$294	\$404
1P	G10 Band 4	1	0	Р	20	83.4	\$92.90	\$164.92	\$7,743	\$13,746	\$154,859	\$274,915
1S	G10 Band 4	1	0	S	4	19.5	\$305.21	\$515.37	\$5,952	\$10,050	\$23,807	\$40,199
2P	G10 Band 4	2	0	P	65	149.4	\$223.00	\$291.44	\$33,327	\$43,555	\$2,166,263	\$2,831,054
2S	G10 Band 4	2	0	S	8	38.4	\$512.81	\$629.92	\$19,679	\$24,173	\$157,434	\$193,384
3P	G10 Band 4	3	0	P	6	196.3	\$279.28	\$357.77	\$54,831	\$70,242	\$328,986	\$421,451
3S	G10 Band 4	3	0	S	3	556.0	\$543.96	\$645.55	\$302,442	\$358,927	\$907,326	\$1,076,782
4P	G10 Band 4	4	0	P	5	524.6	\$288.94	\$835.13	\$151,579	\$438,110	\$757,893	\$2,190,549
71	tot Band 4			<u> </u>	112	024.0	Ψ200.0-1	φοσσ. το	\$40,151	\$62,757	\$4,496,863	\$7,028,738
									<b>*</b> 11,111	<del>++=,-+-</del>	<del>+ 1, 100,000</del>	<b>*</b> :,===,:==
2P	G10 Band 5	2	0	Р	4	217.3	\$223.00	\$291.44	\$48,448	\$63,316	\$193,791	\$253,262
2S	G10 Band 5	2	0	S	1	5.0	\$512.81	\$629.92	\$2,564	\$3,150	\$2,564	\$3,150
3P	G10 Band 5	3	0	P	2	305.0	\$279.28	\$357.77	\$85,179	\$109,120	\$170,358	\$218,239
4P	G10 Band 5	3	0	P	6	408.7	\$288.94	\$835.13	\$118,081	\$341,291	\$708,485	\$2,047,743
4S	G10 Band 5	4	0	S	2	26.5	\$601.81	\$659.11	\$15,948	\$17,466	\$31,896	\$34,933
43 6S	G10 Band 5	6	0	S	1	20.0	\$1,312.90	\$1,223.19	\$26,258	\$17,466 \$24,464	\$26,258	\$24,464
03	tot Band 5	U	U	3	16	20.0	ψ1,312.30	ψ1,22J.19	\$70,834	\$161,362	\$1,133,352	\$2,581,791
	tot Bana o				10				ψ1 0,00-	\$101,00 <u>2</u>	ψ1,100,002	Ψ2,001,701
1P	GAC	1	0	Р	2	27.5	\$92.90	\$164.92	\$2,555	\$4,535	\$5,109	\$9,070
1S	GAC	1	0	S	1	34.0	\$305.21	\$515.37	\$10,377	\$17,522	\$10,377	\$17,522
2S	GAC	2	0	S	1	22.0	\$512.81	\$629.92	\$11,282	\$13,858	\$11,282	\$13,858
	GAC	_	U	J	4	22.0	φυ12.01	ゆひとう.ラム	\$6,692	\$10,113	\$26,769	\$40,451

tab = service cost detail

					# New					Replacement		
		Pipe			Customers		New		Service Line	Service Line		Replacement
		Diameter	Pipe frac	Pipe Type	last 5 years	Avg Length		Replacement	CAPEX	CAPEX	Service Line	Service Line
Code (1)	Rate	Inches	(2)	(3)	(4)	feet (5)	\$/ft (6)	\$/ft (6)	\$/customer	\$/customer	CAPEX \$'s	CAPEX \$'s
0.50	NOV	^	40	5		40.7	<b>604 55</b>	<b>6400.04</b>	<b>***</b> ***	<b>#5.040</b>	<b>044.004</b>	047.450
0.5P	NGV	0	12	P	3	43.7	\$91.55	\$133.24	\$3,998	\$5,819	\$11,994	\$17,456
0.75	NGV	0	34	S	4	81.0	\$293.61	\$404.07	\$23,783	\$32,729	\$95,130	\$130,918
1P	NGV	1	0	P	9	134.8	\$92.90	\$164.92	\$12,521	\$22,227	\$112,686	\$200,046
1S	NGV	1	0	S	7	89.3	\$305.21	\$515.37	\$27,252	\$46,017	\$190,767	\$322,119
1.25	NGV	1	25	S	1	330.0	\$349.59	\$569.65	\$115,364	\$187,984	\$115,364	\$187,984
2P	NGV	2	0	Р	51	159.9	\$223.00	\$291.44	\$35,649	\$46,590	\$1,818,124	\$2,376,077
28	NGV	2	0	S	10	107.6	\$512.81	\$629.92	\$55,179	\$67,779	\$551,789	\$677,789
3P	NGV	3	0	Р	11	314.3	\$279.28	\$357.77	\$87,768	\$112,436	\$965,447	\$1,236,797
3S	NGV	3	0	S	13	210.3	\$543.96	\$645.55	\$114,400	\$135,766	\$1,487,205	\$1,764,960
4P	NGV	4	0	P	17	233.3	\$288.94	\$835.13	\$67,407	\$194,828	\$1,145,921	\$3,312,072
4S	NGV	4	0	S	15	182.3	\$601.81	\$659.11	\$109,729	\$120,175	\$1,645,933	\$1,802,626
6P	NGV	6	0	Р	2	576.5	\$1,224.04	\$1,057.43	\$705,661	\$609,611	\$1,411,321	\$1,219,222
6S	NGV	6	0	S	7	194.4	\$1,312.90	\$1,223.19	\$255,267	\$237,825	\$1,786,867	\$1,664,778
	tot NGV				150				\$75,590	\$99,419	\$11,338,550	\$14,912,843
0.5P	GEN	0	12	P	23	141.3	\$91.55	\$133.24	\$12,936	\$18,827	\$297,539	\$433,018
0.75	GEN	0	34	S	184	214.2	\$293.61	\$404.07	\$62,883	\$86,539	\$11,570,417	\$15,923,161
1P	GEN	1	0	Р	211	312.3	\$92.90	\$164.92	\$29,013	\$51,505	\$6,121,673	\$10,867,537
1S	GEN	1	0	S	23	730.6	\$305.21	\$515.37	\$222,992	\$376,531	\$5,128,810	\$8,660,216
1S	GEN	1	25	S	6	1,314.5	\$305.21	\$515.37	\$401,203	\$677,448	\$2,407,215	\$4,064,687
2P	GEN	2	0	Р	174	1,714.9	\$223.00	\$291.44	\$382,433	\$499,795	\$66,543,279	\$86,964,328
2\$	GEN	2	0	S	32	405.3	\$512.81	\$629.92	\$207,864	\$255,330	\$6,651,657	\$8,170,555
3P	GEN	3	0	Р	21	2,917.6	\$279.28	\$357.77	\$814,820	\$1,043,834	\$17,111,215	\$21,920,512
3S	GEN	3	0	S	4	259.5	\$543.96	\$645.55	\$141,158	\$167,521	\$564,631	\$670,084
4P	GEN	4	0	P	9	4,268.4	\$288.94	\$835.13	\$1,233,329	\$3,564,707	\$11,099,959	\$32,082,366
4\$	GEN	4	Ö	S	1	27.0	\$601.81	\$659.11	\$16,249	\$17,796	\$16,249	\$17,796
	tot GEN				688		***************************************	*******	\$185,338	\$275,835	\$127,512,645	\$189,774,259
0.5P	G30 Dist	0	12	Р	6	163.5	\$91.55	\$133.24	\$14,969	\$21,785	\$89,814	\$130,709
0.75	G30 Dist	0	34	S	18	95.3	\$293.61	\$404.07	\$27,990	\$38,520	\$503,819	\$693,354
1P	G30 Dist	1	0	Р	6	376.3	\$92.90	\$164.92	\$34,960	\$62,063	\$209,760	\$372,377
1S	G30 Dist	1	0	S	11	56.5	\$305.21	\$515.37	\$17,229	\$29,092	\$189,522	\$320,016
1.25	G30 Dist	1	25	S	16	111.8	\$349.59	\$569.65	\$39,067	\$63,658	\$625,064	\$1,018,531
2P	G30 Dist	2	0	Р	51	261.7	\$223.00	\$291.44	\$58,367	\$76,279	\$2,976,715	\$3,890,221
2\$	G30 Dist	2	0	S	104	213.1	\$512.81	\$629.92	\$109,291	\$134,248	\$11,366,270	\$13,961,743
3P	G30 Dist	3	0	Р	48	342.4	\$279.28	\$357.77	\$95,624	\$122,500	\$4,589,949	\$5,880,004
3S	G30 Dist	3	0	S	64	375.8	\$543.96	\$645.55	\$204,410	\$242,586	\$13,082,212	\$15,525,490
4P	G30 Dist	4	0	P	13	670.4	\$288.94	\$835.13	\$193,700	\$559,855	\$2,518,106	\$7,278,118
48	G30 Dist	4	0	S	76	788.9	\$601.81	\$659.11	\$474,790	\$519,990	\$36,084,019	\$39,519,210
6P	G30 Dist	6	0	P	2	2,339.5	\$1,224.04	\$1,057.43	\$2,863,648	\$2,473,868	\$5,727,297	\$4,947,737
6S	G30 Dist	6	0	S	24	866.3	\$1,312.90	\$1,223.19	\$1,137,403	\$1,059,689	\$27,297,669	\$25,432,534
8S	G30 Dist	8	0	S	5	1,841.6	\$1,932.47	\$1,683.38	\$3,558,831	\$3,100,104	\$17,794,155	\$15,500,519
10S	G30 Dist	10	0	S	1	73.0	\$2,510.02	\$2,475.18	\$183,232	\$180,688	\$183,232	\$180,688
100	tot G30 Dist	10			445	10.0	ΨΣ,010.02	Ψ2,470.10	\$276,938	\$302,587	\$123,237,602	\$134,651,252
									•	<u> </u>		
2P	G30 Tran	2	0	Р	3	1,363.0	\$223.00	\$291.44	\$303,955	\$397,234	\$911,865	\$1,191,702
2\$	G30 Tran	2	0	S	5	1,484.6	\$512.81	\$629.92	\$761,325	\$935,172	\$3,806,623	\$4,675,861
4S	G30 Tran	4	0	S	1	53.0	\$601.81	\$659.11	\$31,896	\$34,933	\$31,896	\$34,933
6S	G30 Tran	6	0	S	2	1,593.0	\$1,312.90	\$1,223.19	\$2,091,446	\$1,948,547	\$4,182,893	\$3,897,093
8S	G30 Tran	8	Ö	S	1	42.0	\$1,932.47	\$1,683.38	\$81,164	\$70,702	\$81,164	\$70,702
16S	G30 Tran	16	0	S	1	95.0	\$8,106.28	\$7,077.29	\$770,097	\$672,343	\$770,097	\$672,343
100	tot G30 Tran		<u> </u>		13	55.0	40,.00.20	ψ.,011.20	\$752,657	\$810,972	\$9,784,538	\$10,542,634
									<b>₹. 0=,00</b> .	70.0,0.2	20,101,000	Ţ / O,O / E,OO /

					# New					Replacement		
		Pipe			Customers		New		Service Line	Service Line		Replacement
		Diameter	Pipe frac	Pipe Type	last 5 years	Avg Length	Business	Replacement	CAPEX	CAPEX	Service Line	Service Line
Code (1)	Rate	Inches	(2)	(3)	(4)	feet (5)	\$/ft (6)	\$/ft (6)	\$/customer	\$/customer	CAPEX \$'s	CAPEX \$'s
0.75	Sml G50	0	34	S	9	4.1	\$293.61	\$404.07	\$1,207	\$1,661	\$10,861	\$14,946
1P	Sml G50	1	0	Р	44	88.3	\$92.90	\$164.92	\$8,205	\$14,565	\$361,005	\$640,877
1S	Sml G50	1	0	S	19	28.2	\$305.21	\$515.37	\$8,595	\$14,513	\$163,301	\$275,741
1.25	Sml G50	1	25	S	3	142.7	\$349.59	\$569.65	\$49,876	\$81,272	\$149,627	\$243,815
2P	Sml G50	2	0	Р	61	113.5	\$223.00	\$291.44	\$25,307	\$33,073	\$1,543,700	\$2,017,436
2S	Sml G50	2	0	S	21	52.2	\$512.81	\$629.92	\$26,764	\$32,875	\$562,040	\$690,381
3P	Sml G50	3	0	Р	3	530.7	\$279.28	\$357.77	\$148,203	\$189,857	\$444,609	\$569,572
3S	Sml G50	3	0	S	3	28.0	\$543.96	\$645.55	\$15,231	\$18,075	\$45,693	\$54,226
4P	Sml G50	4	0	Р	3	284.3	\$288.94	\$835.13	\$82,155	\$237,453	\$246,464	\$712,359
4S	Sml G50	4	0	S	7	525.9	\$601.81	\$659.11	\$316,470	\$346,598	\$2,215,292	\$2,426,188
6P	Sml G50	6	0	Р	2	131.5	\$1,224.04	\$1,057.43	\$160,962	\$139,053	\$321,923	\$278,105
6S	Sml G50	6	0	S	7	750.3	\$1,312.90	\$1,223.19	\$985,054	\$917,750	\$6,895,379	\$6,424,247
8S	Sml G50	8	0	S	3	461.0	\$1,932.47	\$1,683.38	\$890,867	\$776,036	\$2,672,602	\$2,328,108
10S	Sml G50	10	0	S	1	467.0	\$2,510.02	\$2,475.18	\$1,172,180	\$1,155,909	\$1,172,180	\$1,155,909
	tot Sml G50				186				\$90,348	\$95,870	\$16,804,676	\$17,831,910
1.25	G50 EG	1	25	S	2	84.5	\$349.59	\$569.65	\$29,540	\$48,135	\$59,080	\$96,271
2S	G50 EG	2	0	S	2	27.0	\$512.81	\$629.92	\$13,846	\$17,008	\$27,692	\$34,015
3S	G50 EG	3	0	S	1	520.0	\$543.96	\$645.55	\$282,860	\$335,687	\$282,860	\$335,687
4S	G50 EG	4	0	S	5	402.2	\$601.81	\$659.11	\$242,050	\$265,093	\$1,210,250	\$1,325,465
6S	G50 EG	6	0	S	6	199.7	\$1,312.90	\$1,223.19	\$262,146	\$244,235	\$1,572,878	\$1,465,410
8S	G50 EG	8	0	S	5	338.2	\$1,932.47	\$1,683.38	\$653,560	\$569,317	\$3,267,802	\$2,846,587
10S	G50 EG	10	0	S	1	290.0	\$2,510.02	\$2,475.18	\$727,906	\$717,802	\$727,906	\$717,802
	tot G50 EG				22				\$324,930	\$310,056	\$7,148,467	\$6,821,238
				_				_				
2S	G40	2	0	S	8	83.3	\$512.81	\$629.92	\$42,692	\$52,440	\$341,535	\$419,524
3S	G40	3	0	S	6	448.5	\$543.96	\$645.55	\$243,966	\$289,530	\$1,463,798	\$1,737,182
4P	G40	4	0	Р	2	1,747.5	\$288.94	\$835.13	\$504,925	\$1,459,392	\$1,009,850	\$2,918,783
4S	G40	4	0	S	8	394.0	\$601.81	\$659.11	\$237,115	\$259,688	\$1,896,920	\$2,077,507
6S	G40	6	0	S	2	8.5	\$1,312.90	\$1,223.19	\$11,160	\$10,397	\$22,319	\$20,794
8S	G40	8	0	S	2	26.5	\$1,932.47	\$1,683.38	\$51,210	\$44,609	\$102,421	\$89,219
16S	G40	16	0	S	1	108.0	\$8,106.28	\$7,077.29	\$875,479	\$764,348	\$875,479	\$764,348
	tot G40				29				\$196,977	\$276,805	\$5,712,321	\$8,027,357

Notes..

(7) Line Extension Credit, per SoCalGas' Rule 20, effective 04/2017

WATER HEATING	\$ 625
SPACE HEATING	\$ 677
COOKTOP & OVEN	\$ 110
DRYER STUB	\$ 155

File = SCG 2020TCAP LRMC Customer Costs

<sup>(1) &</sup>quot;code" shows Pipe type and pipe diameter size

<sup>(2) &</sup>quot;Pipe fraction" is a code for the pipe size—the codes 12, 34, and 25 represent .5, .75, and .25 inch diameter pipes, respectively

<sup>(3) &</sup>quot;Pipe type":P means plastic and S means steel.

<sup>(4)&</sup>quot;# of new customers" represents new customers added to SoCalGas' system in the past 5 years. For residential, core commercial and industrial customers, new customer data were used (premises that initial gas service started between

<sup>2012-2016)</sup> while all the other rate classes cover the entire population that service line history could be matched by premise as very few large new customers are added to SoCalGas system each year.

<sup>(5)</sup> The average length was computed by dividing the total service line footage by rate class, line diameter, and pipe type by the number of customers used in the analysis

<sup>(6)</sup> New Business is newly installed pipe, and Replacement is when we replace existing pipe. The costs represent the unit cost that is the best representation of the cost per foot, by pipe size and pipe material, to install New Business service pipe and Replacement service pipe on the Gas Distribution system.

#### SCG 2020 TCAP LRMC Customer Cost

Big GEMS Investment by Customer Class for Retail Noncore (exclusive use on Cust MC)

		NonCore C&I Distribution G30	NonCore C&I Transmission G30	Total NonCore C&I G30	EG G-50	EOR G-40	LB	SDG&E	SWG	Vernon	Mexicali	Source
# of Meters												
ROTARY 11M & LARGER: (*)				0	0	2	1	0	6	0	0	
TURBINE MSA'S (*)				3	40	2	0	1	6	0	1	
ORIFICE METERS (ultra sonic)				5	36	0	4	9	0	2	0	
Total # meters				8	76	4	5	10	12	2	1	_
Investment in Meters: ROTARY 11M & LARGER: (*)	Exclusive Use Meter Cost \$/meter \$12,503		\$0	\$0	\$0	\$25,006	\$12,503	\$0	\$75,018	\$0	\$0	
TURBINE MSA'S (*)	\$443,385	\$1,165,809	\$164,346	\$1,330,155	\$17,735,398	\$886,770	\$0	\$443,385	\$2,660,310	\$0	\$443,385	
ORIFICE METERS (ultra sonic)	\$1,025,365	\$4,493,385	\$633,440	\$5,126,825	\$36,913,138	\$0	\$4,101,460	\$9,228,284	\$0	\$2,050,730	\$0	_
Total Investment \$'s	2016 \$s	\$5,659,194	\$797,786	\$6,456,980	\$54,648,536	\$911,776	\$4,113,963	\$9,671,669	\$2,735,328	\$2,050,730	\$443,385	
allocation of Total NonCore C&I to Distribution	on & Transmission	88%	12%									
Total Investment \$'s	2020 \$s	\$6,405,886	\$903,048	\$7,308,935	\$61,859,044	\$1,032,079	\$4,656,773	\$10,947,781	\$3,096,236	\$2,321,310	\$501,887	
2016 Number of Customers		545	32	554	313	33	1	11	1	1	11	Tab 'cust 2"
Exclusive Use Cost Per Customer	2020 \$s	\$11,753.92	\$28,220.26	\$13,193.02	\$197,632.73	\$31,275.11	\$4,656,772.60	\$10,947,781.49	\$3,096,235.69	\$2,321,309.97	\$501,886.62	

Note : This is part of Exclusive Use Facilities Costs

		TURBINE	ROTARY	ULTRASONIC
Exclusive Use Meter Cost \$/meter	2016 \$s	METERS 4"-12"	METERS 4" - 6"	METERS 4" - 16"
Avg. Labor Cost		\$60,092	\$1,690	\$123,995
Avg. Contract Cost		\$170,500	\$0	\$247,500
Avg. Materials Cost		\$212,793	\$10,813	\$653,870
TOTAL		\$443,385	\$12,503	\$1,025,365

#### SCG 2020 TCAP LRMC Customer Cost Allocation of Customer-Related Distribution O&M

				Desidential			1	Cor	e		No. D.	-latat-1			
		Single	Multi	Residential Maste	r Meter	Residential			G-	10	Non-Re	sidentiai	Gas Air	Natrual Gas	Gas
		Family	Family	Small	Large	Total	Very Small	Small	Medium	Large	Very Large	Total	Conditioning	Vehicle	Engine
1 2016 Number of Customers	s	3,674,386	1,721,561	120,217	49	5,516,213	88,060	63,785	49,146	2,258	331	203,580	9	245	718
							•						•		
Customer Services O&M C  2 Total Cost	2016 M\$s	\$79,784	\$37,381	\$2,610	\$1	\$119,776	\$3.911	\$4,239	\$11.868	\$1,305	\$189	\$21,511	\$4	\$84	\$132
3 Cost Per Customer:	2016 Was	21.71	21.71	21.71	21.71	21.71	44.41	66.45	241.48	577.96	570.68	105.67	492.10	344.83	184.30
4	2020 \$s	23.84	23.84	23.84	23.84	23.84	48.77	72.97	265.18	634.68	626.69	116.04	540.39	378.67	202.39
Customer Accounts O&M Co	osts														
5 Total Cost:	2016 M\$s	\$72,562	\$33,997	\$2,374	\$1	\$108,934	\$1,741	\$1,161	\$1,647	\$446	\$319	\$5,315	\$19	\$112	\$187
6 Cost Per Customer:	2016 \$s	19.75	19.75	19.75	19.75	19.75	19.78	18.20	33.51	197.58	964.82	26.11	2,120.46	455.71	259.97
7	2020 \$s	21.69	21.69	21.69	21.69	21.69	21.72	19.99	36.80	216.97	1,059.52	28.67	2,328.57	500.44	285.49
9 segmentation by number of o	customers	66.61%	31.21%	2.18%	0.001%										
Meters, Reg & MSAs O&M												A			
10 Total Cost	2016 M\$s	\$5,159	\$1,337	\$805	\$4	\$7,305	\$250	\$392	\$651	\$95	\$20	\$1,407	\$0	\$0	\$0
11 Cost Per Customer:	2016 \$s 2020 \$s	1.40 1.54	0.78 0.85	6.70 7.36	72.24 79.33	1.32 1.45	2.84 3.12	6.14 6.74	13.24 14.54	41.97 46.09	58.95 64.74	6.91 7.59	64.74	64.74	64.74
	2020 40	1.01	0.00	7.00	70.00		0.12	0.7 1	11.01	10.00	0 1	7.00	01	01	01
Service Lines O&M Costs			_												
13 Total Costs 14	2016M \$s 2020 \$s	\$29,619 \$32,525,947													
15 Total Service Line Footage 16 Percent of Total Footage		226,964,693	58,515,142	11,541,382	13,966	297,035,183	12,666,284	6,872,167	6,485,228	548,173	114,472	26,686,324	250	54,516	623,741
16 Percent of Total Footage 17 Allocated SL O&M Costs	2020 \$s	69.92% \$22,743,084	18.03% \$5,863,532	3.56% \$1,156,509	0.00% \$1,400	91.51% \$29,764,525	3.90% \$1,269,230	2.12% \$688,628	2.00% \$649,855	0.17% \$54,930	0.04% \$11,471	8.22% \$2,674,113	0.00% \$25	0.02% \$5,463	0.19% \$62,502
18 Cost Per Customer	2020 \$s	\$6.19	\$3,41	\$9,62	\$28.56	\$5.40	\$1,209,230	\$10.80	\$13.22	\$24.33	\$34.65	\$13.14	\$2.78	\$22.30	\$87.05
		•					•						•		
Calculation of Customer Se	ervice & Information		Accounts (FERC		910):										
5 Total Cost:	2016 M\$s	\$16,235	\$7,606	\$531	\$0	\$24,373	\$4,115	\$2,980	\$2,296	\$106	\$15	\$9,512	\$0	\$3,832	\$0
3 Cost Per Customer:	2016 \$s	4.42	4.42 4.85	4.42 4.85	4.42	4.42	46.72	46.72	46.72	46.72	46.72	46.72	0.00	15,642.74	0.00
4	2020 \$s	4.85	4.85	4.85	4.85	4.85	51.31	51.31	51.31	51.31	51.31	51.31	0.00	17,177.99	0.00

#### Calculation of Customer Service & Information Cost (CSI) Costs Accounts (FERC Accounts 907 to 910):

						2016 Costs in			
				PBR Exclusion	Other	Transport			
139	Calculation of Customer Service & Information Costs (CSI Cost	s):	2016 Costs M\$	Items	Adjustments	Rates		Exclusions	2016 \$
140	907 Cus Svc-Supervision + Payroll Taxes	NON-DSM CUST. INFO	\$706	\$0	\$0	\$706	FERC Form 2	Self Generation (acct 908)	\$10,380,031
141	908 Cus Svc-Cust Assist Exp (PBR Ex DAP, DSM &Self-Gen)	NON-DSM CUST. INFO	\$202,027	(\$164,317)	\$0	\$37,709	FERC Form 2	Energy Efficiency (acct 908)	\$82,565,008
142	909 Cus Svc-Info & Instruction Exp	NON-DSM CUST. INFO	\$630	\$0	\$0	\$630	FERC Form 2	Low Income Energy Efficiency (a	\$58,819,473
143	910 Cus Svc-Misc CSI Exp	NON-DSM CUST. INFO	\$2,507	\$0	\$0	\$2,507	FERC Form 2	AB802MA (acct 908)	\$1,608
144			\$205,870	(\$164,317)	\$0	\$41,552		MEOMA (acct 908)	\$10,787,248
147							_	WDRMA (acct 908 and 907001) _	\$1,764,125
148	CS&I O&M, 2016 \$000's					\$41,552	_		\$164,317,493
149			·	·	·		-		

	-												Total Retail	
			Residential	CCI	G-AC	G-GEN	NGV	Total Core	NCCI	EG Tier 1	EG Tier 2	EOR	NonCore	Long Beach
1	Calculation of CSI Cost Allocator:													
2	Energy Markets Costs:													
3	Mgmnt estimate - FTE			0.3	0.0	0.0	0.0	0	0.7	0.2	3.3	2.2	6.4	0.6
4	Energy Markets		0.0%	2.8%	0.0%	0.0%	0.0%	2.8%	7.3%	2.4%	36.1%	23.5%	69.3%	6.5%
5	Energy Markets	\$1,072	\$0	\$30	\$0	\$0	\$0	\$30	\$78	\$26	\$387	\$252	\$743	\$70
6	Large C&I:													
7	# Large C&I Customers		0	2,589	0	0	0	2,589	554	0	0	0	554	0
8	% Large C&I only		0.0%	82.4%	0.0%	0.0%	0.0%	82.4%	17.6%	0.0%	0.0%	0.0%	17.6%	0.0%
9	Large C&I	\$5,739	\$0	\$4,727	\$0	\$0	\$0	\$4,727	\$1,012	\$0	\$0	\$0	\$1,012	\$0
10	NGV	\$2,040	\$0	\$0	\$0	\$0	\$2,040	\$2,040	\$0	\$0	\$0	\$0	\$0	\$0
11	Residential	\$7,693	\$7,693	\$0	\$0	\$0	\$0	\$7,693	\$0	\$0	\$0	\$0	\$0	\$0
12	Small Business													
13	# G10, G-AC, G-GE Customers only		0	203,580	0	0	0	203,580	0	0	0	0	0	0
14	Small Business		0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
15	Small Business	\$364	\$0	\$364	\$0	\$0	\$0	\$364	\$0	\$0	\$0	\$0	\$0	\$0
16	Econ Development													
17	# Large C&I Customers		0	2,589	0	0	0	2,589	554	0	0	0	554	0
18	% Large C&I only		0.0%	82.4%	0.0%	0.0%	0.0%	82.4%	17.6%	0.0%	0.0%	0.0%	17.6%	0.0%
19	Econ Development	(\$70)	\$0	(\$58)	\$0	\$0	\$0	(\$58)	(\$12)	\$0	\$0	\$0	(\$12)	\$0
20	Other Residential	\$5,279	\$5,279	\$0	\$0	\$0	\$0	\$5,279	\$0	\$0	\$0	\$0	\$0	\$0
21		\$22,117	\$12,973	\$5,063	\$0	\$0	\$2,040	\$20,075	\$1,078	\$26	\$387	\$252	\$1,743	\$70
22	Allocator %		58.7%	22.9%	0.0%	0.0%	9.2%	90.8%	4.9%	0.1%	1.8%	1.1%	7.9%	0.3%

#### SCG 2020 TCAP LRMC Customer Cost Allocation of Customer-Related Distribution O&M

		Г							Noncore					
								No	n-Residential					Total
		ŀ		G-30		Small EG	EG	EOR	rtooidontidi	Who	lesale		Intl	Over All
			Distribution	Transmission	Total		G-50	G-40	LB	SDG&E	SWG	Vernon	ECOGAS	Customers
1	2016 Number of Customers		534	20	554	250	63	33	1	1	1	1	1	5,721,670
		•	-											
	Customer Services O&M Costs													
2		16 M\$s			\$361	\$49	\$12	\$2	\$0	\$0	\$0	\$0	\$0	\$141,933
3		16 \$s			651.92	196.19	196.19	45.48	0.00	0.00	0.00	0.00	0.00	
4	202	20 \$s			715.90	215.44	215.44	49.95	0.00	0.00	0.00	0.00	0.00	
						Total EG	\$61							
	Customer Accounts O&M Costs													
5		16 M\$s			\$1,286	\$612	\$154	\$78	\$8	\$6	\$13	\$6	\$4	\$116,733
6		16 \$s			2.322.06	2.448.20	2,448.20	2.356.87	7,850.76	6,267.17	12,601.52	5,630,09	3.891.80	******
7		20 \$s			2,549.96	2,688.48	2,688.48	2,588.19	8,621.27	6,882.26	13,838.29	6,182.65	4,273.76	
8														
9	segmentation by number of customers				1	EG O&M cost	\$766	l						
	,					80%		note: split EG	costs by # of cus	stomers				
	Meters, Reg & MSAs O&M Costs													
10	Total Cost 201	16 M\$s			\$1,087	\$661	\$133	\$70	\$13	\$13	\$25	\$2	\$2	\$10,718
11	Cost Per Customer: 201	16 \$s			1,962.09	2,644.00	2,111.11	2,121.21	13,000.00	13,000.00	25,000.00	2,000.00	2,000.00	
12	202	20 \$s	2,154.66	2,154.66	2,154.66	2,903.49	2,318.31	2,329.40	14,275.88	14,275.88	27,453.62	2,196.29	2,196.29	
	Service Lines O&M Costs													
12		16M \$s												
14		20 \$s												
15	Total Service Line Footage	20 ψ5	105,177	16,542	121.720	43,277	16,273	11,524	0	0	0	0	0	324.592.809
	Percent of Total Footage		0.03%	0.01%	0.04%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
		20 \$s	\$10,539	\$1,658	\$12,197	\$4,337	\$1,631	\$1,155	\$0	\$0	\$0	\$0	\$0	\$32,525,947
		20 \$s	\$19.74	\$82.88	\$22.02	\$17.35	\$25.88	\$34.99	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5.68
	0-1													
_	Calculation of Customer Service & In				<b>60.00</b> F	640	6700	6.470	6404	6404	£4.40	6400	050	644.550
5 3		16 M\$s			\$2,025	\$49 195.31	\$728 11.551.84	\$473 14.319.86	\$131	\$124 123.834.41	\$143 143,287,23	\$106	\$58	\$41,552
3		16 \$s 20 \$s			3,654.60 4.013.28	195.31 214.47	11,551.84	14,319.86	130,781.85	123,834.41	143,287.23	105,771.08	57,682.49	7.26
4	202	∠∪ ֆS			4,013.28	214.47	12,685.60	10,725.27	143,617.39	135,988.10	107,350.11	116,151.95	63,343.72	

#### Calculation of Customer Service & Information

139 Calculation of Customer Service & Information
140 907 Cus Svc-Supervision + Payroll Taxes
141 908 Cus Svc-Cust Assist Exp (PBR Ex DAP, DSM i
142 909 Cus Svc-Info & Instruction Exp

143 910 Cus Svc-Misc CSI Exp

144 147

148 CS&I O&M, 2016 \$000's

149					Total				SYSTEM	
		SDG&E	South West Gas	Vernon	Whole sale	DGN	UBS	Total Noncore	TOTAL	Sources
1	Calculation of CSI Cost Allocator:									
2	Energy Markets Costs:									
3	Mgmnt estimate - FTE	0.6	0.7	0.5	2.3	0.3	0.0	8.9	9.2	
4	Energy Markets	6.1%	7.1%	5.3%	25.0%	2.9%	0.0%	97.2%	100.0%	
5	Energy Markets	\$66	\$76	\$56	\$268	\$31	\$0	\$1,042	\$1,072	<del>_</del>
6	Large C&I:									
7	# Large C&I Customers	0	0	0	0	0	0	554	3,143	2013 Customer Count
8	% Large C&I only	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	17.6%	100.0%	
9	Large C&I	\$0	\$0	\$0	\$0	\$0	\$0	\$1,012	\$5,739	<del>_</del>
10	NGV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,040	
11	Residential	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,693	
12	Small Business									
13	# G10, G-AC, G-GE Customers only	0	0	0	0	0	0	0	203,580	2013 Customer Count from SCG Cust Cost model "cust 2"
14	Small Business	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
15	Small Business	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$364	<del>_</del>
16	Econ Development									
17	# Large C&I Customers	0	0	0	0	0	0	554	3,143	2013 Customer Count from SCG Cust Cost model "cust 2"
18	% Large C&I only	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	17.6%	100.0%	
19	Econ Development	\$0	\$0	\$0	\$0	\$0	\$0	(\$12)	(\$70)	<del>_</del>
20	Other Residential	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,279	
21	Total	\$66	\$76	\$56	\$268	\$31	\$0	\$2,041	\$22,117	\$22,117
22	Allocator %	0.3%	0.3%	0.3%	1.2%	0.1%	0.0%	9.2%	100.0%	
							101.29	,		_

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#### SCG 2020 TCAP LRMC Customer Cost Weighted Average RECC and Replacement Factors

#### Weighted Average Meter and House Regulator RECC and Replacement Factors

Line 1. 2. 3. 4.	CUSTOMER CLASS SINGLE FAMILY MULTIPLE FAMILY	<u>RATE</u> GR GR	Excluded AVERAGE LABOR COST  175.65 124.85	AVERAGE METER COST Dol 123.08 53.86	AVERAGE REGULATOR COST lars 35.50 6.08	AVERAGE TOTAL COST 334.23 184.79	WEIGHTED REPLACEMENT Percent 1.79% 1.27%	WEIGHTED RECC Percent 9.58% 9.55%	WEIGHTED PVRR  129.06% 129.13%
5.	MASTER METERED BAND 1	GM,GS	888.76	474.04	232.05	1594.85	1.63%	9.52%	129.12%
6.	MASTER METERED BAND 2	GM,GS	12570.19	2766.76	1859.10	17196.05	0.97%	9.44%	129.23%
7.	RESIDENTIAL WEIGHTED AVERAGE		170.67	146.45	32.51	349.62	1.96%	9.62%	129.03%
8. 9.	SMALL CORE BAND 1 SMALL CORE BAND 2	G-10 G-10	297.60 607.98	171.27 392.32	67.01 156.98	535.88 1157.28	1.66% 1.77%	9.54% 9.55%	129.10% 129.09%
10.	SMALL CORE BAND 3	G-10	1376.17	754.27	364.53	2494.97	1.65%	9.52%	129.11%
11.	SMALL CORE BAND 4	G-10	3890.13	2307.21	1712.88	7910.22	1.82%	9.49%	129.12%
12.	SMALL CORE BAND 5	G-10	4518.19	3775.95	2816.36	11110.51	2.13%	9.51%	129.08%
13.	G10 AVERAGE		430.93	901.17	194.53	1,526.63	2.75%	9.72%	128.89%
14. 15. 16. 17. 18.	GAS COOLING Natural Gas Vehicles GAS ENGINES NONCORE COMM/IND TRANSMISSION NONCORE COMM/IND DISTRIBUTION NONCORE COMM/IND TOTAL	GAC NGV GENG G-30 G-30 G-30	3784.48 39237.41 3541.63 313299.52 73994.04 82,633.22	2415.11 3208.78 911.65 34933.26 5695.95 6,751.44	1742.11 1548.77 486.50 1885.80 2670.97 2,642.63	7941.70 43994.96 4939.78 350118.57 82360.96 92027.30	1.88% 0.40% 1.04% 0.42% 0.37% 0.38%	9.50% 9.40% 9.46% 9.43% 9.40% 9.40%	129.11% 129.30% 129.21% 129.28% 129.30% 129.30%
20. 21.	COGENERATION EOR	G-50 G-40	57489.56 228507.46	3642.11 10450.85	1127.10 2717.11	62258.77 241675.42	0.29% 0.21%	9.40% 9.39%	129.31% 129.33%
22.	SYSTEM AVERAGE	G-40	191.96	174.27	38.68	404.91	2.01%	9.63%	129.02%
22.	INVERSE OF BOOK LIFE		0.00%	4.00%	3.03%				
23.	RECC		9.36%	10.05%	9.04%				
23.	PVRR		129.36%	128.58%	129.30%				

#### SCG 2020 TCAP LRMC Customer Cost Weighted Average RECC and Replacement Factors

#### Weighted Average RECC and Replacement Factor for Exclusive Use Facilities

<u>Line</u> 1. 2.	CUSTOMER CLASS	<u>RATE</u>	GEMs Dollars	AVERAGE TOTAL COST Dollars	WEIGHTED REPLACEMENT Percent	WEIGHTED RECC
3.	NONCORE COMM/IND TRANSMISSION	G-30	903,048	903,048	4.00%	10.05%
4.	NONCORE COMM/IND DISTRIBUTION	G-30	6,405,886	6,405,886	4.00%	10.05%
5.	NONCORE COMM/IND TOTAL	G-30	7,308,935	7,308,935	4.00%	10.05%
6.	COGENERATION	G-50	61,859,044	61,859,044	4.00%	10.05%
7.	EOR	G-40	1,032,079	1,032,079	4.00%	10.05%
8.	LONG BEACH		4,656,773	4,656,773	4.00%	10.05%
9.	SAN DIEGO GAS & ELECTRIC		10,947,781	10,947,781	4.00%	10.05%
10.	SOUTHWEST GAS		3,096,236	3,096,236	4.00%	10.05%
11.	VERNON		2,321,310	2,321,310	4.00%	10.05%
12.	DGN		 501,887	501,887	4.00%	10.05%
13.	SYSTEM TOTAL		99,032,979	99,032,979	4.00%	10.05%
14.	INVERSE OF BOOK LIFE		4.00%			
15.	RECC factors		10.05%			

Source:Meter cost detail

## **SOUTHERN CALIFORNIA GAS**

#### 2016 Economic Assumptions Update LEVELIZED ANNUAL CAPITAL COST AND RECC FACTORS

FFRC   Account Name		utility socal	Αι	ıth ROF	R ===>	8.02%		Fed <sup>-</sup>	Tax Rate	9 ====>	35.009	6	State Tax	c Rate ===>	8.84%	Ad Valor	um Rate ===>		1.288%	
Account Name   Book   Tax	FERC			Fed	State		Normlzd	Normlzd		Deprecia	ation Metho	d		LACC	Compone	nts (in percent)				Sum of
C-352   Wells		Account Name							Fede	ral Tax	State	Tax				Property Taxes	Total LACC	RECC Factors	PVCC Factors	
G-354 Compressor Station Equipment 4 15 22 4-09, TRUE FALSE   India 150%   India 15	GAS UN	DERGROUND STORAGE	9	10	11	12	13	14		15		16	19	20	21	22	23	25	26	27
G-356 Puricione Equipment   41 15 22 -15%   TRUE   FALSE   obs   150%   obs   200%   2.80   4.75   2.02   0.87   10.44   8.16   12.4 51   290.32    GAS TRANSMISSION PLANT  G-365.1 Land   0 0 0 0 0   FALSE   FALSE   obs   150%   obs   0.00   0.00   0.30   0.52   0.80   10.52   0.80   10.52    G-365.1 Land   0 0 0 0 0   FALSE   FALSE   obs   150%   obs   0.00							_													
GAS TRANSMISSION PLANT  G-365.1 Land G-365.1																				
C-365   Land							_													
G-365   Structures & Improvements	GAS TR	ANSMISSION PLANT																		
G-368 Compressor Station Equipment 50 15 22 -15% TRUE FALSE dols 150% dols 200% 200% 2.50 4.71 2.00 0.87 10.08 7.55 124.68 265.55 0.368 Compressor Station Equipment 46 15 22 -15% TRUE FALSE dols 150% dols 200% 2.00% 3.26 4.39 1.86 0.78 10.29 7.94 124.57 250.31 0.797 10.00 10.	G-365.1	Land	0	0	0	0%	FALSE	FALSE	none	0%	none	0%	0.00	8.03	3.75	1.29	13.06	n/a	162.69	1342.09
G-368 Compressor Station Equipment de 150 15 22 -15% TRUE FALSE dois 150% do											db/sl									
GAS DISTRIBUTION PLANT  GAS DI			-																	
G-371 Other Equipment 21 15 22 -10% TRUE FALSE dbls 150% dbls 200% 5.24 4.48 1.96 0.73 12.40 10.55 123.98 217.44    G-374.1 Land All Cand							_													
G-374.1 Land G-374.2 Land Rights  40 40 40 0% FALSE FALSE sl 0% db/sl 0% db/sl 0% 2.50 5.81 2.71 0.92 11.94  9.35 141.94 399.86  G-375 Structures & Improvements 40 39 45 -10% TRUE FALSE sl 0% db/sl 0% 2.50 5.81 2.71 0.92 11.94  9.35 141.88 343.62  G-376 Mains G-376 Measuring & Regulating Equipment 47 20 35 -95% TRUE FALSE db/sl 150% db/sl 200% 4.53 0.35 -10% db/sl 200% 4.54 0.39 141.94 0.64 10.68  G-380 Services C-380 Services C-382 Meters & Regulator Installations G-383 House Regulators G-383 House Regulators G-387 Other Equipment G-387 Other Equipment G-387 Other Equipment G-387 Other Equipment G-390 Structures & Improvements S-3 3 39 45 -15% TRUE FALSE db/sl 150% db/sl 200% G-381 Db/sl 200% G-382 Meters G-387 Other Equipment G-387 Other Equipment G-390 Structures & Improvements G-390 Structures & Improvements G-390 Structures & Improvements G-390 Structures & Improvements G-391 Computer Equipment G-391 TRUE FALSE db/sl 150% db/sl 200% G-391 Structures & Improvements G-391 Structures & Improvements G-391 Structures & Improvements G-392 Structures & Improvements G-393 Structures & Improvements G-394 Structures & Improvements G-395 Structures & Improvements G-396 Structures & Improvements G-396 Structures & Improvements G-397 Structures & Improvements G-398 Structures & Improvements G-398 Structures & Improvements G-399							_													
G-374 2 Land Rights	GAS DIS	GAS DISTRIBUTION PLANT																		
G-375 Structures & Improvements			_	-	-															
G-376 Mains G-378 Masuring & Regulating Equipment G-382 Meters G-382 Meters G-382 Meters & Regulator Installations G-383 House Regulator Installations G-383 House Regulator Installations G-384 Meters G-385 Meters G-386 Meters G-387 Meters G-387 Meters G-388 Meters G-388 Meters G-388 Meters G-389 Me		S .					_										-			
G-378 Measuring & Regulating Equipment							_													
G-380 Services   67 20 35 -115%   TRUE FALSE   db/sl 150%   db/sl 200%   3.21 4.45 2.03 0.75 10.44   7.80 129.33 136.21   G-381 Meters   25 20 35 5%   TRUE FALSE   db/sl 150%   db/sl 200%   3.80 5.05 2.39 0.84 12.07   10.05 128.58 263.10   G-382 Meter & Regulator Installations   30 20 35 -10%   TRUE FALSE   db/sl 150%   db/sl 200%   3.80 5.05 2.39 0.84   12.07   10.05 128.58 263.10   G-383 House Regulators   33 20 35 5%   TRUE FALSE   db/sl 150%   db/sl 200%   2.88 5.14 2.35 0.89   11.26   9.04 129.30 291.74   G-387 Other Equipment   21 20 35 5%   TRUE FALSE   db/sl 150%   db/sl 200%   4.52 5.04 2.43 0.81   12.81   10.90   128.02 235.56    GAS GENERAL PLANT  G-390 Structures & Improvements   33 39 45 -15%   TRUE FALSE   db/sl 200%   db/																				
G-382 Meter & Regulator installations   30   20   35   -10%   TRUE   FALSE   db/s    150%   db/s    200%   2.88   5.14   2.35   0.89   11.26   9.04   129.30   291.74   29.35   291.74   291.75																				
G-383 House Regulators		Meters					TRUE	FALSE	db/sl		db/sl		3.80			0.84	12.07	10.05	128.58	
GAS GENERAL PLANT  G-390 Structures & Improvements   33   39   45   -15%   TRUE   FALSE   db/s    150%   db/s    200%   db/s    200%   3.48   5.44   2.58   0.81   12.32   9.89   141.51   307.79   G-391.1 Office Furniture & Equipment   14   7   10   0%   TRUE   FALSE   db/s    200%   db/s    200%   db/s    200%   20.00   4.12   1.92   0.55   26.59   25.56   106.11   130.85   G-391.2 Computer Equipment   20   20   35   0%   TRUE   FALSE   db/s    150%   db/s    200%   db/s    200%   20.00   4.12   1.92   0.55   26.59   25.56   106.11   130.85   G-393 Stores Equipment   20   20   35   0%   TRUE   FALSE   db/s    150%   db/s    200%   3.45   5.00   2.31   0.84   11.60   9.47   129.10   268.37   G-394.1 Shop & Garage Equipment   29   20   35   0%   TRUE   FALSE   db/s    150%   db/s    200%   4.17   4.95   2.32   0.80   12.25   10.25   128.65   246.08   G-393 Laboratory Equipment   25   20   35   0%   TRUE   FALSE   db/s    150%   db/s    200%   4.10   4.96   2.32   0.81   12.09   10.06   128.76   G-398 Miscellaneous Equipment   15   7   10   0%   TRUE   FALSE   db/s    150%   db/s    200%   6.67   3.93   1.68   0.72   13.08   11.20   11.50   111.07   179.06   G-398 Miscellaneous Equipment   20   20   35   0%   TRUE   FALSE   db/s    150%   db/s    200%   6.67   3.93   1.68   0.72   13.08   11.20   128.14   228.15   G-391.5 Software Programs - 10yr ASL   10   3   3   0%   TRUE   FALSE   db/s    150%   db/s    200%   db/s    200%   5.00   4.95   2.36   0.77   13.08   11.20   128.14   228.15   G-391.5 Software Programs - 10yr ASL   15   3   3   0%   TRUE   FALSE   s  0%   db/s  0%   db/s  0%   5.00   3.54   1.31   0.72   12.23   10.83   104.55   172.40   G-391.6 Software Programs - 3yr ASL   3   3   0%   TRUE   FALSE   s  0%   db/s  0%   db/s  0%   3.33   4.15   1.94   0.45   39.87   39.08   102.71   118.89   G-391.3 Software Programs - 3yr ASL   3   3   0%   TRUE   FALSE   s  0%   db/s  0%   db/s  0%   3.33   4.15   1.94   0.45   39.87   39.08   102.71   118.89   G-391.3 Software Programs - 3yr ASL   3   3   0%   TRU		•																		
GAS GENERAL PLANT  G-390 Structures & Improvements   33   39   45   -15%   TRUE   FALSE   sl   0%   db/sl   200%   db/sl   200%   7.14   3.93   1.69   0.71   13.48   12.02   110.96   174.60		S .																		
G-391.1 Office Furniture & Equipment		• •	21	20	33	376	INUE	FALSE	UD/SI	130%	ub/Si	200%	4.52	5.04	2.43	0.61	12.01	10.90	120.02	233.30
G-391.1 Office Furniture & Equipment																				
G-391.2 Computer Equipment  G-391.2 Computer Equipment  G-393 Stores Equipment  D-394.1 Shop & Garage Equipment  D-394.3 Large Portable Tools  D-395 Laboratory Equipment  D-395 Laboratory Equipment  D-395 Communications Equipment  D-396.3 Software Programs - 10yr ASL  D-391.5 Software Programs - 10yr ASL  D-391.5 Software Programs - 15yr ASL  D-391.6 Software Programs - 20yr ASL  D-391.3 Software Programs - 3yr ASL  D-391.3 Software Programs - 3yr ASL  D-391.3 Software Programs - 3yr ASL  D-395 Laboratory Equipment  D-396 D-397 Communications Equipment  D-397 Communications Equipment  D-398 D-		·					_		-								-			
G-393 Stores Equipment 20 20 35 0% TRUE FALSE db/sl 150% db/sl 200% db/sl 200% db/sl 200% 3.45 5.00 2.31 0.84 11.60 9.47 129.10 268.37 G-394.3 Large Portable Tools 24 20 35 0% TRUE FALSE db/sl 150% db/sl 200%							_													
G-394.1 Shop & Garage Equipment 29 20 35 0% TRUE FALSE db/sl 150% db/sl 200%													l l							
G-394.3 Large Portable Tools		• •																		
G-395 Laboratory Equipment 25 20 35 0% TRUE FALSE db/sl 150% db/sl 200% db/sl							_											-		
G-397 Communications Equipment 15 7 10 0% TRUE FALSE db/sl 200% db/sl 200% db/sl 200% db/sl 200% 6.67 3.93 1.68 0.72 13.00 11.50 111.07 179.06 G-398 Miscellaneous Equipment 20 20 35 0% TRUE FALSE db/sl 150% db/sl 200% db/sl 200% 5.00 4.95 2.36 0.77 13.08 11.20 128.14 228.15 G-391.5 Software Programs - 10yr ASL 10 3 3 0% TRUE FALSE sl 0% db/sl 0% db/sl 0% 10.00 3.50 1.35 0.66 15.50 14.26 103.91 150.10 G-391.5 Software Programs - 15yr ASL 15 3 3 0% TRUE FALSE sl 0% db/sl 0% db/sl 0% 6.67 3.54 1.31 0.72 12.23 10.83 104.55 172.40 G-391.6 Software Programs - 20yr ASL 20 3 3 0% TRUE FALSE sl 0% db/sl 0% db/sl 0% 5.00 3.64 1.32 0.77 10.72 9.18 105.05 194.69 G-391.3 Software Programs - 3yr ASL 3 3 0% TRUE FALSE sl 0% db/sl 0% db/sl 0% db/sl 0% 33.33 4.15 1.94 0.45 39.87 39.08 102.71 118.89		•					_													
G-398 Miscellaneous Equipment 20 20 35 0% TRUE FALSE db/sl 150% db/sl 200% db/sl 200% db/sl 0% db/sl 0% 10.00 3.50 1.35 0.66 15.50 14.26 103.91 150.10 G-391.5 Software Programs - 15yr ASL 15 3 3 0% TRUE FALSE sl 0% db/sl 0% db/sl 0% db/sl 0% 6.67 3.54 1.31 0.72 12.23 10.83 104.55 172.40 G-391.6 Software Programs - 20yr ASL 20 3 3 0% TRUE FALSE sl 0% db/sl 0% db/sl 0% db/sl 0% db/sl 0% db/sl 0% 33.33 4.15 1.94 0.45 39.87 39.08 102.71 118.89							_						l l							
G-391.5 Software Programs - 10yr ASL 10 3 3 0% TRUE FALSE SI 0% db/sl 0% db/sl 0% 10.00 3.50 1.35 0.66 15.50 14.26 103.91 150.10							1						l l							
G-391.55 Software Programs - 15yr ASL 15 3 3 0% TRUE FALSE SI 0% db/sl 0% 6.67 3.54 1.31 0.72 12.23 10.83 104.55 172.40 G-391.6 Software Programs - 20yr ASL 20 3 3 0% TRUE FALSE SI 0% db/sl 0% 5.00 3.64 1.32 0.77 10.72 9.18 105.05 194.69 G-391.3 Software Programs - 3yr ASL 3 3 0% TRUE FALSE SI 0% db/sl 0% db/sl 0% 33.33 4.15 1.94 0.45 39.87 39.08 102.71 118.89		• •																		
G-391.6 Software Programs - 20yr ASL 20 3 3 0% TRUE FALSE sl 0% db/sl 0% 5.00 3.64 1.32 0.77 10.72 9.18 105.05 194.69 G-391.3 Software Programs - 3yr ASL 3 3 0% TRUE FALSE sl 0% db/sl 0% 33.33 4.15 1.94 0.45 39.87 39.08 102.71 118.89		•					_													
G-391.3 Software Programs - 3yr ASL 3 3 3 0% TRUE FALSE si 0% db/si 0% 33.33 4.15 1.94 0.45 39.87 39.08 102.71 118.89							_						l l							
·							1													
		Software Programs - 6yr ASL	6	3		0%	TRUE	FALSE	sl	0%	db/si	0%	16.67	3.61	1.49	0.43	22.36	21.29	102.71	132.27

# Calculation of Marginal Customer Costs 2020 \$/Customer

				O&M and	Marginal Unit
			Annualized	Loaders	Cost 2020
	CAPEX		CAPEX	(\$/customer/	(\$/customer/
Customer Class	\$/customer	RECC %	(\$/customer/year)	year)	year)
<b>.</b>	<b>#</b> 0.000.04	0.000/	<b>#</b> 405.05	<b>4.00.00</b>	<b>#</b> 004.00
Residential	\$2,296.91	8.08%	\$185.65	\$108.38	\$294.03
Core C/I <sup>14</sup>	\$13,269.27	8.01%	\$1,063.42	\$410.42	\$1,473.84
Gas A/C <sup>15</sup>	\$16,564.66	8.72%	\$1,444.74	\$5,437.92	\$6,882.66
Gas Engine <sup>16</sup>	\$215,383.82	7.84%	\$16,893.23	\$1,088.70	\$17,981.93
NGV	\$135,363.77	8.39%	\$11,355.21	\$34,234.98	\$45,590.19
Noncore C/I <sup>17</sup>	\$451,835.01	8.24%	\$37,234.29	\$17,905.45	\$55,139.74
Small EG <sup>18</sup>	\$172,741.89	8.45%	\$14,598.37	\$11,435.85	\$26,034.22
Large EG <sup>19</sup>	\$1,332,110.55	9.05%	\$120,576.05	\$33,959.11	\$154,535.16
EOR <sup>20</sup>	\$517,080.69	8.74%	\$45,206.77	\$39,249.98	\$84,456.75
Long Beach <sup>21</sup>	\$4,656,772.60	10.05%	\$467,862.08	\$315,310.40	\$783,172.48
SDG&E <sup>22</sup>	\$10,947,781.49	10.05%	\$1,099,914.53	\$297,570.68	\$1,397,485.22
Southwest Gas <sup>23</sup>	\$3,096,235.69	10.05%	\$311,076.23	\$376,146.69	\$687,222.92
Vernon <sup>24</sup>	\$2,321,309.97	10.05%	\$233,220.09	\$235,810.55	\$469,030.64
Ecogas <sup>25</sup>	\$501,886.62	10.05%	\$50,424.13	\$132,198.71	\$182,622.84

<sup>&</sup>lt;sup>14</sup> Core C&I are the Core Commercial & Industrial customers

<sup>&</sup>lt;sup>15</sup> Gas A/C are the Gas Air Conditioning for Commercial & Industrial customers

<sup>&</sup>lt;sup>16</sup> Gas Engine are Core Gas Engine Water Pumping Service for Commercial and Industrial

<sup>&</sup>lt;sup>17</sup> Noncore C/I are Noncore Commercial & Industrial customers

<sup>&</sup>lt;sup>18</sup>Small EG are Electric Generation customers with usage less than 3 million therms/year

<sup>&</sup>lt;sup>19</sup>Large EG are Electric Generation customers with usage greater than 3 million therms/year

<sup>&</sup>lt;sup>20</sup>EOR are Enhanced Oil Refinery customers

<sup>&</sup>lt;sup>21</sup> Long Beach is the Wholesale - City of Long Beach customer

<sup>&</sup>lt;sup>22</sup> SDG&E is the Wholesale – San Diego Gas & Electric customer

<sup>&</sup>lt;sup>23</sup>SW Gas is the Wholesale – Southwest Gas Corporation's service territory in southern California

<sup>&</sup>lt;sup>24</sup>Vernon is the Wholesale – City of Vernon customer

<sup>&</sup>lt;sup>25</sup>Ecogas is the Wholesale – ECOGAS Mexico, S. de R.L. de C.V. customer

# SoCalGas 2020 TCAP



**Workpapers to the Prepared Written Testimony of Marjorie Schmidt-Pines** 

#### **General Information about the Distribution Model**

This model estimates Demand-related Long Run Marginal Costs (LRMC) for SoCalGas' Distribution Systems, separately for High Pressure and Medium Pressure Distribution Systems.

This workbook contains multiples sheets. These sheets are categorized into:

- a) Input/Calculations Sheets,
- b) Output/Calculation Sheets, and

Below is a description of each of these sheets

Input/Calculation Sheets:

#### HPD Peak Month Demand: Cost Driver for High Pressure Distribution Mains. It contains 3 Tables:

- 1: Peak Month Demand by Customer Class: Historical Data,
- 2: Peak Month Demand by Customer Class: Forecast Data,
- 3: Number of customers by class: Historical Data,
- 4: Number of customers by class: Forecasted Data, and
- 5: Level of usage of High Pressure Distribution Service by Customer Class.

#### MPD\_Percontains 3 Tables:

- 1: Peak Day Demand by Customer Class: Historical Data,
- 2: Peak Day Demand by Customer Class: Forecast Data, and
- 3: Level of Usage of Medium Pressure Distribution Services by Customer Class.

#### IN\_investment\_History: It contains Historical inputs needed to estimate Annualized Investment-related LRMC. It includes 9 Tables:

- 1: High Pressure Distribution (HPD) Mains Footage Investment: New Business & Replacement Combined,
- 2: Total Plastic Distribution Mains Footage Investment: New Business & Replacement Combined,

(Note: no HP Plastic Distribution Mains)

3: Total Steel Distribution Mains (including HP) Footage Investment: New Business & Replacement Combined,

(Medium Pressure (MP) Steel Distribution Mains Footage is calculated as the residual)

- 4: Plastic New Business Vs. Replacement Distribution Mains Footage: Based on a Sample Survey,
- 5: Steel New Business Vs. Replacement Distribution Mains Footage: Based on a Sample Survey,
- 6: Plastic Mains Pressure Betterment Investment as a Fraction of Total Plastic Mains Investment,
- 7: Steel Mains Pressure Betterment Investment as a Fraction of Total Steel Mains Investment,
- 8: Contribution in Aid of Construction as a Fraction of Total Distribution Mains Cost,
- 9: Account 378 (Meters & Regulator Stations) Investment Info.

#### OUT\_Investment\_Forecast: It contains Forecasted inputs needed to estimate Annualized Investment-related LRMC. It includes 1 Table:

1: Forecasted Distribution-related Investment Costs:

#### Intermediate Output/Calculation Sheets:

#### HPD\_Peak\_Month\_Demand: It calculates 4 Tables:

- 1: Peak Month Demand for Additional Customers Served by Customer Class,
- 2: Average Coincident Peak Month Demand per Customer,
- 3: Coincident Peak Month Demand for additional Customer served, and
- 4: High Pressure Distribution-Service-Usage-Weighted Coincident Peak Month Demand for Additional Customers Served.

#### Peak\_Day\_Demand: It calculates 5 Tables:

- 1: Number of Customers by Class,
- 2: Number of Additional Customers Served,
- 3: Average Peak Day Demand per Customer,
- 4: Peak Day Demand for Additional Customer served, and
- 5: Medium Pressure Distribution-Service-Usage-Weighted Peak Day Demand for Additional Customers Served.

#### **OUT Investment History: It contains 4 Tables:**

- 1: Plastic Distribution Mains: New Business, Pressure Betterment & Contribution in Aid of New Construction.
- 2: Steel Distribution Mains: New Business, Pressure Betterment & Contribution in Aid of New Construction.
- 3: High Pressure Distribution Mains: New Business, Pressure Betterment & Contribution in Aid of New Construction.
- 4: Load-Growth-related HP & MP Distribution Investments by Components & Total

#### OUT\_Investment\_Forecast: It contains 1 Table:

1: Allocation Factor, High & Medium Pressure Distribution Mains Forecasted Investments

#### OUT\_MP\_LRMC: It contains 4 Table:

- 1: System Demand Determinate, it estimates the distribution LRMC
- 2: Regression of Distribution Investment, it estimates Regression Coefficients for MP and HP Investment
- 3: Calculate Weighted Average RECC Factor, it estimates Regression Coefficients for HP Investment
- 4: % Share of investment between MPD and HPD

### HPD Peak Month 2020 TCAP

							NonCore C&I G-						Cumulative
Year	Residential	Core C&I G10	Gas AC	NGV	Gas Eng	Total Core	30	EOR G-40	EG G-50	<b>Total Noncore</b>	Wholesale	Total System	Total
		th Demand by Cus											
2007	0	0	0	0	0	0	0	0	0	0	0	0	
2008	39,241,280	12,151,400	6,027	712,390	68,184	52,179,281	11,578,320	2,678,949	28,081,864	42,339,133	0	94,518,414	
2009	40,031,343	11,931,580	5,564	770,923	80,495	52,819,905	10,909,986	1,261,164	19,759,387	31,930,537	0	84,750,442	
2010	39,184,472	11,741,393	6,228	817,970	60,432	51,810,495	12,624,707	1,197,599	26,180,912	40,003,218	0	91,813,713	
2011	39,567,025	11,665,959	4,780	821,302	61,959	52,121,024	12,462,498	1,100,192	18,800,168	32,362,858	0	84,483,881	
2012	40,332,246	12,391,426	4,488	887,719	80,223	53,696,101	12,336,990	574,786	23,602,690	36,514,465	0	90,210,566	
2013	41,192,798	12,369,818	4,643	914,448	119,725	54,601,431	12,035,985	2,017,821	23,384,401	37,438,207	0	92,039,638	
2014	41,256,590	12,535,237	5,216	961,365	88,873	54,847,282	13,118,963	1,770,415	21,835,259	36,724,637	0	91,571,918	
2015	39,008,996	12,271,206	4,371	919,641	73,833	52,278,047	12,018,388	1,709,949	19,658,518	33,386,855	0	85,664,902	
2016	37,927,257	11,867,535	5,105	1,100,279	98,288	50,998,465	14,272,532	1,978,620	18,744,194	34,995,345	0	85,993,809	
2017	39,677,479	11,950,890	5,593	1,148,585	111,479	52,894,026	13,886,351	1,715,775	15,410,723	31,012,848	0	83,906,874	_
2018	39,406,781	11,818,781	2,524	1,211,464	94,091	52,533,640	13,732,363	1,715,775	18,472,527	33,920,665	0	86,454,305	
2019	38,986,741	11,728,335	2,524	1,277,828	94,091	52,089,519	13,629,692	1,715,775	17,325,594	32,671,061	0	84,760,580	
2020	38,497,291	11,591,299	2,524	1,347,875	94,091	51,533,079	13,604,716	1,715,775	21,049,075	36,369,566	0	87,902,645	
2021	38,025,045	11,389,091	2,524	1,421,813	94,091	50,932,564	13,508,140	1,715,775	21,036,709	36,260,624	0	87,193,189	
2022	37,443,996	11,139,089	2,524	1,499,865	94,091	50,179,564	13,567,321	1,715,775	20,833,079	36,116,175	0	86,295,740	
	Source. Historical	from Demand Foreca	ast unough zo	TO, William Guc	o, upuateu 3-13-	2017, Demand For	ecast i iiai TOAI 7	xx-xxx, upualeu	0-12-2010				
Table 1': No	umber of Custome	rs by Class											
2007	5,179,346	210,784	17	216	878	5,391,241	731	42	242	1,015	0	5,392,256	
2008	5,248,551	211,449	15	293	843	5,461,151	674	41	222	937	0	5,462,088	
2009	5,257,766	209,301	15	341	819	5,468,242	649	40	213	902	0	5,469,144	
2010	5,282,743	207,368	12	397	734	5,491,254	637	34	205	876	0	5,492,130	
2011	5,355,438	205,300	12	198	699	5,561,647	615	33	189	837	0	5,562,484	
2012	5,380,407	204,351	10	199	695	5,585,662	607	38	199	844	0	5,586,506	
2013	5,422,975	206,292	9	205	709	5,630,190	577	32	220	829	0	5,631,019	
2014	5,446,579	204,616	9	218	712	5,652,134	571	32	228	831	0	5,652,965	
2015	5,475,689	203,977	10	226	714	5,680,616	565	34	247	846	0	5,681,462	
2016	5,516,213	203,580	9	245	718	5,720,765	554	33	313	900	0	5,721,665	_
2017	5,537,971	203,975	8	318	714	5,742,987	581	34	382	997	0	5,743,983	
2018	5,568,693	203,686	4	333	712	5,773,428	584	34	380	998	0	5,774,426	
2019	5,614,540	203,683	4	348	712	5,819,287	588	34	383	1,005	0	5,820,293	
2020	5,663,352	203,651	4	363	712	5,868,082	591	34	388	1,013	0	5,869,095	
2021	5,714,082	203,522	4	378	712	5,918,698	593	34	389	1,016	0	5,919,714	
2022	5,766,159	203,370	4	393	712	5,970,638	595	34	391	1,019	0	5,971,658	

History from Ken Parris, December CIS Revenue Files Active Customer Counts by rate category

	ımber of Additiona		ed by Custome	er Class = chan	ge in # custor							
2007	0	0	0	0	0	0	0	0	0	0	0	0
2008	69,205	665	0	77	0	69,947	0	0	0	0	0	69,947
2009	9,215	0	0	48	0	9,263	0	0	0	0	0	9,263
2010	24,977	0	0	56	0	25,033	0	0	0	0	0	25,033
2011	72,695	0	0	0	0	72,695	0	0	0	0	0	72,695
2012	24,969	0	0	1	0	24,970	0	5	10	15	0	24,985
2013	42,568	1,941	0	6	14	44,529	0	0	21	21	0	44,550
2014	23,604	0	0	13	3	23,620	0	0	8	8	0	23,628
2015	29,110	0	1	8	2	29,121	0	2	19	21	0	29,142
2016	40,524	0	0	19	4	40,547	0	0	66	66	0	40,613
2017	21,758	395	0	73	0	22,226	27	1	69	97	0	22,323
2018	30,722	0	0	15	0	30,737	3	0	0	3	0	30,740
2019	45,847	0	0	15	Ö	45,862	4	0	3	7	0	45,869
2020	48,812	0	Ō	15	Ö	48,827	3	Ō	4	8	Ô	48,835
2021	50,730	0	0	15	Ö	50,745	2	0	1	3	0	50,748
2022	52,077	Ö	0	15	Ö	52,092	1	ő	2	3	Ö	52,095
	,	-	-		•	,	•	-	_	•	•	,
Table 2: Ave	erage Coincident P	eak Month Demar	nd Per Custom	er (Mcf) = Tota	I Demand by	class / total # custo	omers in class					
2007	0	0	0	0	0	0	0	0	0	0	0	0
2008	7.5	57.5	401.8	2,431.4	80.9	9.6	17,178.5	65,340.2	126,494.9	45,185.8	0.0	17.3
2009	7.6	57.0	370.9	2,260.8	98.3	9.7	16,810.5	31,529.1	92,767.1	35,399.7	0.0	15.5
2010	7.4	56.6	519.0	2,060.4	82.3	9.4	19,819.0	35,223.5	127,711.8	45,665.8	0.0	16.7
2011	7.4	56.8	398.3	4,148.0	88.6	9.4	20,264.2	33,339.2	99,471.8	38,665.3	0.0	15.2
2012	7.5	60.6	448.8	4,460.9	115.4	9.6	20,324.5	15,125.9	118,606.5	43,263.6	0.0	16.1
2013	7.6	60.0	515.9	4,460.7	168.9	9.7	20,859.6	63,056.9	106,292.7	45,160.7	0.0	16.3
2014	7.6	61.3	579.6	4,409.9	124.8	9.7	22,975.4	55,325.5	95,768.7	44,193.3	0.0	16.2
2015	7.1	60.2	437.1	4,069.2	103.4	9.2	21,271.5	50,292.6	79,589.1	39,464.4	0.0	15.1
2016	6.9	58.3	567.3	4,490.9	136.9	8.9	25,762.7	59,958.2	59,885.6	38,883.7	0.0	15.0
2017	7.2	58.6	678.0	3,611.9	156.1	9.2	23,900.8	50,464.0	40,359.8	31,111.4	0.0	14.6
2018	7.1	58.0	631.0	3,638.0	132.1	9.1	23,504.9	50,464.0	48,592.0	33,975.3	0.0	15.0
2019	6.9	57.6	631.0	3,671.9	132.1	9.0	23,177.7	50,464.0	45,188.0	32,493.5	0.0	14.6
2020	6.8	56.9	631.0	3,713.2	132.1	8.8	23,005.0	50,464.0	54,284.9	35,898.1	0.0	15.0
2021	6.7	56.0	631.0	3,761.4	132.1	8.6	22,773.3	50,464.0	54,077.5	35,683.7	0.0	14.7
2022	6.5	54.8	631.0	3,816.5	132.1	8.4	22,818.1	50,464.0	53,308.2	35,429.2	0.0	14.5
2022	0.0	04.0	001.0	0,010.0	102.1	0.4	22,010.1	00,404.0	00,000.2	00,420.2	0.0	14.0
Table 3: Co	incident Peak Mon	th Demand For Ad	Iditional Custo	omers Served (	Mcf) = # additi	ional customers * a	verage demand p	er customers				
2007	0	0	0	0	0	0	0	0	0	0	0	0
2008	517,418	38,225	0	187,215	0	668,319	0	0	0	0	0	1,210,397
2009	70,161	0	0	108,517	0	89,475	0	0	0	0	0	143,540
2010	185,266	0	0	115,381	0	236,189	0	0	0	0	0	418,485
2011	537,085	0	0	0	0	681,262	0	0	0	0	0	1,104,103
2012	187,171	0	0	4,461	0	240,042	0	75,630	1,186,065	648,954	0	403,456
2013	323,346	116,388	0	26,764	2,364	431,841	0	0	2,232,147	948,374	0	728,175
2014	178,795	Ö	0	57,329	374	229,204	0	0	766,149	353,546	0	382,748
2015	207,381	0	437	32,554	207	267,997	0	100,585	1,512,194	828,752	0	439,402
2016	278,627	Ö	0	85,328	548	361,461	Ö	0	3,952,450	2,566,325	Ö	610,393
2017	155,890	23,143	Ö	263,669	0	204,708	645,321	50,464	2,778,101	3,012,617	Ö	326,091
2018	217,403	0	Ö	54,570	Ö	279,682	76,034	0	0	109,904	0	460,239
2019	318,355	Ö	Ö	55,079	Ö	410,517	88,458	ő	147,129	229,809	Ö	667,985
2020	331,808	Ō	Ö	55,697	Ö	428,798	76,617	0	235,616	275,368	Ö	731,412
2021	337,588	Ö	Ö	56,421	Ö	436,678	40,413	ő	68,029	108,214	Ö	747,481
2022	338,173	0	Ö	57,247	Ö	437,799	32,611	Ö	95,661	114,212	0	752,817
2023	0	0	Ö	0	ő	0	0	0	0	0	Ö	0
	•	•	•	•	•	•	•	•	•	•	•	•

Table 1: Leve	el of Usage of High	Pressure Distrib	ution Service b	y Customer C	lass			
all years	99.99%	99.35%	100.00%	80.79%	94.68%	59.50%	72.63%	12.86%

Table 4: High	Pressure Distrib	ution-Service-Usa	ge-Weighted	Coincident Pea	k Month Dema	nd For Additional	Customers Serve	ed (Mcf) = total de	emand for addition	nal customers * % o	f customers the	at use HPD system.	
2007	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	517,392	37,976	0	151,250	0	555,367	0	0	0	0	0	555,367	555,367
2009	70,157	0	0	87,670	0	70,157	0	0	0	0	0	70,157	625,525
2010	185,256	0	0	93,216	0	185,256	0	0	0	0	0	185,256	810,781
2011	537,058	0	0	0	0	537,058	0	0	0	0	0	537,058	1,347,839
2012	187,162	0	0	3,604	0	187,162	0	54,931	152,500	207,432	0	394,593	1,742,432
2013	323,329	115,627	0	21,623	2,238	441,195	0	0	287,002	287,002	0	728,197	2,470,629
2014	178,786	0	0	46,316	355	179,141	0	0	98,509	98,509	0	277,650	2,748,278
2015	207,370	0	437	26,300	196	208,003	0	73,057	194,433	267,490	0	475,493	3,223,771
2016	278,613	0	0	68,936	518	279,131	0	0	508,193	508,193	0	787,324	4,011,096
2017	155,882	22,992	0	213,017	0	178,874	383,956	36,653	357,199	777,808	0	956,681	4,967,777
2018	217,392	0	0	44,087	0	217,392	45,239	0	0	45,239	0	262,631	5,230,408
2019	318,339	0	0	44,498	0	318,339	52,631	0	18,917	71,548	0	389,887	5,620,296
2020	331,791	0	0	44,998	0	331,791	45,586	0	30,295	75,881	0	407,672	6,027,968
2021	337,571	0	0	45,582	0	337,571	24,045	0	8,747	32,792	0	370,364	6,398,331
2022	338,156	0	0	46,249	0	338,156	19,403	0	12,300	31,703	0	369,859	6,768,190
2023	0	0	0	0	0	0	0	0	0	0	0	0	6,768,190

### MPD Peak Day Demand 2020 TCAP

		Core C&I					NonCore			Total			Cummulative
Year	Residential	G10	Gas AC	NGV	Gas Eng	Total Core	C&I G-30	EOR G-40	EG G-50	Noncore	Wholesale	Total System	Total
	ak Day Demand by			_									
2007	0	0	0	0	0	0	0	0	0	0	0	0	
2008	2,291,698	619,666	194	22,980	2,199	2,936,738	392,417	86,418	1,123,561	1,602,396	0	4,539,134	
2009	2,322,063	610,472	179	24,868	2,597	2,960,180	369,766	40,683	790,577	1,201,026	0	4,161,206	
2010	2,303,379	602,881	201	26,386	1,949	2,934,796	427,882	38,632	1,047,504	1,514,018	0	4,448,814	
2011	2,321,227	599,658	154	26,494	1,999	2,949,531	422,384	35,490	752,199	1,210,073	0	4,159,604	
2012	2,350,783	622,027	145	28,636	2,588	3,004,179	418,130	18,541	944,349	1,381,020	0	4,385,200	
2013	2,385,392	622,419	150	29,498	3,862	3,041,321	407,929	65,091	935,615	1,408,634	0	4,449,956	
2014	2,392,346	626,168	168	31,012	2,867	3,052,561	444,633	57,110	873,633	1,375,377	0	4,427,938	
2015	2,326,999	617,788	141	29,666	2,382	2,976,975	407,332	55,160	786,541	1,249,033	0	4,226,009	
2016	2,299,700	604,287	165	35,493	3,171	2,942,815	483,731	63,826	749,959	1,297,516	0	4,240,331	
2017	2,395,693	574,915	180	37,051	3,596	3,011,436	470,476	55,348	651,011	1,176,835	0	4,188,271	
2018	2,389,885	570,886	81	39,079	3,035	3,002,967	465,509	55,348	735,819	1,256,675	0	4,259,643	
2019	2,374,556	568,147	81	41,220	3,035	2,987,040	462,197	55,348	722,278	1,239,823	0	4,226,862	
2020	2,355,857	563,830	81	43,480	3,035	2,966,283	461,391	55,348	806,642	1,323,381	0	4,289,664	
2021	2,339,067	557,313	81	45,865	3,035	2,945,362	458,243	55,348	819,939	1,333,530	0	4,278,891	
2022	2,315,393	549,206	81	48,383	3,035	2,916,098	454,637	55,348	800,011	1,309,996	0	4,226,094	

Source: Historical from Demand Forecast through 2016, William Guo, updated 9-15-2017; Demand Forecast Final TCAP, updated 6-12-2018

Table 1': I	Number of Custome	rs by Class										
2007	5,179,346	210,784	17	216	878	5,391,241	731	42	242	1,015	0	5,392,256
2008	5,248,551	211,449	15	293	843	5,461,151	674	41	222	937	0	5,462,088
2009	5,257,766	209,301	15	341	819	5,468,242	649	40	213	902	0	5,469,144
2010	5,282,743	207,368	12	397	734	5,491,254	637	34	205	876	0	5,492,130
2011	5,355,438	205,300	12	198	699	5,561,647	615	33	189	837	0	5,562,484
2012	5,380,407	204,351	10	199	695	5,585,662	607	38	199	844	0	5,586,506
2013	5,422,975	206,292	9	205	709	5,630,190	577	32	220	829	0	5,631,019
2014	5,446,579	204,616	9	218	712	5,652,134	571	32	228	831	0	5,652,965
2015	5,475,689	203,977	10	226	714	5,680,616	565	34	247	846	0	5,681,462
2016	5,516,213	203,580	9	245	718	5,720,765	554	33	313	900	0	5,721,665
2017	5,537,971	203,975	8	318	714	5,742,987	581	34	382	997	0	5,743,983
2018	5,568,693	203,686	4	333	712	5,773,428	584	34	380	998	0	5,774,426
2019	5,614,540	203,683	4	348	712	5,819,287	588	34	383	1,005	0	5,820,293
2020	5,663,352	203,651	4	363	712	5,868,082	591	34	388	1,013	0	5,869,095
2021	5,714,082	203,522	4	378	712	5,918,698	593	34	389	1,016	0	5,919,714
2022	5,766,159	203,370	4	393	712	5,970,638	595	34	391	1,019	0	5,971,658
2023	0	0	0	0	0	0	0	0	0	0	0	0

Table 2': Nu	mber of Additiona	I Customers S	erved by Cus	stomer Class	= change in a	# customers each	vear					
2007	0	0	0	0	0	0	0	0	0	0	0	0
2008	69,205	665	0	77	0	69,947	0	0	0	0	0	69,947
2009	9,215	0	0	48	0	9,263	0	0	0	0	0	9,263
2010	24,977	0	Ö	56	Ö	25,033	Ō	Ö	0	Ö	Ö	25,033
2011	72,695	Ō	Ö	0	Ö	72,695	Ō	Ö	Ō	Ö	Ö	72,695
2012	24,969	0	Ö	1	Ö	24,970	Ō	5	10	15	Ö	24,985
2013	42,568	1,941	Ö	6	14	44,529	Ö	0	21	21	Ö	44,550
2014	23,604	0	Ö	13	3	23,620	Ö	Ö	8	8	Ö	23,628
2015	29,110	0	1	8	2	29,121	Ō	2	19	21	Ö	29,142
2016	40,524	Ō	0	19	4	40,547	Ō	0	66	66	Ö	40,613
2017	21,758	395	Ö	73	0	22,226	27	1	69	97	Ö	22,323
2018	30,722	0	Ö	15	Ö	30,737	3	0	0	3	Ö	30,740
2019	45,847	0	0	15	0	45,862	4	0	3	7	0	45,869
2020	48,812	ő	Ö	15	Ö	48,827	3	Ö	4	8	Ö	48,835
2021	50,730	ő	Ö	15	Ö	50,745	2	Ö	1	3	Ö	50,748
2022	52,077	0	Ö	15	Ö	52,092	1	0	2	3	Ö	52,095
	02,011	ŭ	Ü		Ü	02,002	•	Ü	-	Ü	ŭ	02,000
Table 2: Ave	rage Peak Day De	emand Per Cus	tomer (Mcfd)	= Total Dema	and by class	/ total # custome	rs in class					
2006	0	0	0	0	0	0	0	0	0	0	0	0
2008	0.44	2.93	12.96	78.43	2.61	0.54	582.22	2107.75	5061.09	1710.13	0.00	0.83
2009	0.44	2.92	11.97	72.93	3.17	0.54	569.75	1017.07	3711.63	1331.51	0.00	0.76
2010	0.44	2.91	16.74	66.46	2.66	0.53	671.71	1136.24	5109.77	1728.33	0.00	0.81
2011	0.43	2.92	12.85	133.81	2.86	0.53	686.80	1075.46	3979.89	1445.73	0.00	0.75
2012	0.44	3.04	14.48	143.90	3.72	0.54	688.85	487.93	4745.47	1636.28	0.00	0.78
2013	0.44	3.02	16.64	143.89	5.45	0.54	706.98	2034.09	4252.79	1699.20	0.00	0.79
2014	0.44	3.06	18.70	142.26	4.03	0.54	778.69	1784.69	3831.73	1655.09	0.00	0.78
2015	0.42	3.03	14.10	131.26	3.34	0.52	720.94	1622.34	3184.38	1476.40	0.00	0.74
2016	0.42	2.97	18.30	144.87	4.42	0.51	873.16	1934.13	2396.04	1441.68	0.00	0.74
2017	0.43	2.82	21.87	116.51	5.04	0.52	809.77	1627.87	1704.96	1180.57	0.00	0.73
2018	0.43	2.80	20.35	117.36	4.26	0.52	796.78	1627.87	1935.57	1258.70	0.00	0.74
2019	0.42	2.79	20.35	118.45	4.26	0.51	785.98	1627.87	1883.82	1233.09	0.00	0.73
2020	0.42	2.77	20.35	119.78	4.26	0.51	780.19	1627.87	2080.30	1306.23	0.00	0.73
2021	0.41	2.74	20.35	121.34	4.26	0.50	772.55	1627.87	2107.76	1312.31	0.00	0.72
2022	0.40	2.70	20.35	123.11	4.26	0.49	764.63	1627.87	2047.09	1285.08	0.00	0.71
2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Table 2: Bee	ık Dav Demand Fo	r Additional C	ustamara Sa	nund (Mofd) –	# additional	auatamara * avar	aga damand n	or ouetomore				
2006	0	0	0	0	# auditional	0	age demand p 0	0	0	0	0	0
2008	30,217	1,949	Ö	6,039	Ö	38,206	Ö	Ö	Ö	Ö	Ö	38,206
2009	4,070	0	Ö	3,501	Ö	7,570	Ö	Ö	Ö	Ö	Ö	7,570
2010	10,890	ő	Ö	3,722	Ö	14,612	Ö	Ö	Ö	Ö	Ö	14,612
2011	31,508	Õ	Ö	0	Ö	31,508	Ö	Ö	ő	Ö	Ö	31,508
2012	10,909	0	Ö	144	Ö	11,053	Ō	2,440	47,455	49,894	Ö	60,948
2013	18,724	5,856	Ö	863	76	25,520	Ō	0	89,309	89,309	Ö	114,829
2014	10,368	0	Ö	1,849	12	12,229	Ö	Ö	30,654	30,654	Ö	42,883
2015	12,371	ő	14	1,050	7	13,442	Ö	3,245	60,503	63,748	Ö	77,190
2016	16,894	ő	0	2,753	18	19,665	0	0	158,138	158,138	Ö	177,803
2017	9,412	1,113	Ö	8,505	0	19,031	21,864	1,628	117,358	140,850	Ö	159,881
2018	13,185	0	0	1,760	0	14,945	2,577	0	0	2,577	0	17,523
2019	19,390	Õ	Ö	1,777	Ö	21,167	3,000	Ö	6,134	9,133	ő	30,300
2020	20,305	ő	Ö	1,797	ő	22,102	2,598	ő	9,029	11,628	ő	33,729
2021	20,766	ő	Ö	1,820	Ö	22,586	1,371	Ö	2,652	4,023	Ö	26,609
2022	20,911	ő	Ö	1,847	Ö	22,758	1,093	Ö	3,673	4,766	Ö	27,524
	,	-	-	.,	-	,	.,	-	-,	.,	-	,

Table 1: Level of Usage of Medium Pressure Distribution Service by Customer Class all years 99.60% 94.76% 55.69% 41.47% 83.17% Source: Demand Forecast TCAP, updated 6-12-2018 19.70% 0.63% 4.93%

Table 4: Mas	lium Braccura Dia	stribution Comi	na Hanga M	laightad Back	Day Domand	For Additional C	ustamara Cari	ad (Mafd) –	total damand	for additional	austamara	* 9/ of austamar	s that use HPD sv
2006	0	0	0	0	Oay Demand	n For Additional C	0	O (Wicia) =	O O	0	0	0	S that use nrb sy
2008	30,096	1,847	Ö	2,505	Ö	34,448	Ö	Ö	Ö	Ö	Ö	34,448	34,448
2009	4,053	0	0	1,452	0	5,505	0	0	0	0	0	5,505	39,953
2010	10,847	0	0	1,544	0	12,390	0	0	0	0	0	12,390	52,344
2011	31,382	0	0	0	0	31,382	0	0	0	0	0	31,382	83,726
2012	10,866	0	0	60	0	10,925	0	15	2,338	2,353	0	13,278	97,004
2013	18,649	5,550	0	358	63	24,620	0	0	4,400	4,400	0	29,020	126,025
2014	10,326	0	0	767	10	11,103	0	0	1,510	1,510	0	12,613	138,638
2015	12,321	0	8	436	6	12,770	0	20	2,981	3,001	0	15,771	154,409
2016	16,827	0	0	1,142	15	17,983	0	0	7,790	7,790	0	25,773	180,183
2017	9,375	1,055	0	3,528	0	13,957	4,308	10	5,781	10,100	0	24,057	204,239
2018	13,132	0	0	730	0	13,862	508	0	0	508	0	14,370	218,609
2019	19,312	0	0	737	0	20,049	591	0	302	893	0	20,942	239,552
2020	20,224	0	0	745	0	20,969	512	0	445	957	0	21,926	261,477
2021	20,683	0	0	755	0	21,438	270	0	131	401	0	21,839	283,316
2022	20.827	0	0	766	0	21,593	215	0	181	396	0	21,990	305,306

2020 TCAP
Table 1: High Pressure Distribution Mains Footage Investment: New Business & Replacement Combined

Col. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
Year	1/2"	3/4"	1"	1 1/4"	2"	3"	4"	6"	8"	10"	12"	16"	20"	24"	26"	30"	Total
2008	0	0	1	0	2,620	85	2,350	35,124	55,730	5,724	513	0	0	0	0	0	102,147
2009	0	0	4	0	353	1,194	7,848	30,932	26,534	95	61	422	0	0	0	0	67,443
2010	0	0	0	0	2,507	676	4,995	5,655	6,721	10,583	2,781	0	0	0	0	0	33,918
2011	0	0	55	0	1,361	2,385	6,065	13,131	15,731	8,276	365	2	1,426	0	0	0	48,797
2012	0	19	0	0	371	105	14,080	29,528	37,001	19,713	3,013	3,808	0	0	0	0	107,638
2013	0	0	195	0	517	2,514	13,519	3,911	5,746	11,493	1,802	0	0	0	0	0	39,697
2014	0	0	0	0	52	1,043	946	4,615	2,216	0	5,070	0	0	0	0	0	13,942
2015	0	0	0	0	58	0	72,877	5,787	4,553	1,662	2,538	399	0	0	0	0	87,874
2016	0	0	0	0	0	0	515	50	3,307	86	247	49	0	0	0	0	4,254

Table 2: Total Plastic Distribution Mains Footage Investment: New Business & Replacement Combined
Southern California Gas Company

		Southe	m California Gas C	ompany				
Col. 1	2	3	4	5	6	7	8	SoCal
Year	1/2"	1"	2"	3"	4"	6"	8"	Total
2008	0	4,723	1,002,332	85,915	256,664	97,567	39,213	1,486,414
2009	0	2,956	553,274	43,539	131,875	48,693	58,183	838,520
2010	0	2,348	451,121	38,869	118,911	53,496	31,821	696,566
2011	0	2,101	682,633	50,570	93,241	20,597	8,638	857,780
2012	0	2,355	430,616	50,330	111,985	19,577	12,759	627,622
2013	0	1,829	549,059	51,136	97,404	23,010	14,218	736,656
2014	0	2,101	682,633	50,570	93,241	20,597	8,638	857,780
2015	872	1,695	711,372	97,364	148,506	28,774	25,620	1,014,203
2016	3,799	2,554	798,224	50,344	178,641	29,739	17,059	1,080,360
	-,	_,		,	,	,	,	.,,

Table 3: Total Steel Distribution Mains (including HP) Footage Investment: New Business & Replacement Combined

						Southern	California Gas	s Company										
	Col. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	SoCal
_	Year	1/2"	3/4"	1"	1 1/4"	2"	3"	4"	6"	8"	10"	12"	16"	20"	24"	26"	30"	Total
	2008	0	20	0	0	6,486	4,708	6,318	33,877	55,426	5,729	410	0	0	0	0	0	112,974
	2009	0	0	0	0	9,184	2,412	12,817	34,678	34,501	2,028	967	2,203	1,768	0	0	0	100,558
	2010	0	0	0	0	5,234	791	6,985	9,992	9,340	11,962	2,376	0	0	0	0	0	46,680
	2011	0	0	50	0	1,925	3,496	4,347	15,451	12,124	3,947	1,523	643	1,426	0	0	0	44,932
	2012	0	0	2	0	1,815	672	12,021	21,002	15,241	11,103	3,146	0	0	0	0	0	65,002
	2013	0	68	195	0	2,157	562	14,031	4,798	5,104	1,403	5,332	331	0	0	0	0	33,981
	2014	0	0	0	0	1,313	1,565	4,858	2,662	1,313	4	5,066	0	0	0	0	0	16,781
	2015	643	0	274	0	73,358	6,303	16,353	2,965	1,980	0	0	0	0	0	0	0	101,876
	2016	2,269	0	1,235	0	60,467	11,868	43,256	7,488	54	1,881	136	0	0	0	0	0	128,654
ı																		

	Col. 1	2	3	4	5	6	7	8	9	
	Unique Row	Investment								
Year	Identifier	Type	1/2"	1"	2"	3"	4"	6"	8"	Total
2008	2008.1	New Business	0	3,308	739,710	38,466	144,960	29,107	8467	964,018
	2008.2	Replacement	0	1,413	262,622	47,449	111,704	66,322	30746	520,256
	2008.3	New Business %	0.00%	70.07%	73.80%	44.77%	56.48%	30.50%	21.59%	64.95%
2009	2009.1	New Business	0	600	313,948	9,304	77,995	9,030	29731	440,608
	2009.2	Replacement	0	2,356	239,324	34,235	53,880	39,663	28452	397,910
	2009.3	New Business %	0.00%	20.30%	56.74%	21.37%	59.14%	18.54%	51.10%	52.55%
2010	2010.1	New Business	0	810	242,438	14,007	42,301	13,723	8560	321,839
	2010.2	Replacement	0	1,538	208,683	24,862	76,610	39,773	23261	374,727
	2010.3	New Business %	0.00%	34.50%	53.74%	36.04%	35.57%	25.65%	26.90%	46.20%
2011	2011.1	New Business	0	369	375,921	7,921	38,565	4,392	7698	434,866
	2011.2	Replacement	0	1,732	306,712	42,649	54,676	16,205	940	422,914
	2011.3	New Business %	0.00%	17.56%	55.07%	15.66%	41.36%	21.32%	89.12%	50.70%
2012	2012.1	New Business	0	1,180	272,025	24,169	71,556	12,395	3147	384,472
	2012.2	Replacement	0	1,175	158,591	26,161	40,429	7,182	9612	243,150
	2012.3	New Business %	0.00%	50.11%	63.17%	48.02%	63.90%	63.31%	24.66%	61.26%
2013	2013.1	New Business	0	514	440,182	36,157	67,319	13,548	9260	566,980
	2013.2	Replacement	0	1,315	108,877	14,979	30,085	9,462	4958	169,676
	2013.3	New Business %	0.00%	28.10%	80.17%	70.71%	69.11%	58.88%	65.13%	76.97%
2014	2014.1	New Business	0	62	434,628	31,400	58,523	16,941	11706	553,260
	2014.2	Replacement	0	60	68,148	6,172	16,936	5,247	5017	101,580
	2014.3	New Business %	0.00%	50.82%	86.45%	83.57%	77.56%	76.35%	70.00%	84.49%
2015	2015.1	New Business	3	979	633,734	90,863	132,467	25,869	25620	909,535
	2015.2	Replacement	869	716	77,638	6,501	16,039	2,905	0	104,668
	2015.3	New Business %	0.34%	57.76%	89.09%	93.32%	89.20%	89.90%	100.00%	89.68%
2016	2016.1	New Business	1,530	1,262	728,030	38,618	128,162	25,200	17059	939,861
	2016.2	Replacement	2,269	1,292	70,194	11,726	50,479	4,539	0	140,499
	2016.3	New Business %	40.27%	49.41%	91.21%	76.71%	71.74%	84.74%	100.00%	87.00%
2017	2017.1	New Business								0
	2017.2	Replacement								0
	2017.3	New Business %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2018	2018.1	New Business								0
	2018.2	Replacement								0
	2018.3	New Business %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2019	2019.1	New Business								0
	2019.2	Replacement								0
	2019.3	New Business %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2020	2020.1	New Business								0
	2020.2	Replacement								0
	2020.3	New Business %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

	Col. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	Unique Row	Investment																	
Year	Identifier	Type	1/2"	3/4"	1"	1 1/4"	2"	3"	4"	6"	8"	10"	12"	16"	20"	24"	26"	30"	Total
2008	2008.1	New Business	0	0	0	0	1888	0	1491	2727	0	0	0	0	0	0	0	0	6,106
	2008.2	Replacement	0	20	0	0	4596	4710	4827	33288	55426	5729	410	0	0	0	0	0	109,006
	2008.3	New Business %	0.00%	0.00%	0.00%	0.00%	29.12%	0.00%	23.60%	7.57%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.30%
2009	2009.1	New Business	0	0	0	0	1433	1154	9534	4	30	0	0	0	0	0	0	0	12,155
	2009.2	Replacement	0	0	0	0	7751	1258	3283	34674	34471	2028	967	2203	1768	0	0	0	88,403
	2009.3	New Business %	0.00%	0.00%	0.00%	0.00%	15.60%	47.84%	74.39%	0.01%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	12.09%
2010	2010.1	New Business	0	0	0	0	743	0	37	5	0	0	0	0	0	0	0	0	785
	2010.2	Replacement	0	0	0	0	4491	791	6948	9987	9340	11962	2376	0	0	0	0	0	45,895
	2010.3	New Business %	0.00%	0.00%	0.00%	0.00%	14.20%	0.00%	0.53%	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.68%
2011	2011.1	New Business	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
	2011.2	Replacement	0	0	50	0	1928	3494	597	5453	7590	761	1523	643	1426	0	0	0	23,465
	2011.3	New Business %	0.00%	0.00%	0.00%	0.00%	0.16%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%
2012	2012.1	New Business	0	0	0	0	293	43	353	88	0	0	0	0	0	0	0	0	777
	2012.2	Replacement	0	0	2	0	1522	629	542	250	4412	1334	3146	0	0	0	0	0	11,837
	2012.3	New Business %	0.00%	0.00%	0.00%	0.00%	16.14%	6.40%	39.44%	26.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.16%
2013	2013.1	New Business	0	0	0	0	47	0	1025	0	0	0	0	0	0	0	0	0	1,072
	2013.2	Replacement	0	68	195	ō	2110	562	9047	4798	5104	1403	5332	331	ō	ō	ō	0	28,950
	2013.3	New Business %	0.00%	0.00%	0.00%	0.00%	2.18%	0.00%	10.18%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.57%
2014	2014.1	New Business	0.0070	0.0070	0.0070	0.0070	0	0.0070	0	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0
2011	2014.2	Replacement	0	ő	o o	Ö	1313	1565	4858	2662	1313	4	5066	0	0	Ö	o o	0	16,781
	2014.3	New Business %	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%
2015	2015.1	New Business	0.0070	0.0070	0.0070	0.0070	215	2	2873	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	0.0070	3.090
2010	2015.1	Replacement	643	0	274	Ö	73143	6301	13480	2965	1980	Ö	0	0	0	0	0	0	98,786
	2015.3	New Business %	0.00%	0.00%	0.00%	0.00%	0.29%	0.03%	17.57%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.03%
2016	2016.1	New Business	0.00%	0.00%	0.00%	0.0078	378	254	78	7	0.00%	0.0078	0.00%	0.00%	0.00%	0.0078	0.0078	0.00%	717
2010	2016.2	Replacement	2269	0	1235	0	60089	11614	43178	7481	54	1881	136	0	0	0	0	0	127,937
	2016.2	New Business %	0.00%	0.00%	0.00%	0.00%	0.63%	2.14%	0.18%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.56%
2017	2010.3	New Business	0.0076	0.0078	0.0078	0.0076	0.0376	2.1470	0.1076	0.0376	0.0078	0.0078	0.0076	0.0078	0.0076	0.0076	0.0078	0.0076	0.3078
2017	2017.1	Replacement																	0
	2017.3	New Business %	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%
2018	2018.1	New Business %	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%
2018																			0
	2018.2 2018.3	Replacement	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%
0040		New Business % New Business	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%	
2019	2019.1																		0
	2019.2	Replacement																	0
2020	2019.3	New Business %	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%
2020	2020.1	New Business																	0
	2020.2	Replacement																	0
	2020.3	New Business %	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%
1																			

Table 6: Plastic Mains Pressure Betterment Investment as a Fraction of
Total Plastic Mains Investment

Col. 1	2	3	4	5	6	7	8	
Year	1/2"	1"	2"	3"	4"	6"	8"	
2008	0.0000	0.0000	0.0087	0.0183	0.1731	0.2858	0.5753	Ī
2009	0.0000	0.0000	0.0041	0.0134	0.0781	0.4198	0.3594	
2010	0.0000	0.0000	0.0047	0.0177	0.2192	0.5388	0.5579	
2011	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
2012	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
2013	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
2014	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
2015	0.0000	0.0000	0.0075	0.0009	0.0818	0.3595	0.4006	
2016	0.0000	0.0000	0.0067	0.0636	0.0597	0.0844	0.0716	

Col. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Year	1/2"	3/4"	1"	1 1/4"	2"	3"	4"	6"	8"	10"	12"	16"	20"	24"	26"	30"
2008	0.0000	0.0000	0.0000	0.0000	0.0293	0.0008	0.1839	0.2522	0.2611	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2009	0.0000	0.0000	0.0000	0.0000	0.0531	0.2384	0.0289	0.9024	0.5802	0.9467	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2010	0.0000	0.0000	0.0000	0.0000	0.3422	0.6839	0.6251	0.5794	0.4908	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2011	0.0000	0.0000	0.0000	0.0000	0.0000	0.0006	0.8627	0.6471	0.3740	0.8072	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2012	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.9255	0.9839	0.7105	0.8799	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2013	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2822	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2014	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2015	0.0000	0.0000	0.0000	0.0000	0.0419	0.0242	0.2977	0.8798	0.8001	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2016	0.0000	0.0000	0.0000	0.0000	0.0409	0.2206	0.0491	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 8: Contibution in Aid of Construction as F

	Plastic Mains	Steel Mains
Year	SoCal	SoCal
2008	0.0027	0.0173
2009	0.0030	0.0168
2010	0.0063	0.0895
2011	0.0000	0.0000
2012	0.0000	0.0000
2013	(0.0001)	(0.0003)
2014	0.0000	0.0000
2015	0.0000	0.0000
2016	0.0000	0.0000

### Table 9: Account 378 (Meters & Regulator Stations) Investment Info.

-r	action I otal L	Total Book Investment	High Pressure Book	
		in Account 378	Investment in Act 378	Handy-Whittman
	Year	in Nominal \$'s	as a Fraction of Total	Index
	2008	5,416,963	0.1293	0.808264
	2009	3,857,213	0.1282	0.800830
	2010	5,066,094	0.1296	0.819752
	2011	6,320,185	0.1284	0.927881
	2012	7,845,106	0.1272	0.982351
	2013	8,316,250	0.1318	0.969105
	2014	6,967,124	0.1306	0.998503
	2015	6,622,661	0.1310	0.991069
	2016	5,314,881	0.1308	1.000000

Table 1: Plastic Distribution Mains: New Business (NB), Pressure Betterment (PB) & Contribution in Aid of New Construction (CANC) Distribution Main Unit costs for New Business vs. Replacement Investments:

Plastic		1/2"	1"	2"	3"	4"	6"	8"
New Business 2016\$'s		\$5.21	\$5.21	\$26.90	\$27.15	\$39.46	\$40.71	\$46.48
Replacement 2016\$'s		\$154.81	\$154.81	\$351.37	\$379.08	\$406.76	\$467.03	\$687.37
escalate to 2020\$'s	2020 \$s	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814
New Business 2020\$'s		\$5.72	\$5.72	\$29.54	\$29.82	\$43.34	\$44.70	\$51.04
Replacement 2020\$'s		\$170.00	\$170.00	\$385.85	\$416.28	\$446.69	\$512.87	\$754.83
Source: Planning & Gas Eng	gineering Gas Op	erations						

	Unique Row	Investment								
Year	Identifier	Type	1/2"	<u>1"</u>	2*	3"	4"	6"	8"	Total
2008	2008.1	NB	0	18,924	21,854,028	1,147,044	6,281,857	1,330,248	432,166	31,064,267
	2008.2	PB	0	0	3,383,147	655,641	19,841,372	14,299,694	17,029,689	55,209,543
	2008.3	CANC	0	(72)	(79,204)	(6,852)	(29,749)	(11,665)	(5,353)	(132,895)
2009	2009.1	NB	0	3,431	9,275,329	277,442	3,379,921	403,646	1,517,506	14,857,275
	2009.2	PB	0	0	877,041	242,275	4,597,745	10,482,962	15,784,222	31,984,244
	2009.3	CANC	0	(51)	(49,335)	(3,919)	(17,248)	(6,569)	(8,963)	(86,085)
2010	2010.1	NB	0	4,632	7,162,600	417,684	1,833,118	613,425	436,913	10,468,372
	2010.2	PB	0	0	809,903	285,984	11,643,333	14,783,848	13,400,473	40,923,541
	2010.3	CANC	0	(85)	(83,965)	(7,302)	(32,463)	(15,065)	(10,232)	(149,112)
2011	2011.1	NB	0	2,110	11,106,228	236,202	1,671,218	196,325	392,915	13,604,998
	2011.2	PB	0	0	0	0	0	0	0	0
	2011.3	CANC	0	0	Ó	0	0	0	0	o o
2012	2012.1	NB	Ō	6,747	8,036,720	720,712	3,100,887	554,063	160,627	12,579,756
	2012.2	PB	0	0	0	0	0	0	0	0
	2012.3	CANC	0	0	0	0	0	0	0	0
2013	2013.1	NB	0	2,939	13,004,758	1,078,190	2,917,276	605,603	472,641	18,081,408
	2013.2	PB	0	0	0	0	0	0	0	0
	2013.3	CANC	0	1	1,189	112	309	75	53	1,739
2014	2014.1	NB	0	6,105	17,434,137	1,260,263	3,133,735	702,971	308,623	22,845,835
	2014.2	PB	0	0	0	0	0	0	0	0
	2014.3	CANC	0	0	0	0	0	0	0	0
2015	2015.1	NB	17	5,598	18,723,068	2,709,506	5,740,471	1,156,358	1,307,675	29,642,694
	2015.2	PB	0	0	2,071,702	38,262	5,426,253	5,305,778	7,747,157	20,589,152
	2015.3	CANC	0	0	0	0	0	0	0	0
2016	2016.1	NB	8,749	7,216	21,508,954	1,151,577	5,553,914	1,126,453	870,712	30,227,574
	2016.2	PB	0	0	2,069,217	1,332,386	4,764,255	1,287,990	922,211	10,376,059
0047	2016.3	CANC	0	0	0	0	0	0	0	0
2017	2017.1	NB PB	0	0	0	0	0	0	0	0
	2017.2		-	0	0	0	0	0	0	0
	2017.3	CANC	0	0	0	0	0	0	0	0

Table 1: Plastic Distribution Mains: New Business (NB), Pressure Betterment (PB) & Contribution in Aid of New Construction (CANC)

NB

\* Table 2 Plastic Feet NB & R

\* Table 4 Plastic Feet NB as % total plastic

NB cost \$\frac{1}{2}\$ NB cost \$\frac{1}{2}\$ Nicot

Plastic NB \$\frac{1}{2}\$ Since \$\frac{1}{2}\$ Nicot

Plastic NB \$\frac{1}{2}\$ Since \$\frac{1}{2}\$ Nicot

Plastic NB \$\frac{1}{2}\$ Since \$\frac{1}{2}\$ Nicot

Plastic NB \$\frac{1}{2}\$ Ni

Table 2 Plastic Feet NB & R

\* Table 4 Plastic feet PB as % total plastic

\* Replace cost \$/foot

= Plastic PB \$'s

CANC Table 2 Plastic Feet NB & R

\* Table 8 CANC as % total Mains

\* NB cost \$/foot

= Plastic CANC \$'s

Table 2: Steel Distribution Mains: New Business (NB), Pressure Betterment (PB) & Contribution in Aid of New Construction (CANC)

Distribution	Main Unit costs	for New Busin	ess vs. Replace	ment Investme	ents:														
Steel			1/2"	3/4"	1"	1 1/4"	2"	3"	4"	6"	8"	10"	12"	16"	20"	24"	26"	30"	
New Busine			\$79.68	\$79.68	\$90.31	\$111.10	\$218.67	\$223.87	\$257.89	\$259.83	\$324.93	\$484.47	\$547.78	\$717.23	\$785.49	\$923.91	\$1,062.32	\$1,200.74	
Replaceme			\$159.77	\$159.77	\$162.57	\$174.92	\$474.17	\$523.99	\$574.10	\$666.94	\$772.70	\$900.76	\$968.09	\$1,352.53	\$1,501.69	\$1,788.46	\$1,788.46	\$1,089.62	
	to 2020\$'s	2020 \$s	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	
New Busine			\$87.50	\$87.50	\$99.17	\$122.00	\$240.13	\$245.84	\$283.20	\$285.33	\$356.82	\$532.01	\$601.54	\$787.62	\$862.58	\$1,014.58	\$1,166.58	\$1,318.59	
Replaceme	nt 2020\$'s		\$175.45	\$175.45	\$178.52	\$192.09	\$520.71	\$575.42	\$630.45	\$732.39	\$848.54	\$989.16	\$1,063.10	\$1,485.27	\$1,649.07	\$1,963.99	\$1,963.99	\$1,196.56	
	Col. 1	1 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	Unique Row	Investment	Ü		Ü	· ·		Ü	Ü				.0						
Year	Identifier	Type	1/2"	3/4"	1*	1 1/4"	2"	3"	4*	6"	8"	10"	12"	16"	20"	24"	26"	30"	Total
2008	2008.1	NB	0	0	1 <u>"</u>	0	453,507	0	422,254	731,896	0	0	0	0	0	0	0	0	1,607,657
	2008.2	PB	0	0	0	0	98,965	2,301	732,583	6,258,103	12,278,306	0	0	0	0	0	0	0	19,370,259
	2008.3	CANC	0	(30)	0	0	(26,946)	(20,025)	(30,956)	(167,230)	(342,156)	(52,731)	(4,267)	0	0	0	0	0	(644,341)
2009	2009.1	NB	0	0	0	0	344,108	283,705	2,700,046	1,141	10,704	0	0	0	0	0	0	0	3,339,704
	2009.2	PB	0	0	0	0	254,107	330,866	233,267	22,920,234	16,985,981	1,899,187	0	0	0	0	0	0	42,623,639
	2009.3	CANC	0	0	0	0	(37,039)	(9,959)	(60,962)	(166,177)	(206,752)	(18,120)	(9,769)	(29,141)	(25,613)	0	0	0	(563,532)
2010	2010.1	NB	0	0	0	0	178,417	0	10,478	1,427	0	0	0	0	0	0	0	0	190,322
	2010.2	PB	0	0	0	0	932,592	311,301	2,752,545	4,239,822	3,889,686	0	0	0	0	0	0	0	12,125,946
	2010.3	CANC	0	0	0	0	(112,467)	(17,401)	(177,014)	(255,117)	(298,219)	(569,470)	(127,895)	0	0	0	0	0	(1,557,583)
2011	2011.1	NB	0	0	0	0	718	0	0	0	0	0	0	0	0	0	0	0	718
	2011.2	PB	0	0	0	0	0	1,151	2,364,188	7,322,463	3,847,259	3,151,463	0	0	0	0	0	0	16,686,524
	2011.3	CANC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2012	2012.1	NB	0	0	0	0	70,358	10,571	1,342,729	1,560,160	0	0	0	0	0	0	0	0	2,983,819
	2012.2	PB CANC	0	0	0	0	0	0	7,014,387	15,134,165	9,188,789	9,663,101	0	0	0	0	0	0	41,000,443
2013	2012.3	NB	0	0	0	0	11,286	0	0 404.383	0	0	0	0	0	0	0	0	0	415,669
2013	2013.1 2013.2	PB	0	0	0	0	11,200	0	2.495.952	0	0	0	0	0	0	0	0	0	2,495,952
	2013.3	CANC	0	2	6	0	159	43	1.224	422	561	230	988	80	0	0	0	0	3,713
2014	2014.1	NB	0	0	0	0	.00	0	0		0	0	0	0	0	0	0	0	0,7.10
	2014.2	PB	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō	ō
	2014.3	CANC	0	0	0	0	Ö	Ō	0	0	0	0	0	0	0	0	0	0	0
2015	2015.1	NB	0	0	0	0	51,628	492	813,639	0	0	0	0	0	0	0	0	0	865,759
	2015.2	PB	0	0	0	0	1,600,927	87,597	3,069,548	1,910,459	1,344,182	0	0	0	0	0	0	0	8,012,714
	2015.3	CANC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2016	2016.1	NB	0	0	0	0	90,770	62,445	22,090	1,997	0	0	0	0	0	0	0	0	177,301
	2016.2	PB	0	0	0	0	1,287,020	1,506,457	1,338,688	0	0	0	0	0	0	0	0	0	4,132,165
0047	2016.3	CANC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2017	2017.1 2017.2	NB PB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			0	0	-	-	-	-	-	0	-	-	0	0	-	0	-	-	0
	2017.3	CANC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-																			

Table 2: Steel Distribution Mains: New Business (NB), Pressure Betterment (PB) & Contribution in Aid of New Construction (CANC)

1 Table 3 Steel Feet NB s % total plastic

1 NB cost \$/root

1 NB cost \$/root

2 Steel NB \$

Table 3 Steel Feet NB & R

\* Table 7 Steel feet PB as % total plastic

\* Replace cost \$/foot

= Steel PB \$\scrip\$s

CANC Table 3 Steel Feet NB & R

\* Table 8 CANC as % total Mains

\* NB cost \$/foot

= Steel CANC \$'s

Table 3: High Pressure Distribution Mains: New Business (NB), Pressure Betterment (PB) & Contribution in Aid of New Construction (CANC) Distribution Main Unit costs for New Business vs. Replacement Investments:

New Business 2 Replacement 2 escalate to 3 New Business 2 Replacement 2	2016\$'s <b>2020\$'s</b> 2020\$'s	2020 \$s	\$79.68 \$159.77 <b>1.09814</b> \$87.50	\$79.68 \$159.77 <b>1.09814</b>	\$90.31 \$162.57 <b>1.09814</b>	\$111.10 \$174.92	\$218.67 \$474.17	\$223.87 \$523.99	\$257.89 \$574.10	\$259.83 \$666.94	\$324.93	\$484.47	\$547.78	\$717.23	\$785.49	\$923.91	26" \$1,062.32	\$1,200.74	
escalate to 2 New Business 2 Replacement 2	<b>2020\$'s</b> 2020\$'s	2020 \$s	\$159.77 1.09814	1.09814			\$474.17	\$523.99	\$574.10	PCCC 04									
New Business 2 Replacement 2	2020\$'s	2020 \$s			1.00014					\$606.9 <del>4</del>	\$772.70	\$900.76	\$968.09	\$1,352.53	\$1,501.69	\$1,788.46	\$1,788.46	\$1,089.62	
Replacement 2			\$87.50			1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	1.09814	
	2020\$'s			\$87.50	\$99.17	\$122.00	\$240.13	\$245.84	\$283.20	\$285.33	\$356.82	\$532.01	\$601.54	\$787.62	\$862.58	\$1,014.58	\$1,166.58	\$1,318.59	
2020 \$s			\$175.45	\$175.45	\$178.52	\$192.09	\$520.71	\$575.42	\$630.45	\$732.39	\$848.54	\$989.16	\$1,063.10	\$1,485.27	\$1,649.07	\$1,963.99	\$1,963.99	\$1,196.56	
2020 \$s																			
	Unique Row	Investment																	
<u>Year</u>	Identifier	Type	1/2" 0	3/4"	<u>1"</u> 0	1 1/4" 0	2"	3"	4"	<u>6"</u>	<u>8"</u>	10" 0	12" 0	16" 0	<u>20"</u>	24" 0	<u>26"</u>	30" 0	<u>Total</u>
2008	2008.1	NB	0	0	-		183,193	0	157,059	758,837	0	0	0	0	0	0	0	0	1,099,088
	2008.2	PB	0	0	0	0	39,977	42	272,487	6,488,462	12,345,650			0	0	0	0	0	19,146,617
0000	2008.3	CANC	0	0	0	0	(10,885)	(362)	(11,514)	(173,386)	(344,033)	(52,685)	(5,339)	0	0	0	0	0	(598,203)
2009	2009.1	NB	0	0	0	0	13,226	140,441	1,653,270	1,018	8,233	0	0	0	0	0	0	0	1,816,188
	2009.2	PB	0	0	0	0	9,767	163,787	142,832	20,444,335	13,063,564	88,966	. 0	0	0	0	0	0	33,913,250
	2009.3	CANC	0	0	0	0	(1,424)	(4,930)	(37,328)	(148,226)	(159,009)	(849)	(616)	(5,582)	0	0	0	0	(357,964)
2010	2010.1	NB	0	0	0	0	85,459	0	7,493	807	0	0	0	0	0	0	0	0	93,760
	2010.2	PB	0	0	0	0	446,696	266,043	1,968,355	2,399,539	2,798,991	0	0	0	0	0	0	0	7,879,625
	2010.3	CANC	0	0	0	0	(53,870)	(14,871)	(126,583)	(144,384)	(214,596)	(503,820)	(149,696)	0	0	0	0	0	(1,207,821)
2011	2011.1	NB	0	0	0	0	508	0	0	0	0	0	0	0	0	0	0	0	508
	2011.2	PB	0	0	0	0	0	785	3,298,550	6,222,980	4,991,854	6,607,931	0	0	0	0	0	0	21,122,101
	2011.3	CANC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2012	2012.1	NB	0	0	0	0	14,382	1,652	1,572,716	2,193,525	0	0	0	0	0	0	0	0	3,782,275
	2012.2	PB	0	0	0	0	0	0	8,215,837	21,278,051	22,307,880	17,156,507	0	0	0	0	0	0	68,958,275
	2012.3	CANC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2013	2013.1	NB	0	0	0	0	2,705	0	389,627	0	0	0	0	0	0	0	0	0	392,332
	2013.2	PB	0	0	0	0	0	0	2,404,873	0	0	0	0	0	0	0	0	0	2,404,873
	2013.3	CANC	0	0	6	0	38	190	1,179	344	631	1,883	334	0	0	0	0	0	4,605
2014	2014.1	NB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2014.2	PB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2014.3	CANC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	2015.1	NB	0	0	0	0	41	0	3,625,974	0	0	0	0	0	0	0	0	0	3,626,014
	2015.2	PB	0	0	0	0	1,266	0	13,679,414	3,728,778	3,090,939	1,643,983	0	0	0	0	0	0	22,144,380
	2015.3	CANC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2016	2016.1	NB	0	0	0	0	0	0	263	13	0	0	0	0	0	0	0	0	276
	2016.2	PB	0	0	0	0	0	0	15,938	0	0	0	0	0	0	0	0	0	15,938
	2016.3	CANC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2017	2017.1	NB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2017.2	PB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2017.3	CANC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 3: High Pressure Distribution Mains: New Business (NB), Pressure Betterment (PB) & Contribution in Aid of New Construction (CANC)

NB
Table 1 HPD Feet NB & % total plastic
NB cost 8 floot
HPD NB \$\$

Table 1 HPD Feet NB & R

\* Table 7 Steel feet PB as % total steel

\* Replace cost \$/foot

= HPD PB \$'s

CANC Table 2 (out-invest-history) Steel CANC \$'s

\* Table 1 (in-invest-history) HPD feet NB & R

\* 1/table 3 (in-invest-historty) steel feet NB & R

= HPD CANC \$'s

### Table 4: Load-Growth-Related Total, High & Medium Pressure Distribution Mains Historical Investments 2020 \$s

			Total Distri	ibution Mains					High Pressure	Distribution Mair	IS				Medium Pressure	Distribution Main	IS	
	New	Pressure	Contrib.	ACT 378	Annual	Cumulative	New	Pressure	Contrib.	ACT 378	Annual	Cumulative	New	Pressure	Contrib.	ACT 378	Annual	Cumulative
Year	Business	Betterment	New Constr	Mtr, Reg Stn	Total	Total	Business	Betterment	New Constr	Mtr, Reg Stn	Total	Total	Business	Betterment	New Constr	Mtr, Reg Stn	Total	Total
2008	32,671,923	74,579,802	(777,236)	6,701,977	113,176,466	113,176,466	1,099,088	19,146,617	(357,964)	866,288	20,754,029	20,754,029	31,572,835	55,433,185	(419,273)	5,835,689	92,422,437	92,422,437
2009	18,196,979	74,607,884	(649,617)	4,816,522	96,971,767	210,148,233	1,816,188	33,913,250	(1,207,821)	617,503	35,139,120	55,893,149	16,380,791	40,694,633	558,204	4,199,019	61,832,647	154,255,084
2010	10,658,695	53,049,487	(1,706,695)	6,180,031	68,181,518	278,329,751	93,760	7,879,625	0	800,652	8,774,036	64,667,185	10,564,935	45,169,863	(1,706,695)	5,379,379	59,407,482	213,662,566
2011	13,605,716	16,686,524	0	6,811,416	37,103,656	315,433,407	508	21,122,101	0	874,322	21,996,930	86,664,115	13,605,209	(4,435,577)	0	5,937,094	15,106,726	228,769,292
2012	15,563,574	41,000,443	0	7,986,051	64,550,068	379,983,475	3,782,275	68,958,275	4,605	1,015,965	73,761,120	160,425,235	11,781,300	(27,957,833)	(4,605)	6,970,086	(9,211,052)	219,558,240
2013	18,497,077	2,495,952	5,452	8,581,369	29,579,850	409,563,326	392,332	2,404,873	0	1,131,081	3,928,286	164,353,521	18,104,745	91,079	5,452	7,450,288	25,651,564	245,209,805
2014	22,845,835	0	0	6,977,571	29,823,406	439,386,732	0	0	0	911,201	911,201	165,264,722	22,845,835	0	0	6,066,370	28,912,205	274,122,010
2015	30,508,452	28,601,866	0	6,682,342	65,792,660	505,179,391	3,626,014	22,144,380	0	875,119	26,645,514	191,910,236	26,882,438	6,457,486	0	5,807,222	39,147,146	313,269,155
2016	30,404,875	14,508,224	0	5,314,881	50,227,980	555,407,371	276	15,938	0	695,240	711,454	192,621,690	30,404,599	14,492,286	0	4,619,641	49,516,526	362,785,681
Total	192,953,127	305,530,181	(3,128,096)	60,052,159	555,407,371		10,810,441	175,585,059	(1,561,180)	7,787,370	192,621,690		182,142,686	129,945,122	(1,566,916)	52,264,789	362,785,681	2,104,054,270

Year	New Business	Pressure Betterment	Contribution in Aid of New Constr.	Acct 378 (Meter & Reg. Stns.)	Total	Cumulative Total	Source
i vai	Dusiness	Bottorment	71017 3011311.	110g. 01113.j	i Jiai	. Juli	Source
able 1: Forecasted Distribution	on-related Investmer	nt Costs: 2016 \$s					
2016	\$0	\$0	\$0	\$0	\$0	\$0	
2017	\$37,362,425	\$37,154,803	\$0	\$5,505,836	\$80,023,065	\$80,023,065	
2018	\$47,600,920	\$38,151,893	\$0	\$5,651,660	\$91,404,474	\$171,427,538	
2019	\$51,013,703	\$37,002,473	\$0	\$5,803,767	\$93,819,943	\$265,247,481	
2020	\$52,799,183	\$38,297,560	\$0	\$5,945,125	\$97,041,867	\$362,289,349	
2021	\$54,647,154	\$39,637,974	\$0	\$6,071,954	\$100,357,082	\$462,646,431	
2022	\$56,559,805	\$41,025,303	\$0	\$6,220,666	\$103,805,773	\$566,452,205	
Source: Sandra Funderberg and	l Fidal Galvin , Table 1	, GRC, New Busin	ess and Pressure I	Betterment, escala	ated Acct. 378	. , ,	
Table 1: Forecasted Distribution				,			
Esclation 2016\$'s to 2020\$'s	1.0981	1.09814	1.09814	1.09814			
0040	Φ0	Φ0	0.0	Φ0	40	<b>#</b> 555 407 07 :	
2016	\$0	\$0	<b>\$</b> 0	\$0	\$0	\$555,407,371	
2017	\$41,029,348	\$40,801,349	<b>\$</b> 0	\$6,046,205	\$87,876,902	\$643,284,274	
2018	\$52,272,697	\$41,896,298	\$0	\$6,206,340	\$100,375,336	\$743,659,609	
2019	\$56,020,426	\$40,634,069	\$0	\$6,373,375	\$103,027,870	\$846,687,480	
2020	\$57,981,141	\$42,056,261	\$0	\$6,528,608	\$106,566,010	\$953,253,489	
2021	\$60,010,481	\$43,528,230	\$0	\$6,667,884	\$110,206,595	\$1,063,460,084	
2022	\$62,110,848	\$45,051,718	\$0	\$6,831,191	\$113,993,757	\$1,177,453,841	
Allocation Factor = total histor	rical HPD Invested a	s % total Distribut	ion Investment				
HPD \$	\$10,810,441	\$175,585,059	(\$1,561,180)	\$7,787,370	\$192,621,690		
Total Dist \$'s	\$192,953,127	\$305,530,181	(\$3,128,096)	\$60,052,159	\$555,407,371		
HPD \$ as % Distribution	6%	57%	50%	13%	35%	_	
		21.72			22,7		
ligh Pressure Distribution Ma 2016	nins = Total Distribut \$0	ion * allocation fac	\$0	\$0	\$0	\$192,621,690	
2017	\$2,298,721	\$23,448,117		·	\$26,530,890	\$219,152,580	
			\$0 \$0	\$784,052		. , ,	
2018	\$2,928,643	\$24,077,373	\$0 \$0	\$804,818	\$27,810,834	\$246,963,414	
2019	\$3,138,615	\$23,351,982	\$0 \$0	\$826,479	\$27,317,075	\$274,280,489	
2020	\$3,248,466	\$24,169,302	\$0	\$846,609	\$28,264,376	\$302,544,866	
2021	\$3,362,162	\$25,015,227	\$0	\$864,670	\$29,242,059	\$331,786,925	
2022	\$3,479,838	\$25,890,760	\$0	\$885,847	\$30,256,445	\$362,043,370	
Medium Pressure Distribution	Mains = Total Distri	bution - HPD					
2016	\$0	\$0	\$0	\$0	\$0	\$362,785,681	
2017	\$38,730,628	\$17,353,233	\$0 \$0	\$5,262,152	\$61,346,013	\$424,131,694	
2017	\$36,730,626 \$49,344,054	\$17,818,926	\$0 \$0	\$5,262,152 \$5,401,522	\$72,564,502	\$496,696,196	
2010		\$17,816,926 \$17,282,086					
2010		カエノ フහフ いおり	\$0	\$5,546,897	\$75,710,795	\$572,406,990	
2019	\$52,881,812			<b>PE CO4 222</b>	<b>#70 004 000</b>	<b>#</b> 0E0 700 004	
2020	\$54,732,675	\$17,886,959	\$0	\$5,681,999	\$78,301,633	\$650,708,624	
				\$5,681,999 \$5,803,214 \$5,945,344	\$78,301,633 \$80,964,536 \$83,737,312	\$650,708,624 \$731,673,160 \$815,410,472	

TABLE 8
Distribution Long Run Marginal Cost Estimate (2020\$s)
SOUTHERN CALIFORNIA GAS COMPANY
2020 TCAP

System	MPD	HPD	
Demand Determinate	mcfd	mcf/month	
Capital-related LRMC:			
Medium Pressure Regression Coefficient =	\$2,392	\$45.42	
Weighted RECC Factor =	7.61%	7.57%	
Annualized Capital-related LRMC	\$182.00	\$3.44	
O&M-related LRMC:			
Total Distribution O&M costs (2016 \$000's) =	\$49,692	\$49,692	
escalation 2016 to 2020	1.0981	1.0981	
Total Distribution O&M costs (2020 \$000's) =	\$54,569	\$54,569	
% Share of Investment	65%	35%	
Peak Day Demand	4,279	87,903	
O&M-related LRMC	\$8.33	\$0.21530	
A&G-related LRMC:			
A&G Factor, as a Percent of O&M-related LRMC	43.64%	43.64%	
A&G-related LRMC	\$3.63	\$0.09395	
General Plant (GP)-related LRMC:			
GP Factor, as a Percent of O&M-related LRMC	44.94%	44.94%	
GP-related LRMC	\$3.74	\$0.09675	
Material & Supply (M&S)-related LRMC:			
Total Distribution M&S costs (2020 \$000's) =	\$3,294	\$3,294	
% Share of Investment	65%	35%	
Demand Determinantes	5,920	5,920	
M&S-related LRMC	\$0.36	\$0.19300	
Distribution LRMC =	\$198.08 \$/Mcfd	\$4.04 \$Mcf/mo	

TABLE 7
Regression of Distribution Investment
SOUTHERN CALIFORNIA GAS COMPANY
2020 TCAP

System	MPD	MPD	HPD	HPD
				Peak Month
			Cumulative	Cumulative
	Cumulative	Peak Day Cumulative	Investment	Demand MMcf/
Year	Investment \$000	Demand MMcfd	\$000	Month
2008	\$92,422	34	\$20,754	555
2009	\$154,255	40	\$55,893	626
2010	\$213,663	52	\$64,667	811
2011	\$228,769	84	\$86,664	1,348
2012	\$219,558	97	\$160,425	1,742
2013	\$245,210	126	\$164,354	2,471
2014	\$274,122	139	\$165,265	2,748
2015	\$313,269	154	\$191,910	3,224
2016	\$362,786	180	\$219,153	4,011
2017	\$424,132	204	\$219,153	4,968
2018	\$496,696	219	\$246,963	5,230
2019	\$572,407	240	\$274,280	5,620
2020	\$650,709	261	\$302,545	6,028
2021	\$731,673	283	\$331,787	6,398
2022	\$815,410	305	\$362,043	6,768
Regression Coefficient	\$2,392.05		\$45.42	

### Calculate Weighted Average RECC Factor:

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System	MPD	MPD	MPD	MPD	HPD	HPD	HPD	HPD
	New Business	Pressure Betterment	Contribute in aid of	Account #378 Meter & Reg	New Business	Pressure Betterment	Contribute in aid of Construction	Account #378 Meter & Reg
Historical Investment	\$000's	\$000	Construction \$000	Stations \$000	\$000's	\$000	\$000	Stations \$000
2008	\$31,573	\$55,433	(\$419)	\$5,836	\$1,099	\$19,147	(\$358)	\$866
2009	\$16,381	\$40,695	\$558	\$4,199	\$1,816	\$33,913	(\$1,208)	\$618
2010	\$10,565	\$45,170	(\$1,707)	\$5,379	\$94	\$7,880	\$0	\$801
2011	\$13,605	(\$4,436)	\$0	\$5,937	\$1	\$21,122	\$0	\$874
2012	\$11,781	(\$27,958)	(\$5)	\$6,970	\$3,782	\$68,958	\$5	\$1,016
2013	\$18,105	\$91	\$5	\$7,450	\$392	\$2,405	\$0	\$1,131
2014	\$22,846	\$0	\$0	\$6,066	\$0	\$0	\$0	\$911
2015	\$26,882	\$6,457	\$0	\$5,807	\$3,626	\$22,144	\$0	\$875
2016	\$30,405	\$14,492	\$0	\$4,620	\$0	\$16	\$0	\$695
Total Invest \$000	\$182,143	\$129,945	(\$1,567)	\$52,265	\$10,810	\$175,585	(\$1,561)	\$7,787
	Total Invest			Weghted	Total Invest			Weghted
	\$000's	% of Total	RECC %	RECC%	\$000's	% of Total	RECC %	RECC%
New Business \$000's	\$182,143	50%	7.55%	3.79%	\$10,810	6%	7.55%	0.42%
Pressure Betterment	\$129,945	36%	7.55%	2.71%	\$175,585	91%	7.55%	6.88%
CIAC	(\$1,567)	0%	7.55%	-0.03%	(\$1,561)	-1%	7.55%	-0.06%
subtotal	\$310,521	86%		6.46%	\$184,834	96%		7.25%
Meter & Reg Stations #378	\$52,265	14%	7.94%	1.14%	\$7,787	4%	7.94%	0.32%
Total	\$362,786	100%		7.61%	\$192,622	100%		7.57%

### % Share of Investment between MPD and HPD:

	Investment \$000's	% Share
MPD Investment	\$362,786	65%
HPD Investment	\$192,622	35%
	\$555,407	100%

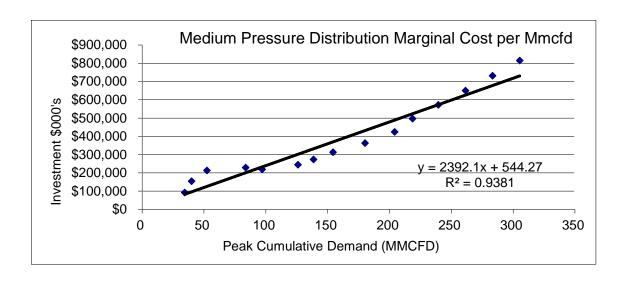
### **Marginal MPD Costs**

		Cumulative
	Cumulative	CAPEX
Year	MMcfd	\$000's
2008	34	\$92,422
2009	40	\$154,255
2010	52	\$213,663
2011	84	\$228,769
2012	97	\$219,558
2013	126	\$245,210
2014	139	\$274,122
2015	154	\$313,269
2016	180	\$362,786
2017	204	\$424,132
2018	219	\$496,696
2019	240	\$572,407
2020	261	\$650,709
2021	283	\$731,673
2022	305	\$815,410

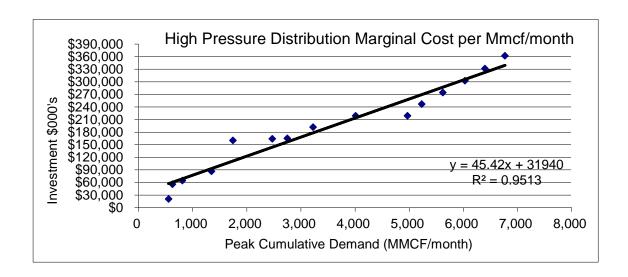
### **Marginal HPD Costs**

	Cumulative	Cumulative
	Mmcf/	CAPEX
Year	month	\$000's
2008	555	\$20,754
2009	626	\$55,893
2010	811	\$64,667
2011	1,348	\$86,664
2012	1,742	\$160,425
2013	2,471	\$164,354
2014	2,748	\$165,265
2015	3,224	\$191,910
2016	4,011	\$219,153
2017	4,968	\$219,153
2018	5,230	\$246,963
2019	5,620	\$274,280
2020	6,028	\$302,545
2021	6,398	\$331,787
2022	6,768	\$362,043

### Marginal MPD Investment per MMCFD



### Marginal HPD Investment per MMCF/month



### **Marginal MP Distribution Cost**

Marginal Cost for Medium Pressure Distribution (MPD) (2020 \$/Mcfd peak day)					
Capital-related Charge:  MPD Regression Coefficient \$/Mcfd x RECC Factor = Annualized Capital-related Charge (\$/Mcfd)	\$2,392.05 7.61% \$182.00				
+ Direct O&M + A&G + GP + M&S	\$8.33 \$3.63 \$3.74 \$0.36				
= Marginal Unit Cost (\$/Mcfd)	\$198.08				

### **Marginal HP Distribution Cost**

## Marginal Cost for High Pressure Distribution (2020 \$/MCF/month)

Capital-related Charge: HPD Regression Coefficient \$/Mcf/month x RECC Factor	\$45.42 7.57%
<ul><li>Annualized Capital-related Charge (\$/Mcf/month)</li></ul>	\$3.44
+ Direct O&M + A&G + GP + M&S	\$0.22 \$0.09 \$0.10 \$0.19
= Marginal HP Distribution Cost(\$/MCF/month)	\$4.04

### SoCalGas 2020 TCAP

# Section 3 O&M Loaders Model for LRMC Studies

### SCG 2020 TCAP LRMC O&M Loader Model

Output	Output	Source
Marginal A&G/Payroll Taxes Loading Factor as a % of O&M expenses	43.64%	A&G
General Plant Loading Factor as a % or O&M expenses	44.94%	Gen Plant
Customer Related Distribution M&S Costs 2020 \$000/yr	\$2,930,464	M&S
Demand Related Distribution M&S Costs 2020 \$000/yr	\$3,294,278	M&S
2013-17 Factor: Capital	1.1319	Escalation Factors
2013-17 Factor: O&M	1.0981	Escalation Factors
Input from EC Model:		
Transmission A&G	\$18.739	EC Study of Ms. Fung
Storage A&G	\$18.761	EC Study of Ms. Fung
Total A&G	\$448.452	EC Study of Ms. Fung
Transmission General Plant Return	\$0.896	EC Study of Ms. Fung
Transmission Gen Plant Dep	\$5.503	EC Study of Ms. Fung
Transmission Gen Plant Taxes	\$0.393	EC Study of Ms. Fung
Storage General Plant Return	\$0.897	EC Study of Ms. Fung
Storage Gen Plant Dep	\$5.510	EC Study of Ms. Fung
Storage Gen Plant Taxes	\$0.393	EC Study of Ms. Fung
Total Gen Plant Return	\$21.449	EC Study of Ms. Fung
Total Gen Plant Dep	\$131.697	EC Study of Ms. Fung
Total Gen Plant Taxes	\$9.400	EC Study of Ms. Fung
Input from EC Model:		
PBR Exclusion Items		
880 Dist Op-Other Expenses (PBR Ex Haz Waste)	\$0.977	Net O&M worksheet
901 Cus Acct-Supervision (PBR Ex CARE) + Payroll Taxes	\$6.663	Net O&M worksheet
PSEP	\$21.880	Net O&M worksheet
904 Cus Acct-Uncollectible Accounts	\$7.818	Net O&M worksheet
908 Cus Svc-Cust Assist Exp (PBR Ex DAP, DSM &Self-Gen)	\$151.765	Net O&M worksheet

### 2020 TCAP A&G LOADER ANALYSIS O&M Costs Used in A&G Loader

		2016 Recorded Costs (\$)		source:
1. Total O&M			2,320,587,000	FERC Form 2 line no 271, page 325
2. Total Production Expenses (incl Purchased Gas cost)		972,706,000		FERC Form 2 line no 97, page 320
3. Total Transmission Expenses	1/	101,963,000		FERC Form 2 line no 201, page 323
4. Total Storage Expenses	1/	47,315,000		FERC Form 2 line no 125, page 321
5. Total A&G Expenses		458,076,000		FERC Form 2 line no 270, page 325
6. Exclusions	2/	\$ 220,593,448		From Regulatory Accounting
7. Gas Used for Transmission Compressor Stations (this is part of Trans. Expense:	s) 3/			FERC Form 2 Acct 854, line no 184, page 323
8. Subtotal of Costs removed from O&M		1,800,653,448		
9. Net O&M		=	519,933,552	

#### Notes:

- 1/ Transmission and Storage expenses removed from A&G loader, because SoCalGas proposes to separately scale transmission and storage costs to embedded transmission and storage cost.
- 2/ Exclusions EE, LIEE, CARE admin, Self Generation, Hazardous Substance, AMI & Uncollectible costs and all costs below that are not part of authorized base margin.
- 3/ Exclude Part of Transmission expenses

Rows (1) through (7) contain data from FERC Form 2 for 2010, pages 320-325

Row (8) = Sum [ Row (2) : Row (7) ]

Row(9) = Row(1) - Row(8)

Exclusions	2016
Hazardous Substance costs (dist acct 880)	977,061
Uncollectible Acct (acct 904)	7,818,322
Self Generation (acct 908)	10,380,031
Energy Efficiency (acct 908)	82,565,008
Low Income Energy Efficiency (acct 908)	58,819,473
CARE (acct 901)	6,662,774
AMOPBA	2,521,217
AB802MA (acct 908)	1,608
EDRMA (acct 903)	132,372
MMBA	607,041
CSITPMA	14,014,345
GHGMA	891,461
IAMA	723,441
LCFSBA	47,018
RDMA (acct 903100)	1,316
MEOMA (acct 908)	10,787,248
WDRMA (acct 908 and 907001)	1,764,125
PSEP	21,879,587
	220,593,448

From Reg Accounts Group

PSEP Detail PSRMA = -\$669,961 SEEBA = \$22,266,270 PSEP-P2MA = \$283,278

TABLE 2
A&G and Payroll Taxes Loading Factor

### **SOUTHERN CALIFORNIA GAS COMPANY**

DESCRIPTION	2020 TCAP source
	(\$)
Total Marginal A&G Costs	\$176,787,661 A&G 1 tab
2. Total Payroll Taxes	50,092,209 (SS + Fed&CA
3. Marginal A&G and Payroll Taxes	226,879,869 Row 1 + Row 2
4. Net O&M Costs	519,933,552 O&M Costs tab
5. Marginal A&G/Payroll Taxes Loading Factor	<b>43.64%</b> Row 3 / Row 4
6. Transmission and Storage adjustment	8.36% EC study
Notes:	
Data Source: FERC Form 2	
Fed. Unemployment Insurance Tax	378,145 FERC Form 2, p. 263a (SS + Fed&C
Social Security Tax	58,054,402 FERC Form 2, p. 263a (SS + Fed&C
State Unemployment Insurance Tax	2,015,319 FERC Form 2, p. 263a (SS + Fed&C
Total	60,447,866

### 2020 TCAP Phase II A&G LOADER ANALYSIS Marginal vs Non-marginal Summary

(1)	(2)	(3)	(4)		(5)	(6)	(7)	(8) 2016 Recorded	
	PUC	Marginal	Marginal		Non-Marginal	Non-Marginal	Total	Total Cost	
Account Title	Account	Cost	Portion of Total		Cost	Portion of Total	Cost	Per FERC Form 2	Source
		(\$)	(%)	•	(\$)	(%)	(\$)	(\$)	
1. A&G Salaries	920	\$15,608	0.00%		\$42,434,360	10.24%	\$42,449,968	\$42,450,000	FERC Form 2 line no 254, page 325
2. Office Supplies and Exp	921	1,144,233	0.28%		13.906.582	3.36%	15.050.815	\$15.051.000	FERC Form 2 line no 255, page 325
Admin Expenses Transferred	922	0	0.00%		(6,444,405)	-1.56%	(6,444,405)	(\$6,444,000)	FERC Form 2 line no 256, page 325
Outside Services Employed	923	0	0.00%		114,477,733	27.64%	114,477,733	\$114,478,000	FERC Form 2 line no 257, page 325
Property Insurance	924	4.766.593	1.15%		, , 0	0.00%	4,766,593	\$4,767,000	FERC Form 2 line no 258, page 325
Injuries and Damages	925	37,627,240	9.08%		0	0.00%	37,627,240	\$37,627,000	FERC Form 2 line no 259, page 325
7. Employee Pensions & Benefits	926	144,269,644	34.83%		0	0.00%	144,269,644	\$144,270,000	FERC Form 2 line no 260, page 325
Regulatory Commission Expenses	928	0	0.00%		5,993,134	1.45%	5,993,134	\$5,993,000	FERC Form 2 line no 262, page 325
Misc General Expenses	930	44,745	0.01%		12,024,773	2.90%	12,069,517	\$12,070,000	FERC Form 2 line no 265, page 325
10. Rents	931	3,396,621	0.82%		20,673,051	4.99%	24,069,672	\$24,070,000	FERC Form 2 line no 266, page 325
11. Maintenance of Gen Plant	932	19,890,045	4.80%		0	0.00%	19,890,045	\$19,890,000	FERC Form 2 line no 269, page 325
12. Total				•					
12. Total		211,154,728	50.98%	:	203,065,227	49.02%	414,219,955	414,222,000	
Franchise Requirements Pensions and benefits on non-margina Pensions and benefits on exclusions	927 al A&G labor	(11,669,449) (6,565,427) 192,919,852			11,669,449 6,565,427 221,300,103				ate for 2016 is 27.5% (Average of 2 enny and Joe, 11/29/2017
Payroll Taxes on non-marginal A&G la	abor	(3,203,794) <	= Tax loader on non-ma	rginal labor	3,203,794	Т	he SCG Payroll Tax	OH rate for 2016 is 7.	55% (Average for 2016).
Payroll taxes on exclusions		(2,097,139) <	= Tax loader on exclusion	ons	2,097,139	<== can be calculate	ted as is or7.55% o	n the labr poriton of exc	clusions, requested from Jenny and
				Payroll Tax 7.55% 1,724,399	<u>P&amp;B</u> 27.50% 6,280,922	22,839,716 N	on-PSEP labor Exc	elusion F	from Reg Accounting.
Color Key: Input Data, Source Data fi	rom other tab, ca	alculation		716	2,608	9,484 P	SEP P2		0
Col (1) & Col (2) account description	'n			1,725,115	6,283,530	22,849,200 T	otal		
Col (3) contains data from 'Marginal -		b							
Col(4) = Col(3) / Col(7)	Ü			372,025	281,897	653,921 S	EEBA		
Col (5) contains data from 'Marginal -	Nonmarginal' tal	b		2,097,139	6,565,427	23,503,121			
Col (6) = Col (5) / Col (7) Col (7) = Col (3) + Col (5) Col (8) data from FERC Form 2 for 20	J			, , , , , ,					

(1)	(2)	(3)	(4)	(5)	(6)	(7) (5) + (6)	(8)	(9)
FERC Cost Center Description	PUC Account Number	FERC Account No.	Marginal Y/N	2016 Recorded Costs Direct	Reassigned	Total	Marginal	Non-Marginal
•				(\$)	(\$)	(\$)	(\$)	(\$)
1. BLDG OPER OTH THAN CLEANING SV	920	920.601	Υ	\$ 13,234	\$ 2,342	\$ 15,575	\$ 15,575	\$ -
2. PROCUREMENT & LOGISTICS CONSULT	920	920.630	Y		-	-		-
3. REAL ESTATE	920	920.604	Y		-	-		-
4. BUILDING CLEANING SERVICES	920	920.600	Y	-	33	33	33	-
5. RETURN TO WORK EXAMINATIONS	920	920.212	Y		-	-	-	-
6. SUPPLIER MANAGEMENT	920	920.632	Y					
ACCOUNT 920 MARGINAL TOTAL				13,234	2,374	15,608	15,608	-
7. ADMINISTRATIVE & GENERAL SALARIES	920	920.000	N	31,787,968	484,834	32,272,802	-	32,272,802
8. HUMAN RESOURCES OPER SALARIES	920	920.200	N	5,826,594	1,126,705	6,953,299		6,953,299
9. REGIONAL AFFAIRS	920	920.570	N	2,402,511	490,287	2,892,798	-	2,892,798
10. END USER SUPPORT COMM	920	920.372	N	-	-	-	-	-
11. COMPUTER END USER SUPPORT	920	920.371	N		-	-	-	-
12. REGION MANAGER SALARIES	920	920.047	N	-	-	•	•	-
13. PUBLIC AFFAIRS ADMINISTRATION	920	920.570	N	4,461	(4,461)	•	-	-
14. OPERATE MAINFRAME COMPUTERS GEN	920	920.360	N				-	
15. STANDARD & CODES	920	920.561	N	140,244	45,841	186,084	-	186,084
16. INFORMATION SYS GENL SUPERVISION	920	920.301	N	•	(893)	(893)	•	(893)
17. INFORMATION SYS ADMIN SUPPORT	920	920.302	N	•	•	•	•	•
18. INFORMATION SYSTEMS 19. GOVERNMENTAL AFFAIRS SALARIES	920 920	920.300 920.560	N N	4,461	1,437	5,897	•	5,897
20. PSEP - A&G SALARIES	920	920.850	N	124,693	(321)	124,372	•	124,372
21. Reassignment Only	920	920.010	N	124,093	(321)	124,372	•	124,372
ACCOUNT 920 NON-MARGINAL TOTAL		920.010		40,290,932	2,143,429	42,434,360	<del></del>	42,434,360
22. BLDG OPER OTH THAN CLEANING SV	921	921.601	Υ	1,104,877	(37,182)	1,067,694	1.067.694	
23. BUILDING CLEANING SERVICES	921	921.600	Ý	64,686	(2,147)	62,539	62,539	
24. PROCUREMENT & LOGISTICS CONSULT	921	921.630	Ý	-		-		
25. REAL ESTATE	921	921.604	Y	14,480	(481)	14,000	14,000	-
ACCOUNT 921 MARGINAL TOTAL				1,184,043	(39,810)	1,144,233	1,144,233	-
27. ADMINISTRATIVE & GENERAL SALARIES	921	921.000	N	19,041,063	(1,701,506)	17,339,557	-	17,339,557
28. HUMAN RESOURCES OPER SALARIES	921	921.200	N	133,539	9,658	143,198		143,198
29. COMPUTER END USER SUPPORT	921	921.371	N	111,137	(11,824)	99,313	-	99,313
30. REGIONAL AFFAIRS	921	921.571	N	637,451	(22,752)	614,699	-	614,699
31. PUBLIC AFFAIRS ADMINISTRATION	921	921.563	N	834	(31)	803	-	803
32. REGION MANAGER SALARIES	921	921.047	N		-	-	-	-
33. STANDARD & CODES	921	921.561	N	42,206	(1,461)	40,745	-	40,745
34. INFORMATION SYS GENL SUPERVISION	921	921.301	N	206,698	(281,881)	(75,183)	-	(75,183)
35. PSEP-A&G OFFICE SUPL	921	921.850	N	(4,321,968)	37,619	(4,284,349)	-	(4,284,349)
36. FERC B/S ERRORS ACCOUNT 921 NON-MARGINAL TOTAL	921	921.999	N	15,850,961	27,799 (1,944,379)	27,799 13,906,582		27,799 13,906,582
37. ADMINISTRATIVE EXPENSES TRANSFERRED-CRED	922	922.000	N		(4,036,406)	(4,036,406)		(4,036,406)
38. HR-CAP A&G TRANS CR	922	922.200	N	•	(1,433,681)	(1,433,681)	-	(1,433,681)
39. IS GEN SUP-CAP AG CR	922	922.301	N N	_	(50)	(50)		(50)
40. PA ADM-CAP A&G TR CR	922	922.563	N N		(417)	(417)		(417)
41. REG AF-CAP A&G TR CR	922	922.570	N		(965,003)	(965,003)		(965,003)
42. BLD CLNG-CP AG TR CR	922	922.600	N	-	(5,098)	(5,098)		(5,098)
43. RE - CAP A&G TRN CR	922	922.604	N	-	(3,750)	(3,750)		(3,750)
ACCOUNT 922 NON-MARGINAL TOTAL				-	(6,444,405)	(6,444,405)	-	(6,444,405)
44. OUTSIDE SERVICES EMPLOYED	923	923.000	N	878,206	113,579,788	114,457,994	_	114,457,994
				010,200	110,010,100	, - 0 . , 0 0 - 1		, - 0 . , 0 0 - 1
45. PSEP -OUTSIDE SERVICES ACCOUNT 923 NON-MARGINAL TOTAL	923	923.850	N	878,206	19,738 113,599,527	19,738		19,738

ACCOUNT 928 NON-MARGINAL TOTAL  61. DIVISION STATIONERY EXPENSE  62. DUPLICATING EQUIP DIST & TRANS  930  930.625  Y  7,619  42  7,661  7,661  - 35,877  207  37,084  37,084  - 37,084  - 37,084  - 44,745  -	(1)	(2)	(3)	(4)	(5)	(6)	(7) (5) + (6)	(8)	(9)
## COUNT 924 MARGINAL TOTAL    2,178,681   2,587,911   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993,993,993,993,993   4,765,993   4,765,993   4,765,993   4,765,993,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993,993   4,765,993	FERC Cost Center Description	Account				Reassigned	Total	Marginal	Non-Marginal
## COUNT 924 MARGINAL TOTAL    2,178,681   2,587,911   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993,993,993,993,993   4,765,993   4,765,993   4,765,993   4,765,993,993   4,765,993   4,765,993   4,765,993   4,765,993   4,765,993,993   4,765,993	46 INSURANCE EXPENSE	924	924 000	Υ	2 178 681	2 587 911	4 766 593	4 766 593	_
48. ACCIDENT PREV & SAFE 9.25 9.25.160 9. 32.5.160 9. 1.119.67.7 207.422 1.328.899 1.328.899 1.328.899 1.50. COLL PURP 9.25 9.25.300 9. 1.219.346 1.1287.461 1.27.461			324.000	•					
49. ABG EMERGENCY PREP   925   925.180   Y   1.119.457   207.442   1,328.899   1,328.899   1.208.899   1.508.899	47. INJURIES AND DAMAGES	925	925.000	Y	9,113,243	(809,850)	8,303,392	8,303,392	
50. COLL WORKERS COMP   925   925.300   Y   13.291.364   (6)14.951)   7,146.413   7,146.	48. ACCIDENT PREV & SAFE	925	925.160	Y	3,240,055	788,093	4,028,148	4,028,148	
51. COLI PLPD   925   925.310   Y   26,126,078   (11,237,461)   14,338,617   14,338,617   1.000,000,000,000,000,000,000,000,000,00	49. A&G EMERGENCY PREP	925	925.180		1,119,457	207,442	1,326,899	1,326,899	-
52, PSP- INJUR A DAMAG   925   925.850   Y									-
ACCOUNT 925 MARGINAL TOTAL   926   926.000   Y   24,496,850   (192,471)   23,534,402   23,534,402									-
S. EMPLOYEE PENSIONS AND BENEFITS   926   926.000   Y   24,496,850   (962,447)   22,534,402   23,534,402		925	925.850	Y					<u>-</u> _
54. TRANSPORTATION PROGRAM   926   926.239   Y   183,115,387   (183,115,387)   114,756   114,756   114,756   5. EMPLOYER ECCOANTION PROGRAM   926   926.200   Y   8,05,728   (8,29,982)   114,756   114,756	ACCOUNT 925 MARGINAL TOTAL				57,342,655	(19,715,415)	37,627,240	37,627,240	•
55. EMPLOYER RECOGNITION PROGRAM   926   926.200   Y   8.405,728   (8.290.962)   114,766   114,766       56.   926   926.207   Y   252,488   (252.488)         57. DISABILITY BENEFIT EXPENSE   926   926.300   Y   43,856,278   76,764,198   120,620,476   120,620,476       58. BLOS SUPPORT CANTERN GASCO TWR   926   926.202   N   838   (838)         59. INTERVENOR COMPRENSATION   928   928.500   N   723,441     723,44							23,534,402	23,534,402	-
56.   926   926.207   Y   252.488   725.24888   725.2488   725.2488   725.2488   725.2488   725.2488   725.2							•	-	•
97. DISABILITY BENEFIT EXPENSE ACCOUNT 926 MARGINAL TOTAL  926 926.202 N 838 (838)							114,766	114,766	-
ACCOUNT 926 MARGINAL TOTAL  260,126,731  (115,857,087)  144,269,644  144,269,644  -  260,126,731  (115,857,087)  144,269,644  144,269,644  -  260,126,731  (115,857,087)  144,269,644  -  260,126,731  (115,857,087)  144,269,644  144,269,644  -  260,0000000000000000000000000000000000									-
Section   Sect		926	926.300	Y					
## ACCOUNT 928 NON-MARGINAL TOTAL    59. INTERVENOR COMPENSATION   928   928.500   N   723,441   - 723	ACCOUNT 926 MARGINAL TOTAL				260,126,731	(115,857,087)	144,269,644	144,269,644	-
Space   Spac	58. BLDG SUPPORT CANTEEN GASCO TWR	926	926.202	N	838	(838)		-	-
Second	ACCOUNT 926 NON-MARGINAL TOTAL				838	(838)	-	-	-
ACCOUNT 928 NON-MARGINAL TOTAL  61. DIVISION STATIONERY EXPENSE  930  930.625  Y  7,619  42  7,661  7,661  7,661  -  37,084  37,084  -  37,084  -  37,084  -  37,084  -  37,084  -  37,084  -  37,084  -  37,084  -  37,084  -  37,084  -  37,084  -  37,084  -  44,745  -  44,745  -  63. MISCELLANEOUS GENERAL EXPENSES  930  930.200  N  825,287  11,198,356  12,023,642  -  12,023,642  -  12,023,642  -  12,023,642  -  12,023,642  -  11,198,359  12,024,773  -  11,198,359  12,024,773  -  11,198,359  12,024,773  -  11,198,359  12,024,773  -  12,024,773	59. INTERVENOR COMPENSATION	928	928.500	N	723,441	-	723,441		723,441
61. DIVISION STATIONERY EXPENSE 930 930.625 Y 7,619 42 7,661 7,661	60. REGULATORY COMMISSION EXPENSES	928	928.000	N	2,800,156	2,469,537	5,269,693	-	5,269,693
62.   DUPLICATING EQUIP DIST & TRANS   930   930.600   Y   36.877   207   37.084   37.084	ACCOUNT 928 NON-MARGINAL TOTAL				3,523,597	2,469,537	5,993,134	-	5,993,134
ACCOUNT 930 MARGINAL TOTAL  44,496  249  44,745  44,745  -  63. MISCELLANEOUS GENERAL EXPENSES 930 930.200 N 825,287 11,198,356 12,023,642 - 12,023,642 - 11,131 - 1,10 - 1,10,10 - 1,10,50 - 1,10,50 - 1,10,50 - 1,10,50 - 1,10,50 -	61. DIVISION STATIONERY EXPENSE	930	930.625	Y	7,619	42	7,661	7,661	-
63. MISCELLANEOUS GENERAL EXPENSES 930 930.200 N 825,287 11,198,356 12,023,642 - 12,023,642 64. MISC DIV OFFICE EXPENSES 930 930.046 N 1,127 3 1,131 -	62. DUPLICATING EQUIP DIST & TRANS	930	930.600	Y	36,877	207	37,084	37,084	
64. MISC DIV OFFICE EXPENSES ACCOUNT 930 NON-MARGINAL TOTAL  65. RENTS DISTRIB AND TRANSM REGIONS ACCOUNT 931 MARGINAL TOTAL  66. GAS COMPANY TOWER RENTS 931 931.602 931 931.600 N 20,630,564 (1,40,560) 3,396,621 3,396,621 3,396,621 -	ACCOUNT 930 MARGINAL TOTAL				44,496	249	44,745	44,745	-
ACCOUNT 930 NON-MARGINAL TOTAL  826,414  11,198,359  12,024,773  - 12,024,773  - 12,024,773  - 12,024,773  65. RENTS DISTRIB AND TRANSM REGIONS ACCOUNT 931 MARGINAL TOTAL  931  931,600  N  20,630,564  (1,395,305)  19,235,259  - 19,235,259  - 19,235,259  67. RENTS GENERAL ACCOUNT 931 NON-MARGINAL TOTAL  20,630,564  42,487  20,673,051  68. BLDG YARD & EQUIP MAINTENANCE 935  935,600  Y  15,615,930  M  15,615,930  M  162,961)  15,452,969  15,452,969  15,452,969  15,452,969  169. MAINTENANCE FURN OFFICE EQUIP 935  935,600  Y  15,615,930  M  162,961)  15,452,969  15,452,969  15,452,969  170. MARS SHOP EQUIP 935  935,601  Y  10,604,737  10,604,704  10,6	63. MISCELLANEOUS GENERAL EXPENSES	930	930.200	N	825,287	11,198,356	12,023,642		12,023,642
Section   Page	64. MISC DIV OFFICE EXPENSES	930	930.046	N	1,127	3	1,131	-	1,131
ACCOUNT 931 MARGINAL TOTAL  3,537,181 (140,560) 3,396,621 3,396,621 -  66. GAS COMPANY TOWER RENTS 931 931.600 N 20,630,564 (1,395,305) 19,235,259 - 19,235,259  67. RENTS GENERAL 931 931.000 N - 1,437,792 1,437,792 - 1,437,792  ACCOUNT 931 NON-MARGINAL TOTAL 20,630,564 42,487 20,673,051 - 20,673,051  68. BLDG YARD & EQUIP MAINTENANCE 935 935.600 Y 15,615,930 (162,961) 15,452,969 15,452,969 - 20,673,051  69. MAINTENANCE FURN OFFICE EQUIP 935 935.601 Y 5,097 (1,245) 3,852 3,852 - 3,852 - 2,70,700,700,700,700,700,700,700,700,700	ACCOUNT 930 NON-MARGINAL TOTAL				826,414	11,198,359	12,024,773	-	12,024,773
66. GAS COMPANY TOWER RENTS 931 931.600 N 20,630,564 (1,395,305) 19,235,259 - 19,235,259 67. RENTS GENERAL 931 931.000 N - 1,437,792 1,437,792 - 1,437,792 ACCOUNT 931 NON-MARGINAL TOTAL  68. BLDG YARD & EQUIP MAINTENANCE 935 935.600 Y 15,615,930 (162,961) 15,452,969 15,452,969 - 69. MAINTENANCE FURN OFFICE EQUIP 935 935.601 Y 5,097 (1,245) 3,852 3,852 - 70. MEAS RHOP EQUIP 71. GARAGE/FUEL ISLAND MAINTENANCE 935 935.606 Y 1,534,741 266,133 1,800,874 1,800,874 - 72. COMPR MTC CNG VEHICLES 935 935.605 Y 47,508 (123,565) (76,057) (76,057) - 73. TESTRACK MAINTENANCE 935 935.605 Y 47,508 (123,565) (76,057) (76,057) - 74. MAINTENANCE OF GENERAL PLANT 935 935.000 Y 1,492,824 720,178 2,213,003 2,213,003 - ACCOUNT 935 MARGINAL TOTAL	65. RENTS DISTRIB AND TRANSM REGIONS	931	931.602	Υ	3,537,181	(140,560)	3,396,621	3,396,621	
67. RENTS GENERAL 931 931.000 N 20,630,564 42,487 20,673,051 - 1,437,792 1,437,792 - 1,437,792	ACCOUNT 931 MARGINAL TOTAL				3,537,181	(140,560)	3,396,621	3,396,621	-
67. RENTS GENERAL 931 931.000 N 1,437,792 1,437,792 - 1,437,792 ACCOUNT 931 NON-MARGINAL TOTAL 20,630,564 42,487 20,673,051 - 20,673,05	66. GAS COMPANY TOWER RENTS	931	931.600	N	20.630.564	(1.395.305)	19.235.259	-	19.235.259
68. BLDG YARD & EQUIP MAINTENANCE 935 935.600 Y 15,615,930 (162,961) 15,452,969 15,452,969 - 69. MAINTENANCE FURN OFFICE EQUIP 935 935.601 Y 5,097 (1,245) 3,852 3,852 - 70. MEAS SHOP EQUIP 935 935.675 Y 502,642 (7,237) 495,405 495,405 - 71. GARAGE/FUEL ISLAND MAINTENANCE 935 935.606 Y 1,534,741 266,133 1,800,874 1,800,874 - 72. COMPR MTC CNG VEHICLES 935 935.605 Y 47,508 (123,665) (76,057) (76,057) - 73. TESTRACK MAINTENANCE 935 935.800 Y	67. RENTS GENERAL	931	931.000						1,437,792
69. MAINTENANCE FURN OFFICE EQUIP     935     935.601     Y     5,097     (1,245)     3,852     3,852     -       70. MEAS SHOP EQUIP     935     935.675     Y     502,642     (7,237)     495,405     495,405     -       71. GARAGE/FUEL ISLAND MAINTENANCE     935     935.606     Y     1,534,741     266,133     1,800,874     1,800,874     -       72. COMPR MTC CNG VEHICLES     935     935.605     Y     47,508     (123,565)     (76,057)     (76,057)     -       73. TESTRACK MAINTENANCE     935     935.800     Y     -     -     -     -       74. MAINTENANCE OF GENERAL PLANT     935     935.000     Y     1,492,824     720,178     2,213,003     2,213,003     -       ACCOUNT 935 MARGINAL TOTAL     19,198,742     691,303     19,890,045     19,890,045     -	ACCOUNT 931 NON-MARGINAL TOTAL				20,630,564	42,487	20,673,051	-	20,673,051
69. MAINTENANCE FURN OFFICE EQUIP 935 935.601 Y 5,097 (1,245) 3,852 3,852 - 70. MEAS SHOP EQUIP 935 935.675 Y 502,642 (7,237) 495,405 495,405 - 71. GARAGE/PUEL ISLAND MAINTENANCE 935 935.606 Y 1,534,741 266,133 1,800,874 1,800,874 - 72. COMPR MTC CNG VEHICLES 935 935.605 Y 47,508 (123,565) (76,057) (76,057) - 73. TESTRACK MAINTENANCE 935 935.600 Y - 74. MAINTENANCE OF GENERAL PLANT 935 935.000 Y 1,492,824 720,178 2,213,003 2,213,003 - ACCOUNT 935 MARGINAL TOTAL 19,198,742 691,303 19,890,045 19,890,045 -	68. BLDG YARD & EQUIP MAINTENANCE	935	935,600	Υ	15.615.930	(162.961)	15.452.969	15.452.969	_
70. MEAS SHOP EQUIP 935 935.675 Y 502,642 (7,237) 495,405 495,405 - 71. GARAGE/FUEL ISLAND MAINTENANCE 935 935.606 Y 1,534,741 266,133 1,800,874 1,800,874 - 72. COMPR MTC CNG VEHICLES 935 935.605 Y 47,508 (123,565) (76,057) (76,057) - 73. TESTRACK MAINTENANCE 935 935.800 Y - 74. MAINTENANCE OF GENERAL PLANT 935 935.000 Y 1,492,824 720,178 2,213,003 2,213,003 - ACCOUNT 935 MARGINAL TOTAL 19,198,742 691,303 19,890,045 19,890,045 -									
71. GARAGE/FUEL ISLAND MAINTENANCE 935 935.606 Y 1,534,741 266,133 1,800,874 1,800,874 72. COMPR MTC CR0 VEHICLES 935 935.605 Y 47,508 (123,565) (76,057) 76,057) - 73. TESTRACK MAINTENANCE 935 935.680 Y 74. MAINTENANCE OF GENERAL PLANT 935 935.000 Y 1,492,824 720,178 2,213,003 2,213,003 - 74. COUNT 935 MARGINAL TOTAL 19,198,742 691,303 19,890,045 - 9									
72. COMPR MTC CNG VEHICLES     935     935.680     Y     47,508     (123,565)     (76,057)     (76,057)     -       73. TESTRACK MAINTENANCE     935     935.880     Y     -     -     -     -       74. MAINTENANCE OF GENERAL PLANT     935     935.000     Y     1,492,824     720,178     2,213,003     2,213,003     -       ACCOUNT 935 MARGINAL TOTAL     19,198,742     691,303     19,890,045     19,890,045     -	71. GARAGE/FUEL ISLAND MAINTENANCE	935		Y					-
73. TESTRACK MAINTENANCE 935 935.680 Y 74. MAINTENANCE OF GENERAL PLANT 935 935.000 Y 1,492,824 720,178 2,213,003 2,213,003 - ACCOUNT 935 MARGINAL TOTAL 19,198,742 691,303 19,890,045 19,890,045 -	72. COMPR MTC CNG VEHICLES	935	935.605	Y					-
ACCOUNT 935 MARGINAL TOTAL 19,198,742 691,303 19,890,045 -	73. TESTRACK MAINTENANCE	935	935.680	Υ			•		
		935	935.000	Y					
TOTAL A&G 425,627,272 (11,407,317) 414,219,955 211,154,728 203,065,227	ACCOUNT 935 MARGINAL TOTAL				19,198,742	691,303	19,890,045	19,890,045	-
	TOTAL A&G				425,627,272	(11,407,317)	414,219,955	211,154,728	203,065,227

### 2020 TCAP A&G LOADER ANALYSIS 2016 RECORDED COSTS

FERC Account	LABOR	NON_LABOR	TOTAL DIRECT	REASSIGNMENTS	TOTAL COSTS
920.000 Total	\$31,787,968		\$31,787,968	\$ 484,834	\$32,272,802
920.010 Total			\$0	\$ 0	\$0
920.047 Total			\$0	\$ 0	\$0
920.200 Total	\$5,826,594		\$5,826,594	\$ 1,126,705	\$6,953,299
920.212 Total			\$0	\$ 0	\$0
920.300 Total			\$0	\$ 0	\$0
920.301 Total			\$0	-\$ 893	-\$ 893
920.302 Total			\$0	\$ 0	\$0
920.360 Total			\$0	\$ 0	\$0
920.371 Total			\$0	\$ 0	\$0
920.372 Total			\$0	\$ 0	\$0
920.563 Total	\$4,461		\$4,461	\$ 1,437	\$5,897
920.561 Total	\$140,244		\$140,244	\$ 45,841	\$186,084
920.563 Total	\$4,461		\$4,461	-\$ 4,461	\$0
920.570 Total	\$2,402,511		\$2,402,511	\$ 490,287	\$2,892,798
920.600 Total	\$0		\$0	\$ 33	\$33
920.601 Total	\$13,234		\$13,234	\$ 2,342	\$15,575
920.604 Total			\$0	\$ 0	\$0
920.630 Total			\$0	\$ 0	\$0
920.632 Total			\$0	\$ 0	\$0
920.850 Total	\$124,693		\$124,693	-\$ 321	\$ 124,372
	\$ 40,304,165	\$ 0	\$ 40,304,165	\$ 2,145,803	\$ 42,449,968
004 000 Tabel		£40.044.000	@40.044.0C2	0 4 704 500	047.000.557
921.000 Total		\$19,041,063	\$19,041,063	-\$ 1,701,506	\$17,339,557
921.047 Total		A 400 500	\$0	\$ 0	\$ 0
921.200 Total		\$ 133,539	\$133,539	\$ 9,658	\$143,198
921.301 Total		\$ 206,698	\$206,698	-\$ 281,881	(\$75,183)
921.371 Total		\$ 111,137	\$111,137	-\$ 11,824	\$99,313
921.561 Total		\$ 42,206	\$42,206	-\$ 1,461	\$40,745
921.563 Total		\$ 834	\$834	-\$ 31	\$803
921.570 Total		\$ 637,451	\$637,451	-\$ 22,752	\$614,699
921.600 Total		\$ 64,686	\$64,686	-\$ 2,147	\$62,539
921.601 Total		\$ 1,104,877	\$1,104,877	-\$ 37,182	\$1,067,694
921.604 Total		\$ 14,480	\$14,480	-\$ 481	\$14,000
921.630 Total		f 4 224 CCC	\$0	\$ 0	\$0
921.850 Total		-\$ 4,321,968	-\$4,321,968	\$ 37,619	(\$4,284,349)
921.999 Total		® 47.00F.004	\$0	\$ 27,799	\$27,799
	\$ 0	\$ 17,035,004	\$ 17,035,004	-\$ 1,984,189	\$ 15,050,815

### 2020 TCAP A&G LOADER ANALYSIS 2016 RECORDED COSTS

-					
FERC Account	LABOR	NON_LABOR	TOTAL DIRECT	REASSIGNMENTS	TOTAL COSTS
922.000 Total	•		\$0	-\$ 4,036,406	(\$4,036,406)
922.200 Total			\$0	-\$ 1,433,681	(\$1,433,681)
922.301 Total			\$0	-\$ 50	(\$50)
922.563 Total			\$0	-\$ 417	(\$417)
922.570 Total			\$0	-\$ 965,003	(\$965,003)
922.600 Total			\$0	-\$ 5,098	(\$5,098)
922.604 Total			\$0	-\$ 3,750	(\$3,750)
	\$ 0	\$ 0	\$ 0	-\$ 6,444,405	(\$6,444,405)
923.000 Total	-\$1,037,654	\$1,915,860	\$878,206	\$ 113,579,788	\$114,457,994
923.850 Total	\$0	\$0	\$0	\$ 113,379,788	\$114,457,994
323.000 Total	-\$ 1,037,654	\$1,915,860	\$ 878,206	\$ 113,599,527	\$114,477,733
	<b>V</b> 1,001,001	*1,010,000	* ****	<b>V</b> ,	***************************************
924.000 Total	\$0	\$2,178,681	\$2,178,681	\$ 2,587,911	\$4,766,593
925.000 Total	\$1,258,311	\$7,854,932	\$9,113,243	(\$809,850)	\$8,303,392
925.160 Total	\$2,396,817	\$843,238	\$3,240,055	\$788,093	\$4,028,148
925.180 Total	\$536,348	\$583,108	\$1,119,457	\$207,442	\$1,326,899
925.300 Total	\$0	\$13,291,364	\$13,291,364	(\$6,144,951)	\$7,146,413
925.310 Total	\$0	\$26,126,078	\$26,126,078	(\$11,287,461)	\$14,838,617
925.850 Total	\$0	\$4,452,459	\$4,452,459	(\$2,468,688)	\$1,983,771
	\$4,191,476	\$53,151,179	\$57,342,655	(\$19,715,415)	\$37,627,240
926.000 Total	\$940,786	\$23,556,063	\$24,496,850	(\$962,447)	\$23,534,402
926.200 Total	\$0	\$8,405,728	\$8,405,728	(\$8,290,962)	\$114,766
926.202 Total	\$0	\$838	\$838	(\$838)	\$0
926.207 Total	\$0	\$252,488	\$252,488	(\$252,488)	\$0
926.239 Total	\$7,557	\$183,107,829	\$183,115,387	(\$183,115,387)	\$0
926.300 Total	\$0	\$43,856,278	\$43,856,278	\$76,764,198	\$120,620,476
	\$948,344	\$259,179,225	\$260,127,568	(\$115,857,924)	\$144,269,644
000 000 T-1-1	PO 244 FOR	£455.550	©2 000 4FC	#0.400.50 <del>7</del>	<b>#F 000 000</b>
928.000 Total	\$2,344,598	\$455,558	\$2,800,156	\$2,469,537	\$5,269,693
928.500 Total	\$0	\$723,441	\$723,441	\$0	\$723,441
	\$2,344,598	\$1,178,999	\$3,523,597	\$2,469,537	\$5,993,134
930.046 Total	\$0	\$1,127	\$1,127	\$3	\$1,131
930.200 Total	\$1,016,652	(\$191,366)	\$825,287	\$11,198,356	\$12,023,642
930.600 Total	\$0	\$36,877	\$36,877	\$207	\$37,084
930.625 Total	\$0	\$7,619	\$7,619	\$42	\$7,661
	\$1,016,652	(\$145,743)	\$870,909	\$11,198,608	\$12,069,517
		_			
931.000 Total	\$0	\$0	\$0	\$1,437,792	\$1,437,792
931.600 Total	\$0	\$20,630,564	\$20,630,564	(\$1,395,305)	\$19,235,259
931.602 Total	\$0	\$3,537,181	\$3,537,181	(\$140,560)	\$3,396,621
	\$0	\$24,167,745	\$24,167,745	(\$98,073)	\$24,069,672
	04::	04 400 OC :	04 400 001		
935.000 Total	\$444	\$1,492,381	\$1,492,824	\$720,178	\$2,213,003
935.600 Total	\$3,988,833	\$11,627,097	\$15,615,930	(\$162,961)	\$15,452,969
935.601 Total	\$0	\$5,097	\$5,097	(\$1,245)	\$3,852
935.605 Total	\$48,013	(\$505)	\$47,508	(\$123,565)	(\$76,057)
935.606 Total	\$795,049	\$739,692	\$1,534,741	\$266,133	\$1,800,874
935.675 Total	\$351,191	\$151,451	\$502,642	(\$7,237)	\$495,405
935.680 Total			\$0	\$0	

### 2020 TCAP A&G LOADER ANALYSIS 2016 RECORDED COSTS

FERC Account	LABOR	NON_LABOR	TOTAL DIRECT	REASSIGNMENTS	TOTAL COSTS
-	\$5,183,530	\$14,015,213	\$19,198,742	\$691,303	\$19,890,045
•					
		\$372,676,162	\$425,627,272	(\$11,407,317)	\$414,219,955

### Weighted Average RECC Calculation

			Gas Plant In Service			Weighted	
	Account		Year End 2016			Average	
	<u>No.</u>	General Plant Accounts	Balance (\$)	Percent	RECC	RECC	Source
4	200	Structures and Improvements	201 400 054	12.020/	0.8000/	1 2000/	FFD0 F 0.1' 440 000
1.	390	Structures and Improvements	201,400,951	13.02%	9.890%	1.288%	FERC Form 2 line no 112, page 209
2.	391	Office Furniture and Equipment	40 400 004	0.0=0/	40.04=0/	0.40404	
3.	391.1	Office Furn & Equip-ME & FF	13,402,291	0.87%	12.017%	0.104%	
4.	391.2	Computer Equip	151,452,258	9.79%	25.565%	2.504%	
	391.25	Computer Hardware AMI	22,466,237	1.45%	25.565%	0.371%	
5.	391.3	Computer Software 2-4years	43,987,597	2.84%	39.076%	1.112%	
	391.35	Computer Software AMI	87,077,685	5.63%	21.294%	1.199%	
6.	391.4	Computer Software 5-8years	279,424,937	18.07%	21.294%	3.848%	
7.	391.5	Computer Software 9-12years	373,608,465	24.16%	14.260%	3.446%	
8.	391.55	Computer Software 15years	78,684,467	5.09%	10.828%	0.551%	
9.	391.6	Computer Software 20years	65,396,512	4.23%	9.179%	0.388%	
10.	392	Transportation Equipment	461,222	0.03%	11.196%	0.003%	FERC Form 2 line no 114, page 209
11.	393	Stores Equipment	99,135	0.01%	11.196%	0.001%	FERC Form 2 line no 115, page 209
12.	394	Tools, Shop, and Garage Equipment	62,019,642	4.01%	10.246%	0.411%	FERC Form 2 line no 116, page 209
13.	395	Laboratory Equipment	4,731,501	0.31%	10.061%	0.031%	FERC Form 2 line no 117, page 209
14.	396	Power Operated Equipment	11,957	0.00%	11.196%	0.000%	FERC Form 2 line no 118, page 209
15.	397	Communication Equipment	158,925,931	10.28%	11.504%	1.182%	FERC Form 2 line no 119, page 209
16.	398	Miscellaneous Equipment	3,144,658	0.20%	11.196%	0.023%	FERC Form 2 line no 120, page 209
17.			1,546,295,446	100.00%		16.462%	

### Reflects 2016 FERC Form 2 data. RECC factors updated.

Gas Plant updated to 2016 FERC Form 2 data RECC factors updated to 2016 values

### **General Plant Loading Factor**

		2020 TCAP	_	Sources
1.	Total General Plant Transmission and Storage adjustment Net Total General Plant after Storage adj.	\$1,548,865,287 <b>8.36%</b> \$1,419,347,300	– ck	FERC Form 2, page 209, line 121
1.	Weighted Average RECC for General Plant	16.46%		RECC tab
2.	Annualized General Plant Costs	\$233,653,851	1 x 2	
3.	Net Recorded O&M Costs	\$519,933,552		O&M Expenses tab
4.	General Plant Loading Factor	44.94%	3/4	
6.	Transmission and Storage adjustment	8.36%		EC study

### Notes:

1/ Total General Plant on Line 1 reflects removal of GP allocated to Transmission and Storage functions in EC study.

Reflects 2016 FERC Form 2 data for total General Plant.

### 2016 FERC Form 2 data M&S Annual Costs By Function

### I. Direct Plant Investment (To Allocate M&S Cost to Functions)

Line #	Function	Plant	Percent		
1 2 3 4 5 6 7	Storage Transmission - Total Distribution - Total Customer Related Load Related General Plant Total	\$1,033,155,000 \$2,297,536,000 \$9,452,969,572 \$4,378,913,107 \$5,074,056,465 \$0 \$12,783,660,572	8.08% 17.97% 73.95% 34.25% 39.69% 0.00%	FERC form 2, p. 207, line 57 FERC form 2, p. 209, line 92 from Allocation of Investment tab from Allocation of Investment tab from Allocation of Investment tab Marjorie says this is ok	
	II. Total M&S To Be Functionalized				
8	Total Material and Supplies	\$64,390,000		2016 FERC Year end M&S value from Selected Financial Data (from Net Plant Investment Page 1 of 2, Line 13)	
	III. Functional Allocation of M&S			<b>(</b>	
9	Storage	\$5,203,897	8.08%		
10	Transmission - Total	\$11,572,455	17.97%		
11	Distribution - Total	\$47,613,648	73.95%		
12	Customer Related	\$22,056,141	34.25%		
13	Load Related	\$25,557,507	39.69%		
14	General Plant	\$0	0.00%		
15	Total	\$64,390,000	100.00%		
16	IV. M&S Annual Cost factor	11.74%		from Annual Cost Factor tab, check with one correct	
	V. M&S Annual Costs				
		2016 \$	_	2020 \$	
17	Storage	\$610,817	8.08%	\$691,410	
18	Transmission - Total	\$1,358,338	17.97%	\$1,537,561	
19	Distribution - Total	\$5,588,737	73.95%	\$6,326,133	
20	Customer Related	\$2,588,879	34.25%	\$2,930,464 @ O&M Esclation 2016 to 2020	
21	Load Related	\$2,999,858	39.69%	\$3,395,669 1.098	\$3,294,278
22	General Plant	\$0	0.00%	<b>\$0</b>	
23	Total	\$7,557,891	100.00%	\$8,555,104	

\*escalated by capital factor: 2016\$ to 2020\$
Updated to FERC Form 2 data for 2016

1.132

Updated to FERC Form 2 data for 2016

# 2020 TCAP Phase M&S Annual Costs By Function Allocation of 2016 Distribution Plant Investment

### **Customer Related**

		\$	<u>Percent</u>
1.	380 Services	2,497,395,348	
2.	381 Meters	904,926,980	
3.	382 Meter Installations	538,686,489	
4.	383 House Regulators	163,265,420	
5.	386 Other Property on Customer Premise	0	
6.	Sub-Total	4,104,274,237	46.32%
	388 ARO - Customer Related	274,638,870	
	Customer Related Total	4,378,913,107	

### **Load Related**

		\$	Percent
7.	374 Land & Land Rights	31,861,675	
8.	375 Structures & Improvements	270,254,331	
9.	376 Mains	4,302,731,517	
10.	378 Measurement & Reg Stations	106,270,290	
11.	387 Other Equipment	44,701,431	
12.	Sub-Total	4,755,819,244	53.68%
	388 ARO - Load Related	318,237,221	
	Load Related Total	5,074,056,465	

### 13. **Total Distribution Plant** 9,452,969,572 100.000%

FERC Form 2, p. 208-9

9,452,970,000 p. 209, line 109

(428) <== Difference from Rounding

# 2020 TCAP M&S Annual Costs By Function Development of Material & Supplies Annual Cost Factor

		Capital <u>Structure</u>	<u>Cost</u>	Weighted <u>Cost</u>	Tax <u>Factor</u>	Pre-Tax <u>Wt. Cost</u>
	Long Term Debt	45.60%	5.77%	2.63%	1.00000	2.63%
2.	Preferred Stock	2.40%	6.00%	0.14%	1.68765	0.24%
3.	Common Equity	52.00%	10.10%	5.25%	1.68765	8.86%
4.	· ·			8.027%		11.74%

### sources:

Cost of Capital Decision, AL 4442 Cost of Capital from Economic Assumptions model.

# **SOUTHERN CALIFORNIA**

## 2013 Economic Assumptions Update LEVELIZED ANNUAL CAP

utility socal

Auth ROR ===> 8.03%

Fed Tax Rate ====>

35.00%

FERC Account	Account Name
-----------------	--------------

	Fed	State		Normlzd	Normlzd	Depreciation Method				
Book	Tax	Tax	Percent	Federal	State	Federal Tax	State Tay			
Life	Life	Life	Salvage	Taxes?	Taxes?	reueral rax	State Tax			

### GAS GENERAL PLANT

G-391.5	Software Programs - 10yr ASL
G-391.55	Software Programs - 15yr ASL
G-391.6	Software Programs - 20yr ASL
G-391.3	Software Programs - 3yr ASL
G-391.4	Software Programs - 6yr ASL

10	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%
15	3	3	0%	TRUE	<b>FALSE</b>	sl	0%	db/sl	0%
20	3	3	0%	TRUE	<b>FALSE</b>	sl	0%	db/sl	0%
3	3	3	0%	TRUE	<b>FALSE</b>	sl	0%	db/sl	0%
6	3	3	0%	TRUE	<b>FALSE</b>	sl	0%	db/sl	0%

# GAS

### **ITAL COST AND RECC FACTORS**

State Tax Rate ===> 8.84% d Valorum Rate ===>

1.236%

	LACC Com	ponents (	(in percent			Sum of		
Book	Return on		Property	Total	RECC Factors	PVCC Factors	Rev Req	
Depr	Capital	Taxes	Taxes	LACC				
10.00	3.50	1.35	0.66	15.50	14.26	103.91	150.10	
6.67	3.54	1.31	0.72	12.23	10.83	104.55	172.40	
5.00	3.64	1.32	0.77	10.72	9.18	105.05	194.69	
33.33	4.15	1.94	0.45	39.87	39.08	102.71	118.89	
16.67	3.61	1.49	0.58	22.36	21.29	103.27	132.27	

### **SOUTHERN CALIFORNIA GAS**

### 2016 Economic Assumptions Update LEVELIZED ANNUAL CAPITAL COST AND RECC FACTORS

	utility socal			? ===>	8.03%	ора			====>	35.00%	6 6		Rate ===>		Valorum	Rate ===:	•	1.236%	
			Fed	State		Normlad	Normlzd		Depreciat	ion Metho	od	LACC Components (in percent)						51100	
FERC Account	Account Name	Book Life	Tax Life	Tax Life	Percent Salvage	Federal Taxes ?	State Taxes ?	Federal Tax		State Tax		Book Depr		Income Taxes	Property Taxes	Total LACC	RECC Factors	PVCC Factors	Sum of Rev Req
GAS UN	IDERGROUND STORAGE	9	10	11	12	13	14		15		16	19	20	21	22	23	25	26	27
G-352	Wells	49	15	22	-70%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.47	4.22	1.80	0.74	10.22	7.83	124.47	220.59
G-353	Lines	54	15	22	-40%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.59	4.71	1.99	0.87	10.17	7.72	124.71	288.57
G-354 G-356	Compressor Station Equipment Purification Equipment	41 39	15 15	22 22	-15% -30%	TRUE TRUE	FALSE FALSE	db/sl db/sl	150% 150%	db/sl db/sl	200% 200%	2.80 3.33	4.75 4.49	2.02 1.90	0.87 0.80	10.44 10.52	8.16 8.27	124.61 124.59	290.37 262.18
		39	15	22	-30%	TRUE	FALSE	UD/SI	150%	UD/SI	200%	3.33	4.49	1.90	0.60	10.52	0.27	124.59	202.10
GAS TF	RANSMISSION PLANT																		
	Land	0	0	0	0%	FALSE	FALSE	none	0%	none	0%	0.00	8.03	3.75	1.29	13.06	n/a	162.69	1342.09
G-366	Structures & Improvements	47	39	45	-40%	TRUE	FALSE	sl	0%	db/sl	0%	2.98	5.38	2.53	0.82	11.70	9.01	141.94	319.79
G-367	Mains	64	15	22	-60%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.50	4.71	2.00	0.87	10.08	7.55	124.68	265.55
G-368	Compressor Station Equipment	50	15	22	-15%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.30	4.93	2.08	0.92	10.23	7.83	124.81	324.48
G-369	Measuring & Regulating Equipment	46	15	22	-50%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.26	4.39	1.86	0.78	10.29	7.94	124.57	250.31
G-371	Other Equipment	21	15	22	-10%	TRUE	FALSE	db/sl	150%	db/sl	200%	5.24	4.48	1.96	0.73	12.40	10.55	123.98	217.44
GAS DI	STRIBUTION PLANT																		
G-374.1	Land	0	0	0	0%	FALSE	FALSE	none	0%	db/sl	0%	0.00	8.03	3.75	1.29	13.06	n/a	162.69	1342.09
G-374.2	Land Rights	40	40	40	0%	FALSE	FALSE	sl	0%	db/sl	0%	2.50	5.81	2.71	0.92	11.94	9.35	141.94	359.86
G-375	Structures & Improvements	40	39	45	-10%	TRUE	FALSE	sl	0%	db/sl	0%	2.75	5.65	2.66	0.88	11.93	9.35	141.88	343.62
G-376	Mains	68	20	35	-80%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.65	4.82	2.16	0.84	10.46	7.81	129.67	228.89
G-378	Measuring & Regulating Equipment	47	20	35	-95%	TRUE	FALSE	db/sl	150%	db/sl	200%	4.15	4.05	1.84	0.64	10.68	8.22	129.47	184.20
G-380	Services	67	20	35	-115%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.21	4.45	2.03	0.75	10.44	7.80	129.33	136.21
G-381	Meters	25	20	35	5%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.80	5.05	2.39	0.84	12.07	10.05	128.58	254.29
G-382	Meter & Regulator Installations	30	20	35	-10%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.67	4.84	2.20	0.81	11.52	9.36	129.36	263.10
G-383	House Regulators	33	20	35	5%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.88	5.14	2.35	0.89	11.26	9.04	129.30	291.74
G-387	Other Equipment	21	20	35	5%	TRUE	FALSE	db/sl	150%	db/sl	200%	4.52	5.04	2.43	0.81	12.81	10.90	128.02	235.56
GAS GE	ENERAL PLANT																		
G-390	Structures & Improvements	33	39	45	-15%	TRUE	FALSE	sl	0%	db/sl	0%	3.48	5.44	2.58	0.81	12.32	9.89	141.51	307.79
G-391.1	Office Furniture & Equipment	14	7	10	0%	TRUE	FALSE	db/sl	200%	db/sl	200%	7.14	3.93	1.69	0.71	13.48	12.02	110.96	174.60
G-391.2	Computer Equipment	5	5	6	0%	TRUE	FALSE	db/sl	200%	db/sl	200%	20.00	4.12	1.92	0.55	26.59	25.56	106.11	130.85
G-393	Stores Equipment	20	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	5.00	4.95	2.36	0.77	13.08	11.20	128.14	228.15
	Shop & Garage Equipment	29	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.45	5.00	2.31	0.84	11.60	9.47	129.10	268.37
	Large Portable Tools	24	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	4.17	4.95	2.32	0.80	12.25	10.25	128.65	246.08
G-395	Laboratory Equipment	25	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	4.00	4.96	2.32	0.81	12.09	10.06	128.76	250.54
G-397	Communications Equipment	15	7	10	0%	TRUE	FALSE	db/sl	200%	db/sl	200%	6.67	3.93	1.68	0.72	13.00	11.50	111.07	179.06
G-398	Miscellaneous Equipment	20	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	5.00	4.95	2.36	0.77	13.08	11.20	128.14	228.15
	Software Programs - 10yr ASL	10	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	10.00	3.50	1.35	0.66	15.50	14.26	103.91	150.10
	Software Programs - 15yr ASL	15	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	6.67	3.54	1.31	0.72	12.23	10.83	104.55	172.40
	Software Programs - 20yr ASL	20	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	5.00	3.64	1.32	0.77	10.72	9.18	105.05	194.69
	Software Programs - 3yr ASL	3	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	33.33	4.15	1.94	0.45	39.87	39.08	102.71	118.89
G-391.4	Software Programs - 6yr ASL	6	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	16.67	3.61	1.49	0.58	22.36	21.29	103.27	132.27

Capital and O&M Escalators				
2016 \$s	to	2020 \$s	2016-20Factor: Capital	1.1319
2016 \$s	to	2020 \$s	2016-20Factor: O&M	1.0981

factor used to escalate most capital forecasts (e.g., dist capital) factor used to escalate M&S\$ factor used to escalate transmission and storage capital costs

factor used to escalate 2016 FERC Form 2 data to 2020 \$

 Labor
 Nonlabor

 Split Factors
 52016
 37.64%
 62.36%

\$millions

 Z016

 Total Salaries & Wages
 873

 Total Gas O&M Exp.
 2,321

Source: December 31, 2016 FERC Form 2, page 355, line 77 Source: December 31, 2016 FERC Form 2, page 325, line 271

#### Cost Escalators, for use in SoCalGas 2020 TCAP Phase II calculations

	Non-L O&M	Labor O&M	Gas Plant
	JGTOTALMS	***************************************	JUG@PCF
1997	0.583294	0.622560	0.467787
1998	0.608384	0.633587	0.473651
1999	0.623914	0.647497	0.484726
2000	0.644425	0.670582	0.502317
2001	0.667910	0.689282	0.509158
2002	0.678578	0.702828	0.519582
2003	0.701520	0.724723	0.536848
2004	0.725382	0.751872	0.618287
2005	0.756146	0.785725	0.725461
2006	0.776114	0.815756	0.755105
2007	0.789284	0.844149	0.740771
2008	0.816758	0.887285	0.834329
2009	0.834970	0.884009	0.825208
2010	0.850774	0.906942	0.860650
2011	0.872980	0.940249	0.942089
2012	0.895180	0.960998	1.016753
2013	0.914157	0.975873	1.010824
2014	0.930726	0.991231	1.021900
2015	0.963439	0.993681	1.007566
2016	1.000000	1.000000	1.000000
2017	1.021295	1.021733	1.036223
2018	1.048227	1.039870	1.069683
2019	1.083641	1.061168	1.101474
2020	1.118063	1.086124	1.131943
2021	1.151351	1.110289	1.158755
2022	1.183887	1.135004	1.187752
2023	1.217224	1.159611	1.219156
2024	1.251346	1.183956	1.252200
2025	1.287002	1.208204	1.287796
2026	1.323897	1.232567	1.324667
2027	1.361363	1.257464	1.359463

### Values from EC study

Transmissio	on and Storage		
EC study allo	ocation of A&G and 0	Gen Plant to trans	smission and storage function
7.00	Transmission	Storage	Total
	18.7	18.8	448.5
	4.18%	4.18%	% A&G allocated to Tran/Storage
Gen Plant			
	Transmission	<u>Storage</u>	<u>Total</u>
	0.896	0.897	21.449 Gen Plant Return
	5.503	5.510	131.697 Gen Plant Depreciation
	0.393	0.393	9.400 Gen Plant Taxes
	6.792	6.800	162.546
	4.18%	4.18%	% Gen Plant allocated to Tran/Storage

F	Real Economic Carry Charge (RECC) Fa	ectors
FERC	Account	RECC
Account	Name	Factors
G-376	Mains	7.8%
G-378	Measuring & Regulating Equipment	8.2%
G-380	Services	7.8%
G-381	Meters	10.0%
G-382	Meter Installations	9.4%
G-383	House Regulators	9.0%

### **A&G Loading Factor**

Total Marginal A&G Costs \$000's	\$176,788
+ Total Payroll Taxes \$000	\$50,092
= Marginal A&G and Payroll Taxes \$000	\$226,880
/ Net O&M Costs \$000	\$519,934
= Marginal A&G Loading Factor as a % of O&M	43.64%

### **General Plant Loading Factor**

= General Plant Loading Factor as a % of O&M	44.94%
/ Net Recorded O&M Costs \$000	\$519,934
Total General Plant \$000  * Weighted Average RECC for General Plant = Annualized General Plant Costs	\$1,419,347 <u>16.46%</u> \$233,654

### **M&S Annual Costs**

Function	
Customer Related \$000	\$2,930
Load Related \$000	\$3,294
Total	\$6,225

Base Year	2016	
Test Year	2020	

# SoCalGas 2020 TCAP

	Se	ection 4	4	
Cost	Allo	ocation	ı M	odel

**Workpapers to the Prepared Written Testimony of Marjorie Schmidt-Pines** 

			Residential
1	Customer Costs Rental Method		
2	Per Unit LRMC, \$/Cust/Year		\$294.03
3	Number of Customers  Customer Costs Rental Method \$000	\$2,068,033	5,714,531 \$1,680,240
5	Customer Costs Rental Method \$000	\$2,068,033	\$1,000,240
6	Medium Pressure Distribution costs		
7	Medium Pressure Distribution costs (MPD)		
8	Per Unit LRMC, \$/mcfd		\$198.08
9	MPD Peak Day Demand (mmcfd)		2,327
10	Medium Pressure Distribution Costs \$000	\$595,705	\$461,001
11			
12	High Pressure Distribution costs		
13	High Pressure Distribution costs (HPD)		
14 15	Per Unit LRMC, \$/mcf HPD Peak Month Demand (mmcf)		\$4.04 37,987
16	High Presure Distribution Costs \$000	\$250,856	\$153,339
17	Tilgit i resure Distribution Costs 4000	Ψ230,030	φ100,009
18	Unscaled LRMC Based Costs \$000	\$2,914,594	\$2,294,580
19	Scalar Allocator	100.0%	78.7%
20	Calculation of Scalar:		
	Authorized Revenue Requirement in Rates Base Margin \$000	\$2,213,066	
	Adjustment to Storage for Honor Rancho \$000	\$0	
	Adjustment to Storage for Aliso Canyon\$000	\$33,426	
21	Target Base Margin \$000	\$2,246,492	
22	Less items not allocated per LRMC method:		
23	Transmission Cost per EC \$000	\$248,543	
24	Storage Costs per EC \$000	\$164,411	
25	Uncollectibles	\$6,695	
26	NGV Compression Adder Costs per EC \$000	\$2,964	
27 28	Target Scaled Costs \$000 Unscaled LRMC Based Costs \$000	\$1,823,879 \$2,014,504	
29	amount to scale \$000	\$2,914,594 (\$1,090,715)	
30	Scalar (as a % of unscaled)	63%	63%
31	Social (as a 70 of anocalou)		0070
32	Scaled Customer Costs \$000 LRMC/Rental Method		\$1,051,452
33	Scaled Medium Pressure Distribution Costs \$000 LRMC		\$288,483
34	Scaled High Presure Distribution Costs \$000 LRMC		\$95,956
35	Scaled LRMC Based Costs \$000	\$1,823,879	\$1,435,890
36			79%
37	NGV Compression Costs:	****	
38	Compression Adder Costs \$000	\$2,964	
39	l legallastiklas		
40 41	Uncollectibles: Target Base Margin \$000	\$2,246,492.326	
42	System Average Uncollectible Rate	0.29800%	
43	Uncollectibles	\$6,695	
44	Choliotipio	<del></del>	
45	Allocation of Uncollectibles:		
46	All Costs excl. NGV Adder, EOR, Int, WS, and UBS	\$2,161,450	\$1,595,017
47	% All Costs excl. NGV Adder, EOR, Int, WS, and UBS		73.8%
48	Uncollectibles	\$6,695	\$4,940
49			
50			
51			
52	Transmisison Costs per Embedded Cost Method:		
53	Embedded Transmission Costs \$000	\$244,299	
54 55	FF&U	101.7370%	
55 56	Embedded Transmission Costs w/ FF&U \$000 Calculate BBT/Local-T Transmission Split:	\$248,543	
56 57	Calculate BB1/Local-1 Transmission Split. BBT \$	\$176,587	
07	ψ 1 0 0	ψ110,501	

					Residential	
	58		LT\$	\$71,956		
STYP Note						
Set				9,691,163		
				¢476 E07		
		BB1 Costs per EC method		\$170,567	\$47,092	
68 CYPM Mh         1,063,341         382,966           7 Very Member         2,059,868         2,058,868           12 Costs per EC method         \$34,848         373,888           70 Transmission Costs per EC Method (this includes HR RRO)         \$10,008         \$73,888           70 Transmission Costs per EC Method (this includes HR RRO)         \$10,008         \$10,008           70 Honor Ranch Revenue Requirement (HRSMA)         \$33,468         \$10,411           70 Core Storage         \$33,469         \$164,411         \$17,79           10 Card Balancing         \$70,614         \$17,79         \$10,008         \$164,411         \$10,008         \$10,008         \$10,009         \$10,0		Allocation of LT Costs:				
				1,063,341	392,906	
Storage Costs per EC Method (this includes HR RRQ)						
Storage Costs per EC Method (this includes HR RRQ)		Total Transmission Costs per EC method		\$248,543	\$73,680	
Embedded Storage Costs \$000   \$130,985   \$104,411   \$100		Storage Costs nor EC Method (this includes HD DDO)				
Nonor Rancho Revenue Requirement (HRSMA)   \$33,426   \$164,411   \$160   \$164,411   \$160   \$164,411   \$160   \$164,411   \$160   \$164,411   \$160   \$164,411   \$160   \$164,411   \$160   \$164,411   \$160   \$164,411   \$160   \$164,411   \$160   \$167,228   \$164,411   \$160   \$167,228   \$167,228   \$167,228   \$160   \$160   \$167,228   \$160   \$160   \$160   \$167,228   \$160				\$130 085		
Also Caryon Revenue Requirement   \$33,26   \$164,411   \$164,617   \$164,617   \$164,617   \$164,617   \$164,617   \$164,617   \$167,018   \$164,617   \$167,018   \$164,617   \$167,018   \$164,617   \$167,018   \$164,617   \$167,018   \$164,617   \$167,018   \$164,617   \$167,018   \$164,617   \$167,018   \$164,617   \$167,018   \$164,617   \$167,018   \$164,617   \$167,018   \$164,617   \$167,018   \$164,617   \$167,018   \$164,617   \$167,018   \$164,617   \$167,018   \$164,617   \$167,018   \$164,617   \$167,018   \$164,617   \$167,018						
Standard						
77         Core Storage         \$33,797         \$67,728           79         Load Balancing         \$70,614         \$17,719           70         Total Storage Costs \$000         \$0         \$0           82         Total Storage Costs \$000         \$85,446           84         Forestale         \$164,411         \$85,446           86         ALLOCATED BASE MARGIN (net of misc revenue & broker fee)         \$2,246,492         \$1,599,957           87         Percentage         \$0.00%         71,2%           88         Average Year Throughput Mth         \$9,309,606         2,346,333           89         average rate \$\text{therm}         \$0,240         \$0,682           90         Model Results RD Format for RD Models         \$2,284,833           91         High Pressure Distribution Costs         \$2,884,833           96         High Pressure Distribution Costs         \$28,843           96         Backone Transmission Costs         \$47,092           98         Local Transmission Costs         \$67,728           98         Storage - Ceasonal         \$67,728           90         Storage - Ceasonal         \$0           101         Younger- Ceasonal         \$0           102         High Pre						
Core Storage   \$33,797   \$67,728   \$70,614   \$17,719   \$10,000   \$10,000   \$30   \$						
Load Balancing						
Included Storage   \$0   \$0   \$0   \$0   \$0   \$0   \$0   \$						
		Total Storage Costs \$000		\$104,411	<b>403,440</b>	
87         Percentage         100.0%         71.2%           88         Average Year Throughput Mth         9,350,960         2,346,353           90         \$0.240         \$0.682           91         \$0.240         \$0.682           91         \$0.240         \$0.682           92         \$0.240         \$0.682           93         Model Results RD Format for RD Models         \$1,051,452           Customer Related Costs         \$288,483           94         \$288,483           96         High Pressure Distribution Costs         \$288,483           96         Backbone Transmission Costs         \$36,588           97         Backbone Transmission Costs         \$47,092           98         Storage - Seasonal         \$67,728           99         Storage - Load Balancing         \$17,719           101         Storage - TBS         \$0           102         Uncollectibles         \$0           103         NG Compression Costs:         \$0           104         Total Margin Allocation pre-SI & Unbundle FAR         \$2,246,492         \$1,599,957           71.2%         \$0         \$0         \$0           107         You Compression Costs:         \$11						
88 Average Year Throughput Mth         9,350,960         2,346,353           89 average rate \$itherm         \$0.240         \$0.682           91 average rate \$itherm         \$0.240         \$0.682           91 separate \$itherm         \$0.240         \$0.682           91 separate \$itherm         \$0.240         \$0.682           91 separate \$itherm         \$0.240         \$0.682           92 separate \$itherm         \$1,051,452           94 contained Results RD Format for RD Models         \$1,051,452           95 contained Results RD Format for RD Models         \$1,051,452           96 Medium Pressure Distribution Costs         \$288,483           96 High Pressure Distribution Costs         \$35,956           97 Backbone Transmission Costs         \$47,092           8 Local Transmission Costs         \$67,728           90 Storage - Seasonal         \$0.524,728           101 Storage - Load Balancing         \$0.90           102 Uncollectibles         \$3,90           103 Uncollectibles         \$2,246,492         \$1,599,597           \$6,728         \$4,940         \$1,599,597           \$7 total Margin Allocation pre-SI & Unbundle FAR         \$2,246,492         \$1,599,597           \$6,712         \$6,712         \$1,599,597           \$	86	ALLOCATED BASE MARGIN (net of misc revenue & broke	r fee)	\$2,246,492	\$1,599,957	
89         average rate \$/them         \$0.240         \$0.682           90         Wodel Results RD Format for RD Models         \$1.051,452           95         Model In Results RD Format for RD Models         \$1.051,452           95         Medium Preasure Distribution Costs         \$288,483           96         High Pressure Distribution Costs         \$47,092           97         Backbone Transmission Costs         \$47,092           98         Local Transmission Costs         \$47,092           98         Storage - Seasonal         \$26,588           100         Storage - Easonal         \$30           101         Storage - TBS         \$4,940           102         Uncollectibles         \$4,940           103         NGV Compression Costs:         \$30           104         Total Margin Allocation pre-SI & Unbundle FAR         \$2,246,492         \$1,599,957           105         Allocation         \$4,940         \$4,940           107         Allocation pre-SI & Unbundle FAR         \$2,246,492         \$1,599,957           108         Allocation pre-SI & Unbundle FAR         \$2,246,492         \$1,599,957           109         Average Year Throughput (MTh)         117           101         Cold Year Peak Month (	87	Percentage		100.0%	71.2%	
91         Model Results RD Format for RD Models           94         Customer Related Costs         \$1,051,452           95         Medium Pressure Distribution Costs         \$288,483           96         High Pressure Distribution Costs         \$288,483           97         Backbone Transmission Costs         \$47,092           98         Local Transmission Costs         \$47,092           98         Local Storage - Sasonal         \$26,588           100         Storage - Load Balancing         \$17,719           101         Storage - TBS         \$0           102         Uncollectibles         \$0           103         NGV Compression Costs:         \$0           104         Total Margin Allocation pre-Si & Unbundle FAR         \$1,599,957           4         Allocation         \$2,246,992         \$1,599,957           108         **10         **10         **10         **10         **10         **10         **10         **10         **10         **10         **10         **10 <th colspa<="" td=""><td></td><td>average rate \$/therm</td><td></td><td>\$0.240</td><td>\$0.682</td></th>	<td></td> <td>average rate \$/therm</td> <td></td> <td>\$0.240</td> <td>\$0.682</td>		average rate \$/therm		\$0.240	\$0.682
92         Model Results RD Format for RD Models           94         Customer Related Costs         \$1,051,452           95         Medium Pressure Distribution Costs         \$288,483           96         High Pressure Distribution Costs         \$95,956           97         Backbone Transmission Costs         \$26,588           98         Local Transmission Costs         \$26,588           99         Storage - Seasonal         \$67,728           102         Storage - Load Balancing         \$17,719           103         NGV Compression Costs:         \$0           104         Total Margin Allocation pre-Sl & Unbundle FAR         \$2,246,492         \$1,599,957           105         Allocation         \$2,246,492         \$1,599,957           106         Transmission         71.2%           107         Allocation         \$2,246,492         \$1,599,957           108         Transmission         \$117           109         Average Year Throughput (MTh)         117           111         Cold Year Peak Month (December) (MTh)         129           112         Cold Year Peak Month (December) (MTh)         25           115         Peak Day (-i-i-35 Core; -i-in-10 Noncore) (MTh)         1           114						
93         Model Results RD Format for RD Models         \$1,051,452           94         Customer Related Costs         \$2,888,483           96         High Pressure Distribution Costs         \$95,956           97         Backbone Transmission Costs         \$47,092           98         Local Transmission Costs         \$26,588           99         Storage - Load Balancing         \$17,719           101         Storage - Load Balancing         \$0           102         Uncollectibles         \$0           103         NGV Compression Costs:         \$0           104         Total Margin Allocation pre-SI & Unbundle FAR         \$2,246,492         \$1,599,957           105         Allocation         \$2,246,492         \$1,599,957           106         Transmission         \$2,246,492         \$1,599,957           107         Allocation         \$2,246,492         \$1,599,957           108         Transmission         \$2,246,492         \$1,599,957           109         Allocation         \$2,246,492         \$1,599,957           107         Allocation         \$2,246,492         \$1,599,957           108         Transmission         \$1         \$1,25           108         Average Year Throughput						
94         Customer Related Costs         \$1,051,452           95         Medium Pressure Distribution Costs         \$288,483           96         High Pressure Distribution Costs         \$95,956           97         Backbone Transmission Costs         \$47,092           98         Local Transmission Costs         \$26,588           99         Storage - Seasonal         \$67,728           100         Storage - Load Balancing         \$17,719           101         Storage - TBS         \$0           102         Uncollectibles         \$4,940           NGV Compression Costs:         \$0           104         Total Margin Allocation pre-SI & Unbundle FAR         \$2,246,492         \$1,599,957           105         *Allocation         *1,274         *1           107         *Allocation         *1,274         *1           108         *Cold Year Throughput (MTh)         117           109         *Average Year Throughput (MTh)         129           110         *Cold Year Peak Month (December) (MTh)         20           120         *Peak Day (1-in-35 (Core; 1-in-10 Noncore) (MTh)         1           111         **Light Pressure         *25           **High Pressure         **Average Year Throughput (M		Model Pecults PD Format for PD Models				
95         Medium Pressure Distribution Costs         \$288,483           96         High Pressure Distribution Costs         \$95,956           97         Backbone Transmission Costs         \$47,092           98         Local Transmission Costs         \$26,588           99         Storage - Seasonal         \$67,728           100         Storage - Load Balancing         \$17,719           101         Storage - TBS         \$0           102         Uncollectibles         \$4,940           103         NGV Compression Costs:         \$0           104         Total Margin Allocation pre-SI & Unbundle FAR         \$2,246,492         \$1,599,957           107         \$Allocation         \$1,599,957         71.2%           108         *Allocation         *1,599,957         71.2%           109         *Allocation         \$2,246,492         \$1,599,957           100         *Allocation         *1,599,957         *1,2%           100         *Cold Margin Allocation pre-SI & Unbundle FAR         *2,246,492         *1,599,957           107         *Allocation         *1,599,957         *1,2%           108         *Allocation         *1,272,404         *1,272,404         *1,272,404           101 <td></td> <td></td> <td></td> <td></td> <td>\$1.051.452</td>					\$1.051.452	
97         Backbone Transmission Costs         \$47,092           98         Local Transmission Costs         \$26,588           99         Storage - Seasonal         \$67,728           100         Storage - Load Balancing         \$17,719           101         Storage - TBS         \$0           102         Uncollectibles         \$4,940           30         NGV Compression Costs:         \$0           104         Total Margin Allocation pre-SI & Unbundle FAR         \$2,246,492         \$1,599,957           105         *Allocation         *1,29%           107         *Allocation         *1,12%           108         *2,246,492         \$1,599,957           *108         *2,246,492         \$1,599,957           *0         *0         *1,29%           107         *4,400         *1,29%           108         *2,246,492         \$1,599,957           *108         *2,246,492         \$1,599,957           *109         *4,400         *4,400           109         *4,400         *4,400           109         *4,400         *4,400           109         *4,400         *4,400           109         *4,400         *4,400	95					
98         Local Transmission Costs         \$26,588           99         Storage - Seasonal         \$57,728           100         Storage - TBS         \$0           102         Uncollectibles         \$4,940           103         NGV Compression Costs:         \$2,246,492         \$1,599,957           104         Total Margin Allocation pre-SI & Unbundle FAR         \$2,246,492         \$1,599,957           105         *Allocation         *71.2%           107         Total Margin Allocation pre-SI & Unbundle FAR         *71.2%           108         *Allocation         \$2,246,492         \$1,599,957           108         **Cold Year Throughput (MTh)         117           109         **Cold Year Press (MTh)         117           111         **Cold Year Phroughput (I-in-35) (MTh)         129           112         **Cold Year Phroughput (I-in-35) (MTh)         129           113         **Peak Day (1-in-35 Core; 1-in-10 Noncre) (MTh)         1           114         **Number of Customers         25           115         **High Pressure           116         **Average Year Throughput (MTh)         9,291           117         **Cold Year Throughput (I-in-35) (MTh)         9,291           118 <td< td=""><td>96</td><td>High Pressure Distribution Costs</td><td></td><td></td><td>\$95,956</td></td<>	96	High Pressure Distribution Costs			\$95,956	
99         Storage - Seasonal         \$67,728           100         Storage - Load Balancing         \$17,719           101         Storage - TBS         \$0           102         Uncollectibles         \$4,940           103         NGV Compression Costs:         \$0           104         Total Margin Allocation pre-Sl & Unbundle FAR         \$2,246,492         \$1,599,957           105         *Allocation         71.2%           107         *Allocation         **Transmission         ***           118         Average Year Throughput (MTh)         117           111         Cold Year Peak Moy (1-in-35) (MTh)         129           112         Peak Day (1-in-35 core; 1-in-10 Noncore) (MTh)         1           114         Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)         1           114         Number of Customers         25           115         High Pressure         **           116         Average Year Throughput (MTh)         9,291           117         Cold Year Throughput (1-in-35) (MTh)         9,291           118         Cold Year Throughput (1-in-35) (MTh)         10,233	97	Backbone Transmission Costs			\$47,092	
100         Storage - Load Balancing         \$17,719           101         Storage - TBS         \$0           102         Uncollectibles         \$4,940           103         NSV Compression Costs:         \$0           104         Total Margin Allocation pre-SI & Unbundle FAR         \$2,246,492         \$1,599,957           105         % Allocation         71.2%           107         ***         ***           108         ***         ***           109         ***         ***           101         Average Year Throughput (MTh)         117           111         Cold Year Peak Month (December) (MTh)         129           112         Cold Year Peak Month (December) (MTh)         20           113         Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)         1           114         Number of Customers         25           115         High Pressure         ***           116         Average Year Throughput (MTh)         9,291           117         Cold Year Throughput (1-in-35) (MTh)         10,233						
101         Storage - TBS         \$0           102         Uncollectibles         \$4,940           103         NGV Compression Costs:         \$0           104         Total Margin Allocation pre-SI & Unbundle FAR         \$2,246,492         \$1,599,957           105         *Allocation         71.2%           107         **Instruction         **Instruction         **Instruction           108         **Instruction         **Instruction         **Instruction           109         **Instruction         **Instruction         **Instruction           109         Average Year Throughput (MTh)         117           111         Cold Year Peak Month (December) (MTh)         129           112         Cold Year Peak Month (December) (MTh)         20           113         Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)         1           114         Number of Customers         25           115         Average Year Throughput (MTh)         9,291           116         Average Year Throughput (1-in-35) (MTh)         10,233		· ·				
102   Uncollectibles   \$4,940     103   NGV Compression Costs:   \$0   Total Margin Allocation pre-SI & Unbundle FAR   \$2,246,492   \$1,599,957     4 Allocation   Average Year Throughput (MTh)   117     104   Cold Year Throughput (1-in-35) (MTh)   129     105   Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)   1     114   Number of Customers   25     115   High Pressure   10,233     116   Average Year Throughput (MTh)   9,291     117   Cold Year Throughput (MTh)   9,291     118   Average Year Throughput (MTh)   9,291     119   Cold Year Throughput (MTh)   9,291     110   Cold Year Throughput (MTh)   9,291     115   Cold Year Throughput (MTh)   9,291     116   Cold Year Throughput (1-in-35) (MTh)   10,233     108   Cold Year Throughput (1-in-35) (MTh)   10,233     109   Cold Year Throughput (1-in-35) (MTh)   10,233     109   Cold Year Throughput (1-in-35) (MTh)   10,233     109   Cold Year Throughput (1-in-35) (MTh)   10,233     100   Cold Year Throughput (1-in-35) (MTh						
103         NGV Compression Costs:         \$0           104         Total Margin Allocation pre-SI & Unbundle FAR         \$2,246,492         \$1,599,957           % Allocation         71.2%           107         **Allocation         ************************************						
Total Margin Allocation pre-SI & Unbundle FAR % Allocation         \$2,246,492         \$1,599,957 71.2%           106         71.2%         71.2%           107         108         71.2%           109         Transmission         117           110         Average Year Throughput (MTh)         117           111         Cold Year Throughput (1-in-35) (MTh)         129           12         Cold Year Peak Month (December) (MTh)         20           13         Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)         1           14         Number of Customers         25           115         High Pressure           116         Average Year Throughput (MTh)         9,291           117         Cold Year Throughput (1-in-35) (MTh)         10,233						
71.2%           % Allocation         71.2%           108         Transmission           109         Transmission           110         Average Year Throughput (MTh)         117           111         Cold Year Proughput (1-in-35) (MTh)         129           112         Cold Year Proughput (1-in-35) (MTh)         129           113         Peak Day (1-in-35 Cer; -in-10 Noncore) (MTh)         1           114         Number of Customers         25           115         High Pressure           116         Average Year Throughput (MTh)         9,291           117         Cold Year Throughput (1-in-35) (MTh)         10,233				\$2,246,492		
107         108         109       Transmission         110       Average Year Throughput (MTh)       117         111       Cold Year Phak Month (December) (MTh)       129         112       Cold Year Peak Month (December) (MTh)       1         113       Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)       1         114       Number of Customers       25         115       High Pressure         116       Average Year Throughput (MTh)       9,291         117       Cold Year Throughput (1-in-35) (MTh)       10,233				<del>,,</del>		
108         109       Transmission         110       Average Year Throughput (MTh)       117         111       Cold Year Throughput (1-in-35) (MTh)       129         112       Cold Year Peak Month (December) (MTh)       20         113       Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)       1         114       Number of Customers       25         115       High Pressure         116       Average Year Throughput (MTh)       9,291         117       Cold Year Throughput (1-in-35) (MTh)       10,233	106					
108         109       Transmission         110       Average Year Throughput (MTh)       117         111       Cold Year Throughput (1-in-35) (MTh)       129         112       Cold Year Peak Month (December) (MTh)       20         113       Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)       1         114       Number of Customers       25         115       High Pressure         116       Average Year Throughput (MTh)       9,291         117       Cold Year Throughput (1-in-35) (MTh)       10,233						
109     Transmission       110     Average Year Throughput (MTh)     117       111     Cold Year Throughput (1-in-35) (MTh)     129       112     Cold Year Peak Month (December) (MTh)     20       113     Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)     1       114     Number of Customers     25       115     High Pressure       116     Average Year Throughput (MTh)     9,291       117     Cold Year Throughput (1-in-35) (MTh)     10,233	107					
110     Average Year Throughput (MTh)     117       111     Cold Year Throughput (1-in-35) (MTh)     129       122     Cold Year Peak Month (December) (MTh)     20       113     Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)     1       114     Number of Customers     25       115     High Pressure       116     Average Year Throughput (MTh)     9,291       117     Cold Year Throughput (1-in-35) (MTh)     10,233						
111       Cold Year Throughput (1-in-35) (MTh)       129         112       Cold Year Peak Month (December) (MTh)       20         113       Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)       1         114       Number of Custommers       25         115       High Pressure         116       Average Year Throughput (MTh)       9,291         117       Cold Year Throughput (1-in-35) (MTh)       10,233					447	
112     Cold Year Peak Month (December) (MTh)     20       113     Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)     1       114     Number of Customers     25       115     High Pressure       116     Average Year Throughput (MTh)     9,291       117     Cold Year Throughput (1-in-35) (MTh)     10,233						
113     Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)     1       114     Number of Customers     25       115     High Pressure       116     Average Year Throughput (MTh)     9,291       117     Cold Year Throughput (1-in-35) (MTh)     10,233						
114     Number of Customers     25       115 <b>High Pressure</b> 116     Average Year Throughput (MTh)     9,291       117     Cold Year Throughput (1-in-35) (MTh)     10,233						
High Pressure       116     Average Year Throughput (MTh)     9,291       117     Cold Year Throughput (1-in-35) (MTh)     10,233						
116         Average Year Throughput (MTh)         9,291           117         Cold Year Throughput (1-in-35) (MTh)         10,233						
117 Cold Year Throughput (1-in-35) (MTh) 10,233					9,291	
118         Cold Year Peak Month (December) (MTh)         1,556	117				10,233	

				Residentia
19		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)		96
20		Number of Customers		7,000
21		Medium Pressure		
22		Average Year Throughput (MTh)		2,336,945
23		Cold Year Throughput (1-in-35) (MTh)		2,574,091
24		Cold Year Peak Month (December) (MTh)		391,330
25		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)		24,072
26		Number of Customers		5,707,506
27		CUMULATIVE (Calc'd from DIRECT %'s)		
28		Transmission		
29		Average Year Throughput (MTh)		2,346,353
30		Cold Year Throughput (1-in-35) (MTh)		2,584,453
31		Cold Year Peak Month (December) (MTh)		392,906
32		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)		24,168
33		Number of Customers		5,714,531
34		High Pressure		-,,
35		Average Year Throughput (MTh)		2,346,235
36		Cold Year Throughput (1-in-35) (MTh)		2,540,233
30 37		Cold Year Peak Month (December) (MTh)		392,886
38		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)		24,167
38 39		Number of Customers		
				5,714,506
40		Medium Pressure		0.000.015
41		Average Year Throughput (MTh)		2,336,945
42		Cold Year Throughput (1-in-35) (MTh)		2,574,091
43		Cold Year Peak Month (December) (MTh)		391,330
44		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)		24,072
45		Number of Customers		5,707,506
	2017TCAP Phase 1 Storage Allocation Proposal Core Storage Capacities:	Allocation Method		70.00/
!		Allocation Method	214	72.9%
!	Core Storage Capacities:	<u>Allocation Method</u> Inv per Inj Day	214 445	72.9% 325
<u> </u>	Core Storage Capacities: Number of Injection Days Injection MMcfd			325
<u>,</u>	Core Storage Capacities: Number of Injection Days Injection MMcfd % Demand	Inv per Inj Day	445	325 83.3%
ļ	Core Storage Capacities: Number of Injection Days Injection MMcfd			325
9	Core Storage Capacities: Number of Injection Days Injection MMcfd % Demand	Inv per Inj Day	445	325 83.3%
9	Core Storage Capacities: Number of Injection Days Injection MMcfd % Demand	Inv per Inj Day	445	325 83.3%
į	Core Storage Capacities:  Number of Injection Days Injection MMcfd  % Demand Inventory MMCF	Inv per Inj Day	445	325 83.3% 60,176
ļ	Core Storage Capacities: Number of Injection Days Injection MMcfd % Demand Inventory MMCF MPD Peak Day (1-in-35 Core) Core Only MTh	Inv per Inj Day	445	325 83.3% 60,176 1,569
0	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day	Inv per Inj Day % Excess Winter Demand	445 82,500	325 83.3% 60,176 1,569 79.4%
0 1	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day	Inv per Inj Day % Excess Winter Demand	445 82,500	325 83.3% 60,176 1,569 79.4% 1,399
0 1 2	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd	Inv per Inj Day % Excess Winter Demand % Core MPD Peak Day	445 82,500 2,000	325 83.3% 60,176 1,569 79.4% 1,399 69.9%
0 1 2 3	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000	Inv per Inj Day % Excess Winter Demand % Core MPD Peak Day 33559	445 82,500 2,000 \$33,559	325 83.3% 60,176 1,569 79.4% 1,399 69.9% \$24,478
0 1 2 3 4	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314	445 82,500 2,000 \$33,559 \$37,314	325 83.3% 60,176 1,569 79.4% 1,399 69.9% \$24,478 \$27,217
0 1 2 3 4 5	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314	445 82,500 2,000 \$33,559 \$37,314 \$22,924	325 83.3% 60,176 1,569 79.4% 1,399 69.9% \$24,478 \$27,217 \$16,032
0 1 2 3 4 5 6	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000 Load Balancing Storage Capacities:	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559  37314  22924	445 82,500 2,000 \$33,559 \$37,314 \$22,924	325 83.3% 60,176 1,569 79.4% 1,399 69.9% \$24,478 \$27,217 \$16,032
0 1 2 3 4 5 6	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924	445 82,500 2,000 \$33,559 \$37,314 \$22,924 \$93,797	325 83.3% 60,176 1,569 79.4% 1,399 69.9% \$24,478 \$27,217 \$16,032 \$67,728
0 1 1 2 2 3 3 4 4 5 6 6 7 7 8	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000 Load Balancing Storage Capacities: Injection MMcfd Inyentory MMCF	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR)	445 82,500 2,000 \$33,559 \$37,314 \$22,924 \$93,797 100% 100%	325 83.3% 60,176 1,569 79.4% 1,399 69.9% \$24,478 \$27,217 \$16,032 \$67,728
0 1 2 3 3 4 5 5 6 7 8 9 9	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924	445 82,500 2,000 \$33,559 \$37,314 \$22,924 \$93,797 100% 100% 100%	325 83.3% 60,176 1,569 79.4% 1,399 69.9% \$24,478 \$27,217 \$16,032 \$67,728 25% 25% 25%
0 1 1 2 3 3 4 5 6 6 7 7 8 9 9	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR)	445 82,500 2,000 \$33,559 \$37,314 \$22,924 \$93,797 100% 100% \$39,634	325  83.3% 60,176  1,569 79.4% 1,399 69.9% \$24,478 \$27,217 \$16,032 \$67,728 25% 25% \$9,945
0 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 9 9 0 0 1 1	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Injection \$000 Injection \$000 Injection \$000 Injection \$000 Injection \$000 Inventory \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR)	445 82,500 2,000 \$33,559 \$37,314 \$22,924 \$93,797 100% 100% 100% \$39,634 \$10,966	325  83.3% 60,176  1,569 79.4% 1,399 69.9% \$24,478 \$27,217 \$16,032 \$67,728  25% 25% 25% \$9,945 \$2,752
0 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 9 9 0 0 1 1 1 2 1 1 2 1 1 1 1 1 1 1 1 1 1 1	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR)	\$2,500 2,000 \$33,559 \$37,314 \$22,924 \$93,797 100% 100% 100% \$39,634 \$10,966 \$20,014	325  83.3% 60,176  1,569 79.4% 1,399 69.9% \$24,478 \$27,217 \$16,032 \$67,728  25% 25% 25% \$9,945 \$2,752 \$5,022
0 1 1 2 3 3 4 4 5 6 6 7 8 9 9 0 1 1 2 3 3	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000 Withdrawal \$000 Withdrawal \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR)	445 82,500 2,000 \$33,559 \$37,314 \$22,924 \$93,797 100% 100% 100% \$39,634 \$10,966	325  83.3% 60,176  1,569 79.4% 1,399 69.9% \$24,478 \$27,217 \$16,032 \$67,728  25% 25% 25% \$9,945 \$2,752
0 1 2 3 3 4 4 5 6 6 7 7 8 9 9 0 1 1 2 2 3 3 4 4 5 6 6 0 1 1 1 2 2 2 3 3 4 4 4 1 2 2 3 3 4 4 4 4 3 4 3 4 4 4 4 3 4 3 4 4 4 4 4 3 4	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000 Unbundled Storage Capacities:	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)	445 82,500 2,000 \$33,559 \$37,314 \$22,924 \$93,797 100% 100% \$39,634 \$10,966 \$20,014 \$70,614	325  83.3% 60,176  1,569 79.4% 1,399 69.9% \$24,478 \$27,217 \$16,032 \$67,728  25% 25% \$25% \$9,945 \$2,752 \$5,022
0 1 1 2 3 3 4 4 5 5 7 8 9 0 0 1 1 2 3 3 4 4 5 1 1 2 2 3 3 4 4 1 1 2 3 4 4 1 1 2 3 4 4 1 1 2 3 4 4 4 4 4 1 2 3 4 4 4 4 4 4 5 4 5 4 4 4 4 5 5 5 4 4 4 5	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000 Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Unbundled Storage Capacities: Injection \$000 Unbundled Storage Capacities: Injection MMcfd	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)  %AYTP (incl EOR)	445  82,500  2,000  \$33,559  \$37,314  \$22,924  \$93,797  100% 100% 100% \$39,634 \$10,966 \$20,014  \$70,614	325  83.3% 60,176  1,569 79.4% 1,399 69.9% \$24,478 \$27,217 \$16,032 \$67,728  25% 25% 25% \$9,945 \$2,752 \$5,022 \$17,719
0 1 1 2 2 3 3 4 4 5 5 6 6 9 9 0 0 1 1 1 2 2 3 3 4 4 1 1 1 1 2 2 3 3 4 4 1 1 1 1 2 1 2 3 3 4 4 1 1 1 2 3 3 4 4 4 1 1 1 2 3 3 4 4 4 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000 Load Balancing Storage Capacities: Injection MMcfd Injection MMcfd Injection \$000 Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000 Unbundled Storage Capacities: Injection MMcfd Injection MMcfd Injection MMcfd Injection MMcfd Injection MMcfd Inventory MMCF	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)  %AYTP (incl EOR)	445  82,500  2,000  \$33,559  \$37,314  \$22,924  \$93,797  100% 100% \$39,634 \$10,966 \$20,014  \$70,614  1	325  83.3% 60,176  1,569 79.4% 1,399 69.9% \$24,478 \$27,217 \$16,032 \$67,728 25% 25% \$25,752 \$25,752 \$17,719 0% 0%
0 0 1 1 2 2 3 3 4 4 5 6 6 7 1 1 2 2 3 3 4 4 5 6 6 7 7 8 9 9 9 0 1 1 2 1 2 3 1 1 2 3 1 1 2 3 1 2 3 1 3 1	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd Injection MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMCF	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)  %AYTP (incl EOR)	445  82,500  2,000  \$33,559 \$37,314 \$22,924 \$93,797  100% 100% \$39,634 \$10,966 \$20,014 \$70,614	325  83.3% 60,176  1,569 79.4% 1,399 69.9% \$24,478 \$27,217 \$16,032 \$67,728  25% 25% \$9,945 \$2,752 \$17,719  0% 0%
0 1 1 2 3 3 4 4 5 5 6 6 7 7 8 8 9 0 0 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 7 8 9 8 9 8 9 9 8 9 8 9 8 9 8 9 8	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Withdrawal \$000 Unbundled Storage Capacities: Injection MMcfd Inventory \$000 Withdrawal \$000 Unbundled Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection MMcfd Injection MMcfd Injection MMcfd Injection MMCf Withdrawal MMCfd Injection \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)  %AYTP (incl EOR)	445  82,500  2,000  \$33,559  \$37,314  \$22,924  \$93,797  100% 100% 100% \$39,634 \$10,966 \$20,014  \$70,614  1 1 1 \$0	325  83.3% 60,176  1,569 79.4% 1,399 69.9% \$24,478 \$27,217 \$16,032 \$67,728  25% 25% 25% \$2,752 \$5,022 \$17,719  0% 0% \$0
00 11 22 33 44 55 66 77 88 99 11 12 12 13 13 14 15 15 16 16 17 17 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000 Load Balancing Storage Capacities: Injection MMcfd Injection MMcfd Injection S000 Unbentory \$000 Withdrawal MMcfd Injection \$000 Unbentory \$000 Withdrawal MMcfd Injection \$000 Unbundled Storage Capacities: Injection MMcfd Inventory \$000 Withdrawal \$000 Unbundled Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Unbundled Storage Capacities: Injection \$000 Inventory \$000 Inventory \$000 Inventory \$000 Inventory \$000 Inventory \$000 Inventory \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)  %AYTP (incl EOR)	445  82,500  2,000  \$33,559  \$37,314  \$22,924  \$93,797  100% 100% 100% \$39,634 \$10,966 \$20,014  \$70,614  1 1 1 \$0 \$0	325  83.3% 60,176  1,569 79.4% 1,399 69.9% \$24,478 \$27,217 \$16,032 \$67,728  25% 25% 25% \$9,945 \$2,752 \$5,022 \$17,719  0% 0% \$0 \$0
0 1 2 3 3 4 5 6 6 7 8 9 0 0 1 2 3	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Withdrawal \$000 Unbundled Storage Capacities: Injection MMcfd Inventory \$000 Withdrawal \$000 Unbundled Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection MMcfd Injection MMcfd Injection MMcfd Injection MMCf Withdrawal MMCfd Injection \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)  %AYTP (incl EOR)	445  82,500  2,000  \$33,559  \$37,314  \$22,924  \$93,797  100% 100% 100% \$39,634 \$10,966 \$20,014  \$70,614  1 1 1 \$0	325  83.3% 60,176  1,569 79.4% 1,399 69.9% \$24,478 \$27,217 \$16,032 \$67,728  25% 25% 25% \$25% \$25,752 \$5,022 \$17,719  0% 0% \$0

				Residential
33	Injection MMcfd		447	325
34	Inventory MMCF		82,502	60,176
35	Withdrawal MMcfd		2,002	1,399
36	Injection \$000		\$73,193	\$34,423
37	Inventory \$000		\$48,280	\$29,969
38	Withdrawal \$000	_	\$42,938	\$21,054
39	Total Storage Costs per EC Method w/HR RRQ		\$164,411	\$85,446
	Summary of Storage Costs for RATE TABLES under new method:			
	Core \$000		\$93,797	
	Load Balancing \$000		\$70,614	
	Unbundled Storage \$000		\$0	
	total storage \$000		\$164,411	_
	Storage Core Allocation, per Bruce Wetzel's testimony			_
	Present			
	Injection mmcfd		385	
	Inventory %			83.4%
	Inventory MMCF	% Excess Winter Demand	82,427	60,942
	Peak Day (1-in-35 Core) Core Only MTh			
	% Core MPD Peak Day			79.4%
	Withdrawal MMcfd	% Core MPD Peak Day	2,211	1,569
	Proposed			
	Injection mmcfd		445	
	% Demand			83.3%
	Inventory MMCF	% Excess Winter Demand	82,500	60,176
	MPD Peak Day (1-in-35 Core) Core Only MTh			
	% Core MPD Peak Day			79.4%
	Withdrawal MMcfd	% Core Peak Day	2,000	1,573
		•		

Customer Costs Rental Method Per Unit LRMC, \$/Cust/Year							
	\$1,473.84	\$6,882.66	\$17,981.93	\$45,590.19	\$339.62	\$55,139.74	\$26,0
Number of Customers	203,514	4	712	378	5,919,139	593	32
Customer Costs Rental Method \$000	\$299,948	\$28	\$12,803	\$17,233	\$2,010,251	\$32,700	\$8,
						<u> </u>	
Medium Pressure Distribution costs							
Medium Pressure Distribution costs (MPD)							
Per Unit LRMC, \$/mcfd	\$198.08	\$198.08	\$198.08	\$198.08	\$198.08	\$198.08	\$19
MPD Peak Day Demand (mmcfd)	528	0	3	19	2,877	96	1
Medium Pressure Distribution Costs \$000	\$104,510	\$9	\$500	\$3,772	\$569,791	\$19,067	\$3,
High Pressure Distribution costs							
High Pressure Distribution costs (HPD)							
Per Unit LRMC, \$/mcf	\$4.04	\$4.04	\$4.04	\$4.04	\$4.04	\$4.04	\$4
HPD Peak Month Demand (mmcf)	11,299	3	89	1,150	50,527	7,677	72
High Presure Distribution Costs \$000	\$45,609	\$10	\$360	\$4,641	\$203,959	\$30,989	\$2,
Unscaled LRMC Based Costs \$000	\$450,066	\$47	\$13,663	\$25,646	\$2,784,001	\$82,756	\$15
Scalar Allocator	15.4%	0.0%	0.5%	0.9%	95.5%	2.8%	0.
Calculation of Scalar:							
Authorized Revenue Requirement in Rates Base Margin \$000							
Adjustment to Storage for Honor Rancho \$000							
Adjustment to Storage for Aliso Canyon\$000  Adjustment to Storage for Aliso Canyon\$000							
Target Base Margin \$000							
Less items not allocated per LRMC method:							
Transmission Cost per EC \$000							
Storage Costs per EC \$000							
Uncollectibles							
NGV Compression Adder Costs per EC \$000 Target Scaled Costs \$000							
Unscaled LRMC Based Costs \$000							
amount to scale \$000							
Scalar (as a % of unscaled)	63%	63%	63%	63%	63%	63%	63
Scalar (as a 70 or unscaled)	0370	0370	0370	0378	0378	0376	0.
Scaled Customer Costs \$000 LRMC/Rental Method	¢197 700	\$17	¢0 012	¢10.704	\$1,257,964	\$20,463	\$5,
Scaled Customer Costs \$000 LRMC/Rental Method Scaled Medium Pressure Distribution Costs \$000 LRMC	\$187,700 \$65,399	\$17 \$6	\$8,012 \$313	\$10,784 \$2,360	\$356,561	\$20,463 \$11,931	\$5, \$2.
Scaled High Presure Distribution Costs \$000 LRMC	\$28,541	\$6	\$225	\$2,360	\$127,633	\$19,392	ֆ∠, \$1,
Scaled LRMC Based Costs \$000  Scaled LRMC Based Costs \$000	\$281,640	\$29	\$8,550	\$2,904 \$16,049	\$1,742,158	\$51,786	\$9,
Obdica ENTITO Daloca Gosto 4000	Ψ201,040	<b>423</b>	ψ0,000	ψ10,043	ψ1,1 42,100	ψοτ,του	Ψ0,
NGV Compression Costs:							
Compression Adder Costs \$000				\$2,964	\$2,964		
				<del>+=</del> ,	<del>+=,</del> .		
Uncollectibles:							
Target Base Margin \$000							
System Average Uncollectible Rate							
Uncollectibles							
Allocation of Uncollectibles:							
	\$329,279	\$49	\$9,588	\$22,465	\$1,956,398	\$101,192	\$12
All Costs excl. NGV Adder, EOR, Int. WS, and UBS	15.2%	0.0%	0.4%	1.0%	90.5%	4.7%	0.
All Costs excl. NGV Adder, EOR, Int, WS, and UBS % All Costs excl. NGV Adder, EOR, Int, WS, and UBS			0.170			/0	
All Costs excl. NGV Adder, EOR, Int, WS, and UBS % All Costs excl. NGV Adder, EOR, Int, WS, and UBS Uncollectibles	\$1,020	\$0	\$30	\$70	\$6,059	\$313	\$3

Calculate BBT/Local-T Transmission Split:

BBT \$

Embedded Transmission Costs \$000

Embedded Transmission Costs w/ FF&U \$000

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57

			CCI	G-AC	G-GEN	NGV	Total Core	NCCI	EG Tier 1
58		LT\$							
59 60	Allocation of BBT Costs:								
61	CYTP Mth		1,034,674	416	22,302	178,769	3,820,615	1,549,897	97,615
62	% CYTP		10.7%	0.0%	0.2%	1.8%	39.4%	16.0%	1.0%
63	BBT Costs per EC method		\$18,853	\$8	\$406	\$3,257	\$69,617	\$28,241	\$1,779
64 65	Allocation of LT Costs								
66	Allocation of LT Costs:  CYPM Mth		117,629	26	973	14,720	526,253	140,247	7.806
67	% CYPM		11.06%	0.00%	0.09%	1.38%	49.49%	13.19%	0.73%
68	LT Costs per EC method		\$7,960	\$2	\$66	\$996	\$35,611	\$9,491	\$528
69	Total Transmission Costs per EC method		\$26,813	\$9	\$472	\$4,254	\$105,229	\$37,732	\$2,307
70 71	Storage Costs per EC Method (this includes HR RRQ)								
72	Embedded Storage Costs \$000								
73	Honor Rancho Revenue Requirement (HRSMA)								
74	Aliso Canyon Revenue Requirement								
75									
76 77									
78	Core Storage		\$13,330	\$7	\$398	\$813	\$82,275	\$0	\$0
79	Load Balancing		\$7,496	\$3	\$168	\$1,350	\$26,737	\$11,673	\$737
80	Unbundled Storage		\$0	\$0	\$0	\$0	\$0	\$0	\$0
81	Total Storage Costs \$000		\$20,826	\$10	\$566	\$2,163	\$109,011	\$11,673	\$737
82 83									
84									
85									
86	ALLOCATED BASE MARGIN (net of misc revenue & broken	er fee)	\$330,299	\$49	\$9,618	\$25,499	\$1,965,422	\$101,505	\$12,530
87	Percentage		14.7%	0.0%	0.4%	1.1%	87.5%	4.5%	0.6%
88 89	Average Year Throughput Mth average rate \$/therm		992,706 \$0.333	416 \$0.118	22,302 \$0.431	178,769 \$0.143	3,540,545 \$0.555	1,545,814 \$0.066	97,615 \$0.128
90	average rate symerm		φυ.333	φυ.116	φυ.431	φυ.143	φ0.555	φυ.υσο	φυ. 126
91									
92									
93	Model Results RD Format for RD Models		\$187,700	\$17	\$8,012	£40.704	£4.057.004	\$20,463	\$5,255
94 95	Customer Related Costs Medium Pressure Distribution Costs		\$187,700 \$65,399	\$17 \$6	\$8,012	\$10,784 \$2,360	\$1,257,964 \$356,561	\$20,463 \$11,931	\$5,255 \$2.356
96	High Pressure Distribution Costs		\$28,541	\$6	\$225	\$2,904	\$127,633	\$19,392	\$1,835
97	Backbone Transmission Costs		\$18,853	\$8	\$406	\$3,257	\$69,617	\$28,241	\$1,779
98	Local Transmission Costs		\$7,960	\$2	\$66	\$996	\$35,611	\$9,491	\$528
99 100	Storage - Seasonal Storage - Load Balancing		\$13,330 \$7,496	\$7 \$3	\$398 \$168	\$813 \$1,350	\$82,275 \$26,737	\$0 \$11,673	\$0 \$737
101	Storage - TBS		\$0	\$0	\$0	\$0	\$20,737	\$0	\$0 \$0
102	Uncollectibles		\$1,020	\$0	\$30	\$70	\$6,059	\$313	\$39
103	NGV Compression Costs:		\$0	\$0	\$0	\$2,964	\$2,964	\$0	\$0
104	Total Margin Allocation pre-SI & Unbundle FAR		\$330,299	\$49	\$9,618	\$25,499	\$1,965,422	\$101,505	\$12,530
105 106	% Allocation		14.7%	0.0%	0.4%	1.1%	87.5%	4.5%	0.6%
100									
107									
108									
109 110		Transmission	6,487	0	1,186	34,342	42,134	626,080	9,166
110		Average Year Throughput (MTh) Cold Year Throughput (1-in-35) (MTh)	6,487 6,762	0	1,186 1,186	34,342	42,134 42,420	626,080 626,181	9,166 9,166
112		Cold Year Peak Month (December) (MTh)	769	0	52	2,828	3,668	60,847	291
113		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	38	0	2	91	132	2,005	9
114		Number of Customers	69	0	16	17	127	30	14
115 116		High Pressure Average Year Throughput (MTh)	45,498	184	2,566	70,282	127,822	615,166	18,556
117		Cold Year Throughput (1-in-35) (MTh)	45,496 47,421	184	2,566	70,282	130,688	616,507	18,556
118		Cold Year Peak Month (December) (MTh)	5,391	12	112	5,787	12,857	52,062	1,526
		·							

		CCI	G-AC	G-GEN	NGV	Total Core	NCCI	EG Tier 1
19	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	264	0	4	187	550	1,737	49
20	Number of Customers	981	2	128	73	8,183	216	35
21	Medium Pressure							
22	Average Year Throughput (MTh)	940,720	232	18,549	74,144	3,370,590	304,569	69,893
23	Cold Year Throughput (1-in-35) (MTh)	980,491	232	18,549	74,144	3,647,507	307,209	69,893
24	Cold Year Peak Month (December) (MTh)	111,469	15	809	6,105	509,728	27,338	5,989
25	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	5,457	0	26	197	29,752	996	197
26	Number of Customers	202,465	3	568	289	5,910,830	347	273
27	CUMULATIVE (Calc'd from DIRECT %'s)							
28	Transmission							
29	Average Year Throughput (MTh)	992,706	416	22,302	178,769	3,540,545	1,545,814	97,615
30	Cold Year Throughput (1-in-35) (MTh)	1,034,674	416	22,302	178,769	3,820,615	1,549,897	97,615
31	Cold Year Peak Month (December) (MTh)	117,629	26	973	14,720	526,253	140,247	7,806
32	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	5,759	1	31	475	30,434	4,738	255
33	Number of Customers	203,514	4	712	378	5,919,139	593	323
34	High Pressure							
35	Average Year Throughput (MTh)	986,218	416	21,115	144,427	3,498,412	919,735	88,449
36	Cold Year Throughput (1-in-35) (MTh)	1,027,913	416	21,115	144,427	3,778,195	923,717	88,449
37	Cold Year Peak Month (December) (MTh)	116,860	26	921	11,892	522,586	79,400	7,515
38	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	5,721	1	30	384	30,302	2,733	246
39	Number of Customers	203,446	4	696	361	5,919,013	563	308
40	Medium Pressure							
41	Average Year Throughput (MTh)	940,720	232	18,549	74,144	3,370,590	304,569	69,893
42	Cold Year Throughput (1-in-35) (MTh)	980,491	232	18,549	74,144	3,647,507	307,209	69,893
43	Cold Year Peak Month (December) (MTh)	111,469	15	809	6,105	509,728	27,338	5,989
44	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	5,457	0	26	197	29,752	996	197
45 46	Number of Customers	202,465	3	568	289	5,910,830	347	273
Number of Injection Days Injection MMcfd	Inv per Inj Day	13.4% 60	0.0% 0	0.5% 2	0.7% 3	87.6% 389.8	0.0% 0	0.0% 0
•	, , ,							
% Demand		15.3%	0.0%	0.6%	0.8%	100%		
% Demand Inventory MMCF	% Excess Winter Demand	15.3% 11,070	0.0% 8	0.6% 439	0.8% 579	100% 72,271	0	0
Inventory MMCF	% Excess Winter Demand						0	0
Inventory MMCF	% Excess Winter Demand						0	0
Inventory MMCF	% Excess Winter Demand	11,070	8	439 3 0.1%	579			·
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day	% Excess Winter Demand % Core MPD Peak Day	11,070 377	8	439 3	579 27	72,271	0	0
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd		11,070 377 18.9%	8 0 0.0%	439 3 0.1%	579 27 1.6%	72,271		0 0%
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day  Withdrawal MMcfd  1		11,070 377 18.9% 333 16.7% \$4,503	8 0 0.0% 0 0.0% \$3	439 3 0.1% 2 0.1% \$178	579 27 1.6% 27 1.4% \$236	72,271 100% 1,761 88.1% \$29,398	0 0% \$0	0 0% \$0
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day  Withdrawal MMcfd  Injection \$000	% Core MPD Peak Day	11,070 377 18.9% 333 16.7% \$4,503 \$5,007	8 0 0.0% 0 0.0% \$3 \$3	439 3 0.1% 2 0.1% \$178 \$198	579 27 1.6% 27 1.4% \$236 \$262	72,271 100% 1,761 88.1% \$29,398 \$32,688	0 0% \$0 \$0	0 0% \$0 \$0
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day 0 Withdrawal MMcfd 1 2 Injection \$000 3 Inventory \$000	% Core MPD Peak Day 33559	11,070 377 18.9% 333 16.7% \$4,503 \$5,007 \$3,820	8 0 0.0% 0 0.0% \$3 \$3 \$1	3 0.1% 2 0.1% \$178 \$198 \$21	579  27  1.6% 27  1.4% \$236 \$262 \$315	72,271 100% 1,761 88.1% \$29,398 \$32,688 \$20,189	0 0% \$0 \$0 \$0	0 0% \$0 \$0 \$0
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  I Injection \$000 Inventory \$000 Withdrawal \$000	% Core MPD Peak Day 33559 37314	11,070 377 18.9% 333 16.7% \$4,503 \$5,007	8 0 0.0% 0 0.0% \$3 \$3	439 3 0.1% 2 0.1% \$178 \$198	579 27 1.6% 27 1.4% \$236 \$262	72,271 100% 1,761 88.1% \$29,398 \$32,688	0 0% \$0 \$0	0 0% \$0 \$0
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000 Uvithdrawal \$000 Load Balancing Storage Capacities:	% Core MPD Peak Day 33559 37314 22924	377 18.9% 333 16.7% \$4,503 \$5,007 \$3,820 \$13,330	8 0 0.0% 0 0.0% \$3 \$3 \$1	3 0.1% 2 0.1% \$178 \$198 \$21 \$398	579 27 1.6% 27 1.4% \$236 \$262 \$315 \$813	72,271 100% 1,761 88.1% \$29,398 \$32,688 \$20,189 \$82,275 20%	0 0% \$0 \$0 \$0 \$0	0 0% \$0 \$0 \$0
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd	% Core MPD Peak Day 33559 37314 22924 %AYTP (incl EOR)	11,070 377 18.9% 333 16.7% \$4,503 \$5,007 \$3,820 \$13,330	8 0 0.0% 0 0.0% \$3 \$3 \$1	439  3 0.1% 2 0.1% \$178 \$198 \$21 \$398	579  27  1.6% 27  1.4% \$236 \$262 \$315 \$813	72,271  100% 1,761 88.1% \$29,398 \$32,688 \$20,189 \$82,275 20% 38%	0 0% \$0 \$0 \$0 \$0	0 0% \$0 \$0 \$0 \$0
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF	% Core MPD Peak Day 33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR)	11,070 377 18.9% 333 16.7% \$4,503 \$5,007 \$3,820 \$13,330 11% 11%	8 0 0.0% 0 0.0% \$3 \$3 \$1 \$7	439 3 0.1% 2 0.1% \$178 \$198 \$21 \$398 0%	579  27  1.6% 27  1.4% \$236 \$262 \$315  \$813	72,271  100% 1,761 88.1% \$29,398 \$32,688 \$20,189 \$82,275 20% 38% 38%	0 0% \$0 \$0 \$0 \$0	0 0% \$0 \$0 \$0 \$0
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day  Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd	% Core MPD Peak Day 33559 37314 22924 %AYTP (incl EOR)	11,070 377 18.9% 333 16.7% \$4,503 \$5,007 \$3,820 \$13,330 11% 11% 11%	8 0 0.0% 0 0.0% \$3 \$3 \$1 \$7	439  3 0.1% 2 0.1% \$178 \$198 \$21 \$398  0% 0%	579  27  1.6% 27  1.4% \$236 \$262 \$315  \$813  2% 2%	72,271  100% 1,761 88.1% \$29,398 \$32,688 \$20,189 \$82,275 20% 38% 38% 38%	0 0% \$0 \$0 \$0 \$0 17% 17%	0 0% \$0 \$0 \$0 \$0
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000	% Core MPD Peak Day 33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR)	11,070 377 18.9% 333 16.7% \$4,503 \$5,007 \$3,820 \$13,330 11% 11% \$4,208	8 0 0.0% 0 0.0% \$3 \$3 \$1 \$7 0% 0%	439  3 0.1% 2 0.1% \$178 \$198 \$21 \$398  0% 0% 0% \$95	579  27  1.6% 27 1.4% \$236 \$262 \$315 \$813  2% 2% 2% \$758	72,271  100% 1,761 88.1% \$29,398 \$32,688 \$20,189 \$82,275 20% 38% 38% \$515,006	0 0% \$0 \$0 \$0 \$0 \$0 17% 17% \$6,552	0 0% \$0 \$0 \$0 \$0 1% 1% \$414
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Withdrawal MMcfd Injection \$000 Inventory \$000	% Core MPD Peak Day 33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR)	11,070  377 18.9% 333 16.7% \$4,503 \$5,007 \$3,820 \$113,330  11% 11% \$11% \$4,208 \$1,164	8 0 0.0% 0 0.0% \$3 \$3 \$1 \$7 0% 0% 0% \$2 \$0	439  3 0.1% 2 0.1% \$178 \$198 \$21 \$398  0% 0% 0% \$95 \$26	579  27  1.6% 27 1.4% \$236 \$262 \$315  \$813  2% 2% 2% \$758 \$210	72,271  100% 1,761 88.1% \$29,398 \$32,688 \$20,189 \$82,275 20% 38% 38% 38% \$15,006 \$4,152	0 0% \$0 \$0 \$0 \$0 17% 17% \$6,552 \$1,813	0 0% \$0 \$0 \$0 \$0 1% 1% 1% 414 \$114
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000 Vithdrawal \$000 Withdrawal \$000 Withdrawal \$000 Withdrawal \$000 Withdrawal \$000	% Core MPD Peak Day 33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR)	11,070  377 18.9% 333 16.7% \$4,503 \$5,007 \$3,820 \$113,330  11% 11% 11% \$4,208 \$1,164 \$2,125	8 0 0.0% 0 0.0% \$3 \$3 \$1 \$7 0% 0% 52 \$0 \$1	439  3 0.1% 2 0.1% \$178 \$198 \$21 \$398  0% 0% 995 \$26 \$48	579  27  1.6% 27  1.4% \$236 \$262 \$315  \$813  2% 2% \$758 \$210 \$383	72,271  100% 1,761 88.1% \$29,398 \$32,688 \$20,189  \$82,275 20% 38% 38% 38% \$15,006 \$4,152 \$7,578	0 0% \$0 \$0 \$0 \$0 17% 17% 17% \$6,552 \$1,813 \$3,309	0 0% \$0 \$0 \$0 \$0 1% 1% 1% 414 \$114 \$114
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal S000 Withdrawal \$000	% Core MPD Peak Day 33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR)	11,070  377 18.9% 333 16.7% \$4,503 \$5,007 \$3,820 \$113,330  11% 11% \$11% \$4,208 \$1,164	8 0 0.0% 0 0.0% \$3 \$3 \$1 \$7 0% 0% 0% \$2 \$0	439  3 0.1% 2 0.1% \$178 \$198 \$21 \$398  0% 0% 0% \$95 \$26	579  27  1.6% 27 1.4% \$236 \$262 \$315  \$813  2% 2% 2% \$758 \$210	72,271  100% 1,761 88.1% \$29,398 \$32,688 \$20,189 \$82,275 20% 38% 38% 38% \$15,006 \$4,152	0 0% \$0 \$0 \$0 \$0 17% 17% \$6,552 \$1,813	0 0% \$0 \$0 \$0 \$0 1% 1% 1% \$414
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day  Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal MMcfd Unjection \$000 Univentory \$000 Withdrawal \$000 Univentory \$000 Withdrawal \$000	% Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)	11,070  377 18.9% 333 16.7% \$4,503 \$5,007 \$3,820 \$11,3330  11% 11% \$4,208 \$1,164 \$2,125 \$7,496	8 0 0.0% 0 0.0% \$3 \$3 \$1 \$7 0% 0% 0% \$2 \$0 \$1 \$3	439  3 0.1% 2 0.1% \$178 \$198 \$21 \$398  0% 0% 0% \$95 \$26 \$448 \$168	579  27  1.6% 27  1.4% \$236 \$262 \$315  \$813  2% 2% \$758 \$210 \$383 \$1,350	72,271  100% 1,761 88.1% \$29,398 \$32,688 \$20,189 \$82,275 20% 38% 38% \$15,006 \$4,152 \$7,578	0 0% \$0 \$0 \$0 \$0 17% 17% \$6,552 \$1,813 \$3,309 \$11,673	0 0% \$0 \$0 \$0 1% 1% 1% \$414 \$114 \$209
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd Injection MMcfd Injection MMcfd Unbundled Storage Capacities: Injection MMcfd	% Core MPD Peak Day 33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)	11,070  377 18.9% 333 16.7% \$4,503 \$5,007 \$3,820 \$13,330  11% 11% \$11% \$4,208 \$1,164 \$2,125 \$7,496  0%	8 0 0.0% 0 0.0% \$3 \$3 \$1 \$7 0% 0% \$2 \$0 \$1 \$3	439  3 0.1% 2 0.1% \$178 \$198 \$21 \$398  0% 0% 9% \$526 \$48 \$168	579  27  1.6% 27  1.4% \$236 \$262 \$315  \$813  2% 2% \$758 \$210 \$383 \$1,350  0%	72,271  100% 1,761 88.1% \$29,398 \$32,688 \$20,189 \$82,275 20% 38% 38% 38% \$15,006 \$4,152 \$7,578 \$26,737	0 0% \$0 \$0 \$0 \$0 17% 17% 46,552 \$1,813 \$3,309 \$11,673	0 0% \$0 \$0 \$0 \$0 1% 1% 1% \$414 \$114 \$209 \$737
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day  Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Injection \$000 Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory MMcfd Unipection \$000 Inventory \$000 Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd Inventory MMCF	% Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)  100% UBS 100% UBS	11,070  377 18.9% 333 16.7% \$4,503 \$5,007 \$3,820 \$13,330  11% 11% \$4,208 \$1,164 \$2,125 \$7,496  0% 0%	8 0 0.0% 0 0.0% \$3 \$3 \$1 \$7 0% 0% \$2 \$0 \$1 \$3	439  3 0.1% 2 0.1% \$178 \$198 \$21 \$398  0% 0% 0% \$955 \$26 \$48 \$168	579  27  1.6% 27  1.4% \$236 \$262 \$315 \$813  2% 2% \$758 \$210 \$383 \$1,350  0%	72,271  100% 1,761 88.1% \$29,398 \$32,688 \$20,189  \$82,275 20% 38% 38% \$15,006 \$4,152 \$7,578 \$26,737	0 0% \$0 \$0 \$0 \$0 17% 17% \$6,552 \$1,813 \$3,309 \$11,673	0 0% \$0 \$0 \$0 \$0 1% 1% 14 \$114 \$209 \$737
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day  Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Withdrawal \$000 Inventory \$000 Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd Injection \$000 Inventory \$000 Withdrawal \$000	% Core MPD Peak Day 33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)	11,070  377 18.9% 333 16.7% \$4,503 \$5,007 \$3,820 \$11,330  11% 11% \$4,208 \$1,164 \$2,125 \$7,496  0% 0%	8 0 0.0% 0 0.0% \$3 \$3 \$1 \$7 0% 0% 52 \$0 \$1 \$3	439  3 0.1% 2 0.1% \$178 \$198 \$21 \$398  0% 0% \$95 \$26 \$48 \$168  0% 0%	579  27  1.6% 27 1.4% \$236 \$262 \$315  \$813  2% 2% \$758 \$210 \$383 \$1,350  0% 0%	72,271  100% 1,761 88.1% \$29,398 \$32,688 \$20,189 \$82,275 20% 38% 38% \$15,006 \$4,152 \$7,578 \$26,737	0 0% \$0 \$0 \$0 \$0 17% 17% \$6,552 \$1,813 \$3,309 \$11,673	0 0% \$0 \$0 \$0 \$0 \$1 1% 114 \$114 \$209 \$737
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day  Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Injection MMcfd Injection \$000 Inventory MMCF Withdrawal MMcfd Injection \$000 Withdrawal \$000  Withdrawal \$000 Inventory \$000 Withdrawal \$000 Inventory \$000 Withdrawal \$000 Inventory \$000 Withdrawal \$000  Withdrawal \$000 Injection MMcfd Injection MMcfd Injection MMcfd Injection MMCfd Injection \$000 Inventory MMCF Withdrawal MMcfd Injection \$000	% Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)  100% UBS 100% UBS	11,070  377 18.9% 333 16.7% \$4,503 \$5,007 \$3,820 \$13,330  11% 11% \$4,208 \$1,164 \$2,125 \$7,496  0% 0% 0% 0% \$0	8 0 0.0% 0 0.0% \$3 \$3 \$1 \$7 0% 0% \$2 \$0 \$1 \$3 0% 0% \$5	439  3 0.1% 2 0.1% \$178 \$198 \$21 \$398  0% 0% \$95 \$26 \$48 \$168  0% 0% \$0%	579  27  1.6% 27  1.4% \$236 \$262 \$315 \$813  2% 2% \$758 \$210 \$383  \$1,350  0% 0% 0% \$0	72,271  100% 1,761 88.1% \$29,398 \$32,688 \$20,189 \$82,275 20% 38% 38% 38% \$38,506 \$4,152 \$7,578 \$26,737  0% 0% 0% \$0	0 0% \$0 \$0 \$0 \$0 17% 17% \$6,552 \$1,813 \$3,309 \$11,673 0% 0% \$0	0 0% \$0 \$0 \$0 \$0 1% 1% 1% 14 \$114 \$209 \$737 0% 0% \$0
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day  Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcFd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Under March Sound  Unbundled Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Inventory MMCF Withdrawal \$000  Withdrawal \$000  Withdrawal \$000  Withdrawal \$000  Withdrawal \$000  Withdrawal \$000  Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Inventory \$000 Inventory \$000 Inventory \$000 Inventory \$000 Inventory \$000	% Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)  100% UBS 100% UBS	11,070  377 18.9% 333 16.7% \$4,503 \$5,007 \$3,820 \$113,330  11% 11% \$4,208 \$1,164 \$2,125 \$7,496  0% 0% 0% \$0 \$0	8 0 0.0% 0 0.0% \$3 \$3 \$1 \$7 0% 0% \$2 \$0 \$1 \$3 0% 0% \$2 \$0 \$1 \$3	439  3 0.1% 2 0.1% \$178 \$198 \$21 \$398  0% 0% \$95 \$26 \$48  \$168  0% 0% 0% \$0 \$0	579  27  1.6% 27  1.4% \$236 \$262 \$315  \$813  2% 2% \$758 \$210 \$383  \$1,350  0% 0% 0% \$0	72,271  100% 1,761 88.1% \$29,398 \$32,688 \$20,189 \$82,275 20% 38% 38% \$15,006 \$4,152 \$7,578 \$26,737  0% 0% \$0 \$0	0 0% \$0 \$0 \$0 \$0 17% 17% \$6,552 \$1,813 \$3,309 \$11,673	0 0% \$0 \$0 \$0 \$0 1% 1% 14 414 \$114 \$209 \$737 0% 0% 0% 50 \$0
Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Withdrawal \$000 Inventory \$000 Withdrawal \$000 Inventory \$000 Withdrawal \$000 Inventory \$000 Withdrawal \$000 Inventory \$000 Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd Injection MMcfd Injection \$000 Inventory Withdrawal MMcfd Injection \$000	% Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)  100% UBS 100% UBS	11,070  377 18.9% 333 16.7% \$4,503 \$5,007 \$3,820 \$13,330  11% 11% \$4,208 \$1,164 \$2,125 \$7,496  0% 0% 0% 0% \$0	8 0 0.0% 0 0.0% \$3 \$3 \$1 \$7 0% 0% \$2 \$0 \$1 \$3 0% 0% \$5	439  3 0.1% 2 0.1% \$178 \$198 \$21 \$398  0% 0% \$95 \$26 \$48 \$168  0% 0% \$0%	579  27  1.6% 27  1.4% \$236 \$262 \$315 \$813  2% 2% \$758 \$210 \$383  \$1,350  0% 0% 0% \$0	72,271  100% 1,761 88.1% \$29,398 \$32,688 \$20,189 \$82,275 20% 38% 38% 38% \$38,506 \$4,152 \$7,578 \$26,737  0% 0% 0% \$0	0 0% \$0 \$0 \$0 \$0 17% 17% \$6,552 \$1,813 \$3,309 \$11,673 0% 0% \$0	0 0% \$0 \$0 \$0 \$0 1% 1% 114 \$114 \$209 \$737 0% 0% \$0

			CCI	G-AC	G-GEN	NGV	Total Core	NCCI	EG Tier 1
33	Injection MMcfd		60	0	2	3	390	0	0
34	Inventory MMCF		11,070	8	439	579	72,272	0	0
35	Withdrawal MMcfd		333	0	2	27	1,762	0	0
36	Injection \$000		\$8,710	\$5	\$273	\$993	\$44,405	\$6,552	\$414
37	Inventory \$000		\$6,171	\$4	\$225	\$472	\$36,840	\$1,813	\$114
38	Withdrawal \$000	_	\$5,945	\$1	\$69	\$698	\$27,767	\$3,309	\$209
39	Total Storage Costs per EC Method w/HR RRQ		\$20,826	\$10	\$566	\$2,163	\$109,011	\$11,673	\$737
	Summary of Storage Costs for RATE TABLES under new method: Core \$000 Load Balancing \$000 Unbundled Storage \$000 total storage \$000  Storage Core Allocation, per Bruce Wetzel's testimony Present Injection mmcfd						66.3%		
	Inventory %		15.1%	0.0%	0.4%	1.2%	100%		
	Inventory MMCF	% Excess Winter Demand	11,011	12	269	860	73,093	0	0
	inventory without	70 Excess Winter Demand	,		200	000	70,000	Ü	ŭ
	Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd	% Core MPD Peak Day	19.1% 377	0.0% 0	0.2% 3	1.4% 27	100% 1,976	0	0
	Proposed Injection mmcfd								
	% Demand Inventory MMCF	% Excess Winter Demand	15.3% 11,070	0.0% 8	0.6% 439	0.8% 579	100% 72,271	0	0
	MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd	% Core Peak Day	18.9% 374	0.0% 0	0.1% 3	1.6% 27	100% 1,761	0	0

		EG Tier 2	EOR	Total Retail NonCore	Long Beach	SDG&E	South West Gas	Vernon	Total Whole sale	Ecogas
1	Customer Costs Rental Method									
2	Per Unit LRMC, \$/Cust/Year	\$154,535.16	\$84,456.75	\$53,395.93	\$783,172.48	\$1,397,485.22	\$687,222.92	\$469,030.64	\$834,227.81	\$182,622.84
3	Number of Customers	67	34	1,016	1	1	1	1	4	1
4	Customer Costs Rental Method \$000	\$10,293	\$2,872	\$54,263	\$783	\$1,397	\$687	\$469	\$3,337	\$183
5 6	Medium Pressure Distribution costs									
7	Medium Pressure Distribution costs (MPD)									
8	Per Unit LRMC, \$/mcfd	\$198.08	\$198.08	\$198.08	\$198.08	\$198.08	\$198.08	\$198.08	\$198.08	\$198.08
9	MPD Peak Day Demand (mmcfd)	15	0	131	0	0	0	0	0	0
10	Medium Pressure Distribution Costs \$000	\$3,013	\$69	\$25,913	\$0	\$0	\$0	\$0	\$0	\$0
11										
12	High Pressure Distribution costs									
13	High Pressure Distribution costs (HPD)									
14	Per Unit LRMC, \$/mcf	\$4.04	\$4.04	\$4.04	\$4.04	\$4.04	\$4.04	\$4.04	\$4.04	\$4.04
15 16	HPD Peak Month Demand (mmcf) High Presure Distribution Costs \$000	1,968 <b>\$7.945</b>	1,246 \$5.030	11,618 <b>\$46.897</b>	0 <b>\$0</b>	0 <b>\$0</b>	0 <b>\$0</b>	0 <b>\$0</b>	0 <b>\$0</b>	0 <b>\$0</b>
17	nigii Fresure Distribution Costs \$000	Ψ1,545	\$5,030	<b>440,037</b>	40	φU	Ψυ	ΨU	φ0	<b>\$</b> 0
18	Unscaled LRMC Based Costs \$000	\$21,250	\$7,971	\$127,073	\$783	\$1,397	\$687	\$469	\$3,337	\$183
19	Scalar Allocator	0.7%	0.3%	4.4%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
20	Calculation of Scalar:									
	Authorized Revenue Requirement in Rates Base Margin \$000									
	Adjustment to Storage for Honor Rancho \$000									
	Adjustment to Storage for Aliso Canyon\$000									
21	Target Base Margin \$000									
22	Less items not allocated per LRMC method:									
23	Transmission Cost per EC \$000									
24	Storage Costs per EC \$000									
25	Uncollectibles									
26	NGV Compression Adder Costs per EC \$000									
27	Target Scaled Costs \$000									
28	Unscaled LRMC Based Costs \$000									
29 30	amount to scale \$000 Scalar (as a % of unscaled)	63%	63%	63%	63%	63%	63%	63%	63%	63%
31	Scalar (as a % or unscaleu)	03 /0	0376	03 /6	0370	03 /0	03/6	0370	0370	03 /0
32	Scaled Customer Costs \$000 LRMC/Rental Method	\$6,441	\$1,797	\$33,956	\$490	\$875	\$430	\$294	\$2,088	\$114
33	Scaled Medium Pressure Distribution Costs \$000 LRMC	\$1,885	\$43	\$16,216	\$0	\$0	\$0	\$0	\$0	\$0
34	Scaled High Presure Distribution Costs \$000 LRMC	\$4,972	\$3,148	\$29,347	\$0	\$0	\$0	\$0	\$0	\$0
35	Scaled LRMC Based Costs \$000	\$13,298	\$4,988	\$79,519	\$490	\$875	\$430	\$294	\$2,088	\$114
36										
37	NGV Compression Costs:									
38	Compression Adder Costs \$000									
39										
40	Uncollectibles:									
41	Target Base Margin \$000									
42	System Average Uncollectible Rate									
43	Uncollectibles									
44										
45	Allocation of Uncollectibles:									
46	All Costs excl. NGV Adder, EOR, Int, WS, and UBS	\$91,369	\$0	\$205,052	\$0	\$0	\$0	\$0	\$0	\$0
47 48	% All Costs excl. NGV Adder, EOR, Int, WS, and UBS Uncollectibles	4.2% \$283	0.0% <b>\$0</b>	9.5% \$635	0.0% <b>\$0</b>	0.0% <b>\$0</b>	0.0% <b>\$0</b>	0.0% <b>\$0</b>	0.0% <b>\$0</b>	0.0% <b>\$0</b>
48 49	Olicollectible2	<b>\$</b> 203	φu	φουσ	φU	ψU	φU	ψU	φU	ψU
49										

50 51 52 <u>Transmisisor</u> 53 Embedded T

Transmisison Costs per Embedded Cost Method:

Embedded Transmission Costs \$000

54 FF&l

55 Embedded Transmission Costs w/ FF&U \$000

56 Calculate BBT/Local-T Transmission Split:

57

BBT \$

			EG Tier 2	EOR	Total Retail NonCore	Long Beach	SDG&E	South West Gas	Vernon	Total Whole sale	Ecogas
58		LT \$				<u> </u>					
59 60	Allocation of BBT Costs:										
61	CYTP Mth		2,480,164	208,941	4,336,617	86,356	1,157,571	71,786	101,919	1,417,632	116,299
62	% CYTP		25.6%	2.2%	44.7%	0.9%	11.9%	0.7%	1.1%	14.6%	1.2%
63 64	BBT Costs per EC method		\$45,192	\$3,807	\$79,019	\$1,574	\$21,093	\$1,308	\$1,857	\$25,831	\$2,119
65	Allocation of LT Costs:										
66	CYPM Mth		209,111	17,746	374,910	10,565	121,858	11,583	8,300	152,307	9,871
67 68	% CYPM LT Costs per EC method		19.67% <b>\$14,150</b>	1.67% \$1,201	35.26% \$25,370	0.99% \$715	11.46% \$8,246	1.09% \$784	0.78% <b>\$562</b>	14.32% \$10,307	0.93% \$668
69	Total Transmission Costs per EC method		\$59,343	\$5,008	\$104,389	\$2,288	\$29,339	\$2,092	\$2,419	\$36,138	\$2,787
70											
71 72	Storage Costs per EC Method (this includes HR RRQ) Embedded Storage Costs \$000										
73	Honor Rancho Revenue Requirement (HRSMA)										
74	Aliso Canyon Revenue Requirement										
75 76											
77											
78	Core Storage		\$0 \$40.700	\$0 \$4.570	\$0 \$00.747	\$0	\$11,522	\$0	\$0	\$11,522	\$0 \$0.70
79 80	Load Balancing Unbundled Storage		\$18,729 \$0	\$1,578 \$0	\$32,717 \$0	\$601 \$0	\$8,447 \$0	\$502 \$0	\$732 \$0	\$10,282 \$0	\$878 \$0
81	Total Storage Costs \$000		\$18,729	\$1,578	\$32,717	\$601	\$19,969	\$502	\$732	\$21,804	\$878
82											
83 84											
85											
86	ALLOCATED BASE MARGIN (net of misc revenue & brok	ser fee)	\$91,652	\$11,574	\$217,261	\$3,380	\$50,183	\$3,024	\$3,444	\$60,030	\$3,780
87 88	Percentage Average Year Throughput Mth		4.1% 2,480,164	0.5% 208,941	9.7% 4,332,534	0.2% 79,646	2.2% 1,118,614	0.1% 66,431	0.2% 96,890	2.7% 1,361,582	0.2% 116,299
89	average real **Throughput with average rate \$/therm		\$0.037	\$0.055	\$0.050	\$0.042	\$0.045	\$0.046	\$0.036	\$0.044	\$0.032
90											
91 92											
93	Model Results RD Format for RD Models										
94	Customer Related Costs		\$6,441	\$1,797	\$33,956	\$490	\$875	\$430	\$294	\$2,088	\$114
95 96	Medium Pressure Distribution Costs High Pressure Distribution Costs		\$1,885 \$4,972	\$43 \$3,148	\$16,216 \$29,347	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0
97	Backbone Transmission Costs		\$45,192	\$3,146	\$79,019	\$1,574	\$21,093	\$1,308	\$1,857	\$25,831	\$2,119
98	Local Transmission Costs		\$14,150	\$1,201	\$25,370	\$715	\$8,246	\$784	\$562	\$10,307	\$668
99 100	Storage - Seasonal		\$0 \$18,729	\$0 \$1,578	\$0 \$32,717	\$0 \$601	\$11,522 \$8,447	\$0 \$502	\$0 \$732	\$11,522 \$10,282	\$0 \$878
101	Storage - Load Balancing Storage - TBS		\$10,729	\$0	\$0	\$0	\$0,447	\$02 \$0	\$0	\$10,282	\$0 \$0
102	Uncollectibles		\$283	\$0	\$635	\$0	\$0	\$0	\$0	\$0	\$0
103 104	NGV Compression Costs: Total Margin Allocation pre-SI & Unbundle FAR		\$0 <b>\$91,652</b>	\$0 <b>\$11,574</b>	\$0 \$217,261	\$0 <b>\$3,380</b>	\$0 <b>\$50,183</b>	\$0 <b>\$3,024</b>	\$0 \$3,444	\$0 <b>\$60,030</b>	\$0 \$3,780
104	% Allocation		4.1%	0.5%	9.7%	0.2%	2.2%	0.1%	0.2%	2.7%	0.2%
106											
107											
107											
109		Transmission									
110 111		Average Year Throughput (MTh)	2,237,170	57,184 57,184	2,929,599 2,929,700	79,646 86,356	1,118,614	66,431 71,786	96,890	1,361,582	116,299 116,299
111 112		Cold Year Throughput (1-in-35) (MTh) Cold Year Peak Month (December) (MTh)	2,237,170 188,755	57,184 4,857	2,929,700 254,750	86,356 10,565	1,157,571 121,858	71,786 11,583	101,919 8,300	1,417,632 152,307	116,299 9,871
113		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	7,454	157	9,625	561	6,177	528	267	7,533	318
114		Number of Customers	36	11	91	1	1	1	1	4	1
115 116		High Pressure Average Year Throughput (MTh)	185,896	150,438	970,056	0	0	0	0	0	0
117		Cold Year Throughput (1-in-35) (MTh)	185,896	150,438	971,397	0	0	0	0	0	0
118		Cold Year Peak Month (December) (MTh)	15,479	12,777	81,845	0	0	0	0	0	0

					Total Retail			South West		Total Whole	
			EG Tier 2	EOR	NonCore	Long Beach	SDG&E	Gas	Vernon	sale	Ecogas
119		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	500	412	2,698	0	0	0	0	0	0
120		Number of Customers	22	20	293	0	0	0	0	0	0
121 122		Medium Pressure	57.097	1,320	432.879	0	0	0	0	0	0
122		Average Year Throughput (MTh)	57,097 57,097	1,320	432,879 435,520	0	0	0	0	0	0
123		Cold Year Throughput (1-in-35) (MTh) Cold Year Peak Month (December) (MTh)	57,097 4,876	1,320	435,520 38,315	0	0	0	0	0	0
125		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	157	4	1,353	0	0	0	0	0	0
126		Number of Customers	8	3	632	0	0	0	0	0	0
127		CUMULATIVE (Calc'd from DIRECT %'s)			002					•	
128		Transmission									
129		Average Year Throughput (MTh)	2,480,164	208,941	4,332,534	79,646	1,118,614	66,431	96,890	1,361,582	116,299
130		Cold Year Throughput (1-in-35) (MTh)	2,480,164	208,941	4,336,617	86,356	1,157,571	71,786	101,919	1,417,632	116,299
131		Cold Year Peak Month (December) (MTh)	209,111	17,746	374,910	10,565	121,858	11,583	8,300	152,307	9,871
132		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	8,111	572	13,676	561	6,177	528	267	7,533	318
133		Number of Customers	67	34	1,016	1	1	1	1	4	1
134		High Pressure									
135		Average Year Throughput (MTh)	242,993	151,758	1,402,935	0	0	0	0	0	0
136		Cold Year Throughput (1-in-35) (MTh)	242,993	151,758	1,406,917	0	0	0	0	0	0
137		Cold Year Peak Month (December) (MTh)	20,356	12,889	120,160	0	0	0	0	0	0
138		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	657	416	4,051	0	0	0	0	0	0
139		Number of Customers	30	23	925	0	0	0	0	0	0
140		Medium Pressure			105	_	-	-	-	-	-
141		Average Year Throughput (MTh)	57,097	1,320	432,879	0	0	0	0	0	0
142 143		Cold Year Throughput (1-in-35) (MTh)	57,097	1,320	435,520	0	0	0	0	0	0
143 144		Cold Year Peak Month (December) (MTh)	4,876 157	112	38,315	0	0	-	0	0	0
144		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh) Number of Customers	8	4 3	1,353 632	0	0	0	0	0	0
146		Number of Customers	0	3	032	U	U	U	U	U	U
2 3 4	Core Storage Capacities: Number of Injection Days Injection MMcfd	<u>Allocation Method</u> Inv per Inj Day	0.0%	0.0% 0	0.0%	0.0%	12.4% 55.2	0.0%	0.0%	12.4% 55.2	0.0%
5	% Demand										
6	Inventory MMCF	% Excess Winter Demand	0	0	0	0	10,229	0	0	10,229	0
7	involuery miner	70 Excess Williams					,			,	
8	MPD Peak Day (1-in-35 Core) Core Only MTh										
9	% Core MPD Peak Day										
10	Withdrawal MMcfd	% Core MPD Peak Day	0	0	0	0	239	0	0	239	0
11			0%	0%	0%	0%	11.9%	0%	0%	11.9%	0%
12	Injection \$000	33559	\$0	\$0	\$0	\$0	\$4,161	\$0	\$0	\$4,161	\$0
13	Inventory \$000	37314	\$0	\$0	\$0	\$0	\$4,626	\$0	\$0	\$4,626	\$0
14	Withdrawal \$000	22924	\$0	\$0	\$0 \$0	\$0	\$2,735	\$0	\$0	\$2,735	\$0 \$0
15	Lond Releasing Storage Coiti		\$0	\$0	<b>\$</b> U	\$0	\$11,522	\$0	\$0	\$11,522	φU
16 17	Load Balancing Storage Capacities: Injection MMcfd	%AYTP (incl EOR)	27%	2%	46%	1%	12%	1%	1%	15%	1%
18	Injection MMCF	%AYTP (INCLEOR) %AYTP (INCLEOR)	27%	2% 2%	46%	1%	12%	1%	1%	15%	1%
19	Withdrawal MMcfd	%AYTP (INCLEOR) %AYTP (Incl EOR)	27%	2% 2%	46%	1%	12%	1%	1%	15%	1%
20	Injection \$000	MATTI (IIIGI EON)	\$10,512	\$886	\$18,363	\$338	\$4.741	\$282	\$411	\$5,771	\$493
21	Inventory \$000		\$2,909	\$245	\$5,081	\$93	\$1,312	\$78	\$114	\$1,597	\$136
22	Withdrawal \$000		\$5,308	\$447	\$9,273	\$170	\$2,394	\$142	\$207	\$2,914	\$249
23			\$18,729	\$1,578	\$32,717	\$601	\$8,447	\$502	\$732	\$10,282	\$878
24	Unbundled Storage Capacities:										
25	Injection MMcfd	100% UBS	0%	0%	0%	0%	0%	0%	0%	0%	0%
26	Inventory MMCF	100% UBS	0%	0%	0%	0%	0%	0%	0%	0%	0%
27	Withdrawal MMcfd	100% UBS	0%	0%	0%	0%	0%	0%	0%	0%	0%
28	Injection \$000		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
29	Inventory \$000		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
30	Withdrawal \$000		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
31	Total Otalian		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
32	Total Storage:										

33 34 35 36 37	Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000		EG Tier 2 0 0 0 \$10,512 \$2,909	EOR 0 0 0 \$886 \$245	Total Retail NonCore 0 0 0 \$18,363 \$5,081	Long Beach  0 0 0 \$338 \$93	55 10,229 239 \$8,902 \$5,938	South West Gas  0 0 0 \$282 \$78	Vernon 0 0 0 \$411 \$114	Total Whole sale  55 10,229 239 \$9,932 \$6,223	Ecogas  0 0 0 \$493 \$136
38	Withdrawal \$000		\$5,308	\$447	\$9,273	\$170	\$5,129	\$142	\$207	\$5,649	\$249
39	Total Storage Costs per EC Method w/HR RRQ		\$18,729	\$1,578	\$32,717	\$601	\$19,969	\$502	\$732	\$21,804	\$878
<u></u>	Summary of Storage Costs for RATE TABLES under new method: Core \$000 Load Balancing \$000 Unbundled Storage \$000 total storage \$000 Storage Core Allocation, per Bruce Wetzel's testimony										
	Present Injection mmcfd										
	Inventory % Inventory MMCF	% Excess Winter Demand	0	0	0	0	9,334	0	0	9,334	0
	Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd	% Core MPD Peak Day	0	0	0	0	235	0	0	235	0
	Proposed Injection mmcfd										
	% Demand Inventory MMCF	% Excess Winter Demand	0	0	0	0	10,229	0	0	10,229	0
	MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd	% Core Peak Day	0	0	0	0	239	0	0	239	0

					_	NCCI-Total	NCCI-D	NCCI-T	EOR-Total
		UBS	Total Noncore	SYSTEM TOTAL	Sources				
1	Customer Costs Rental Method	050	Total Noncore	OTOTEM TOTAL	Jources				
2	Per Unit LRMC, \$/Cust/Year	\$0.00	\$56,580.86	\$349.32	SCG LRMC Customer Cost				
3	Number of Customers	0	1,021	5,920,161	New Allocation Factors	593	563	30	34
4	Customer Costs Rental Method \$000	\$0	\$57,782	\$2,068,033		\$32,700	\$31,069	\$1,631	\$2,871.53
5									
6	Medium Pressure Distribution costs								
7	Medium Pressure Distribution costs (MPD)	0400.00	0400.00	<b>0.400.00</b>	000   010 0 0 1 1 1 1 0				
8	Per Unit LRMC, \$/mcfd	\$198.08	\$198.08	\$198.08	SCG LRMC Distribution Cos	t			
9 10	MPD Peak Day Demand (mmcfd)  Medium Pressure Distribution Costs \$000	0 <b>\$0</b>	131 <b>\$25,913</b>	3,007 <b>\$595,705</b>	New Allocation Factors	\$19,067	\$19,067	0	\$69
11	Medium Fressure Distribution Costs \$000	40	\$20,913	<b>\$393,703</b>		\$19,007	\$19,007	<u> </u>	403
12	High Pressure Distribution costs								
13	High Pressure Distribution costs (HPD)								
14	Per Unit LRMC, \$/mcf	\$4.04	\$4.04	\$4.04	SCG LRMC Distribution Cos	t			
15	HPD Peak Month Demand (mmcf)	0	11,618	62,145	New Allocation Factors				
16	High Presure Distribution Costs \$000	\$0	\$46,897	\$250,856		\$30,989	\$30,989	0	\$5,030
17									
18	Unscaled LRMC Based Costs \$000	\$0	\$130,592	\$2,914,594		\$82,756	\$81,124	\$1,631	\$7,971
19	Scalar Allocator	0.0%	4.5%	100.0%		100.0%	98.0%	2.0%	100.0%
20	Calculation of Scalar:								
	Authorized Revenue Requirement in Rates Base Margin \$000								
	Adjustment to Storage for Honor Rancho \$000								
	Adjustment to Storage for Aliso Canyon\$000								
21	Target Base Margin \$000								
22	Less items not allocated per LRMC method:								
23	Transmission Cost per EC \$000								
24	Storage Costs per EC \$000								
25	Uncollectibles								
26	NGV Compression Adder Costs per EC \$000								
27	Target Scaled Costs \$000								
28	Unscaled LRMC Based Costs \$000								
29 30	amount to scale \$000 Scalar (as a % of unscaled)	63%	63%	63%		63%	63%	63%	63%
	Scalar (as a % or unscaled)	03%	03%	63%		63%	03%	03%	03%
31	Scaled Customer Costs \$000 LRMC/Rental Method	r.o.	f00 450	£4.004.400		<b>#00.400</b>	£40.440	£4.004	£4.707
32 33	Scaled Customer Costs \$000 LRMC/Rental Method Scaled Medium Pressure Distribution Costs \$000 LRMC	\$0 \$0	\$36,159 \$16,216	\$1,294,123 \$372,777		\$20,463 \$11,931	\$19,442 \$11,931	\$1,021 \$0	\$1,797 \$43
34	Scaled High Presure Distribution Costs \$000 LRMC	\$0 \$0	\$29,347	\$156,980		\$19,392	\$19,392	\$0 \$0	\$3,148
35	Scaled LRMC Based Costs \$000	\$0	\$81,721	\$1,823,879		\$51,786	\$50,766	\$1,021	\$4,988
36	Outou Etimo Bucca Gooto Çoo	Ψ.	<del>40.,</del>	<b>4.</b> ,020,010		<del>\$0.1,.00</del>	400,100	Ų.,oz.	<b>V.</b> ,000
37	NGV Compression Costs:								
38	Compression Adder Costs \$000			\$2,964					
39				7-,					
40	Uncollectibles:								
41	Target Base Margin \$000								
42	System Average Uncollectible Rate								
43	Uncollectibles								
44									
45	Allocation of Uncollectibles:								
46	All Costs excl. NGV Adder, EOR, Int, WS, and UBS	\$0	\$205,052	\$2,161,450		\$101,192	\$79,916	\$21,276	\$0
47	% All Costs excl. NGV Adder, EOR, Int, WS, and UBS	0.0%	9.5%	100.0%		4.7%	3.7%	1.0%	0.0%
48	Uncollectibles	\$0	\$635	\$6,695		\$313	\$248	\$66	\$0
49		·	·	·	·	·	·	· · · · · · · · · · · · · · · · · · ·	

Transmisison Costs per Embedded Cost Method:

53 Embedded Transmission Costs \$000

54 FF&L

55 Embedded Transmission Costs w/ FF&U \$000

56 Calculate BBT/Local-T Transmission Split:

56 Calcula 57

BBT \$

Processor   Proc								NCCI-Total	NCCI-D	NCCI-T	EOR-Total
				UBS	Total Noncore	SYSTEM TOTAL	Sources				
Company   Comp			LT\$					_			
CFT   March   10   10   10   10   10   10   10   1		Allocation of BRT Costs:									
CVTP   1970				0	5.870.548	9.691.163		1.549.897	923.717	626.181	208.941
Allocation of L'Costes:											
		BBT Costs per EC method	•	\$0	\$106,970	\$176,587		\$28,241	\$16,831	\$11,410	\$3,807
Company   Comp		All 6 (170 )									
CVPM				0	537 087	1 063 341		140 247	79.400	60.847	17 7/6
Costs per EC methods   50   \$34,545   \$37,565   \$34,941   \$5,727   \$4,118   \$1,225											
Sicrage Costs per EC Method (this includes HR RRC)			•								
	69	Total Transmission Costs per EC method		\$0	\$143,314	\$248,543		\$37,732	\$22,204	\$15,527	\$5,008
Embedded Storage Costs S000   Horocontrol Revenue Requirement (HSMA)   Horocontrol Revenue Revenue Revenue Requirement (HSMA)   Horocontrol Revenue											
Marco Renote Requirement (HRSM)   Marco Regularement (HRSM)   Marco Renote Requirement (HRSM)   Marco Renote Regularement (HRSM)   Marco Renote Requirement (HRSM)   Marco Renote Regularement (HRSM)											
Association Review Requirement   Association Regularized   Associati											
Control Strange   Court Stra											
Concessionage   Sectionage		raise early an interesting requirement									
2007   Storage	76										
1											
Note   Included Storage Costs \$000   \$0   \$0   \$0   \$0   \$0   \$0   \$											
Total Storage Costs \$000   \$0   \$55,400   \$164,411   \$11,673   \$6,945   \$4,728   \$1,578   \$2,246,492   \$10,005   \$2,246,492   \$10,505   \$20,105   \$2,246,492   \$10,005   \$2,											
ALLOCATED BASE MARGIN (not of misc revenue & broker fee)   50   \$281,071   \$2,246,492   \$101,505   \$80,163   \$21,342   \$11,574											
					, , , , , , , , , , , , , , , , , , , ,	, ,		, ,	, , , ,		
All_COATED BASE MARGIN (net of misc revenue & broker fee)   50   \$281,071   \$2,246,492   \$10,055   \$80,165   \$21,342   \$11,574   \$10,055   \$21,342   \$11,575   \$10,055   \$21,342   \$11,575   \$10,055   \$21,342   \$11,575   \$10,055   \$21,342   \$11,575   \$10,055   \$21,342   \$11,575   \$10,055   \$10,0	83										
ALLOCATED BASE MARGIN (net of misc revenue & broker fee)   \$0											
Percentage   1.5		ALLOCATED BASE MARGIN (not of mice revenue & broke	or fool	¢n.	\$291 071	\$2.246.402		\$101 E0E	\$90.162	\$24.242	\$11 E74
88 Average Year Throughput Mth average Year Throughput (MTh) Avera		·	er ree)								
Note							New Allocation Factors	4.5%	3.0%	1.0%	0.5%
Model Results RD Format for RD Models				ŭ			Trow / modulon / doloro				
	90	-									
Customer Related Costs   \$0   \$38,169   \$1,24,123   \$20,463   \$19,42   \$1,021   \$1,797		Madel Passite DD Format for DD Madela									
Medium Pressure Distribution Costs   \$0				\$0	\$36 159	\$1 294 123		\$20.463	\$19 442	\$1 021	\$1 797
Sackbone Transmission Costs   \$0											
Second   S		High Pressure Distribution Costs			\$29,347			\$19,392	\$19,392	\$0	
Storage - Seasonal   Storage - Seasonal   Storage - Seasonal   Storage - Load Balancing   Storage - TBS   St											
Storage - Load Balancing   \$0											
Storage - TBS											
Uncollectibles   \$0											
Total Margin Allocation pre-SI & Unbundle FAR  **N Allocation**  **Transmission**  **New Year Throughput (MTh)											
Name of Customers   Name											
107 108 109 Transmission 110 Average Year Throughput (MTh) 4,407,480 4,449,614 111 Cold Year Peak Month (December) (MTh) 4,463,632 4,506,051 112 Cold Year Peak Month (December) (MTh) 416,928 420,596 113 Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh) 17,476 17,608 114 Number of Customers 96 223 115 High Pressure 116 Average Year Throughput (MTh) 970,056 1,097,877 117 Cold Year Throughput (1-in-35) (MTh) 971,397 1,102,085											
107 108 109		% Allocation		0.0%	12.5%	100.0%		4.5%	3.6%	1.0%	0.5%
108 109 Transmission 110 Average Year Throughput (MTh) 4,407,480 4,449,614 111 Cold Year Throughput (1-in-35) (MTh) 4,463,632 4,506,051 112 Cold Year Peak Month (December) (MTh) 416,928 420,596 113 Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh) 17,476 17,608 114 Number of Customers 96 223 115 High Pressure 116 Average Year Throughput (MTh) 970,056 1,097,877 117 Cold Year Throughput (1-in-35) (MTh) 971,397 1,102,085	106										
109     Transmission       110     Average Year Throughput (MTh)     4,407,480     4,449,614       111     Cold Year Throughput (1-in-35) (MTh)     4,463,632     4,506,051       112     Cold Year Peak Month (December) (MTh)     416,928     420,596       113     Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)     17,476     17,608       114     Number of Customers     96     223       115     High Pressure       116     Average Year Throughput (MTh)     970,056     1,097,877       117     Cold Year Throughput (1-in-35) (MTh)     971,397     1,102,085	107										
110       Average Year Throughput (MTh)       4,407,480       4,449,614         111       Cold Year Throughput (1-in-35) (MTh)       4,463,632       4,506,051         112       Cold Year Peak Month (December) (MTh)       416,928       420,596         113       Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)       17,476       17,608         114       Number of Customers       96       223         115       High Pressure       970,056       1,097,877         116       Average Year Throughput (MTh)       970,056       1,097,877         117       Cold Year Throughput (1-in-35) (MTh)       971,397       1,102,085											
111       Cold Year Throughput (1-in-35) (MTh)       4,463,632       4,506,051         112       Cold Year Peak Month (December) (MTh)       416,928       420,596         113       Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)       17,476       17,608         114       Number of Customers       96       223         115       High Pressure         116       Average Year Throughput (MTh)       970,056       1,097,877         117       Cold Year Throughput (1-in-35) (MTh)       971,397       1,102,085											
112 Cold Year Peak Month (December) (MTh) 416,928 420,596 113 Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh) 17,476 17,608 114 Number of Customers 96 223 115 High Pressure 116 Average Year Throughput (MTh) 970,056 1,097,877 117 Cold Year Throughput (1-in-35) (MTh) 971,397 1,102,085											
113     Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)     17,476     17,608       114     Number of Customers     96     223       115     High Pressure       116     Average Year Throughput (MTh)     970,056     1,097,877       117     Cold Year Throughput (1-in-35) (MTh)     971,397     1,102,085											
114     Number of Customers     96     223       115     High Pressure     116       116     Average Year Throughput (MTh)     970,056     1,097,877       117     Cold Year Throughput (1-in-35) (MTh)     971,397     1,102,085											
High Pressure       116     Average Year Throughput (MTh)     970,056     1,097,877       117     Cold Year Throughput (1-in-35) (MTh)     971,397     1,102,085											
117 Cold Year Throughput (1-in-35) (MTh) 971,397 1,102,085											
Cold Year Peak Month (December) (MTh) 81,845 94,702					•						
	118		Cold Year Peak Month (December) (MTh)		81,845	94,702					

							NCCI-Total	NCCI-D	NCCI-T	EOR-Total
			UBS	Total Noncore	SYSTEM TOTAL	Sources				
119		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)		2,698	3,249		_			
120		Number of Customers		293	8,476					
121		Medium Pressure		400.070	2 202 402					
122		Average Year Throughput (MTh)		432,879 435,520	3,803,469 4.083.027					
123 124		Cold Year Throughput (1-in-35) (MTh) Cold Year Peak Month (December) (MTh)		435,520 38,315	548,043					
125		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)		1,353	31,105					
126		Number of Customers		632	5,911,462					
127		CUMULATIVE (Calc'd from DIRECT %'s)				_				
128		Transmission								
129		Average Year Throughput (MTh)		5,810,415	9,350,960					
130		Cold Year Throughput (1-in-35) (MTh)		5,870,548	9,691,163					
131		Cold Year Peak Month (December) (MTh)		537,087	1,063,341					
132 133		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh) Number of Customers		21,527 1,021	51,962 5,920,161					
134		High Pressure		1,021	5,920,161					
135		Average Year Throughput (MTh)		1,402,935	4,901,347					
136		Cold Year Throughput (1-in-35) (MTh)		1,406,917	5,185,112					
137		Cold Year Peak Month (December) (MTh)		120,160	642,745					
138		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)		4,051	34,354					
139		Number of Customers		925	5,919,938					
140		Medium Pressure								
141		Average Year Throughput (MTh)		432,879	3,803,469					
142		Cold Year Throughput (1-in-35) (MTh)		435,520	4,083,027					
143		Cold Year Peak Month (December) (MTh)		38,315	548,043					
		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh) Number of Customers		1,353 632	31,105 5,911,462					
144 145					0,011,102					
144 145 146	2017TCAP Phase 1 Storage Allocation Proposal									
145 146 1 2	2017TCAP Phase 1 Storage Allocation Proposal Core Storage Capacities: Number of Injection Days	<u>Allocation Method</u>	0.0%	12.4%	100.0%					
145 146 1 2 3	Core Storage Capacities:		0.0%	12.4% 55	100.0% 445					
145 146 1 2 3 4 5	Core Storage Capacities: Number of Injection Days	Allocation Method	0	55		Demand Forecast Testin	nony			
145 146 1 2 3 4 5 6	Core Storage Capacities: Number of Injection Days Injection MMcfd	Allocation Method				Demand Forecast Testin Demand Forecast Testin				
145 146 1 2 3 4 5 6 7 8	Core Storage Capacities: Number of Injection Days Injection MMcfd % Demand Inventory MMCF MPD Peak Day (1-in-35 Core) Core Only MTh	<u>Allocation Method</u> Inv per Inj Day	0	55	445					
145 146 1 2 3 4 5 6 7 8 9	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day	Allocation Method Inv per Inj Day % Excess Winter Demand	0	55 10,229	445 82,500	Demand Forecast Testim	nony			
145 146 1 2 3 4 5 6 7 8 9 10	Core Storage Capacities: Number of Injection Days Injection MMcfd % Demand Inventory MMCF MPD Peak Day (1-in-35 Core) Core Only MTh	<u>Allocation Method</u> Inv per Inj Day	0 0	55 10,229 239	445 82,500 2,000		nony			
145 146 1 2 3 4 5 6 7 8 9 10 11	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day	0 0 0 0 0%	55 10,229 239 11.9%	2,000 100%	Demand Forecast Testim	nony			
145 146 1 2 3 4 5 6 7 8 9 10 11 12	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559	0 0 0 0% \$0	55 10,229 239 11.9% \$4,161	445 82,500 2,000 100% \$33,559	Demand Forecast Testim	nony			
145 146 1 2 3 4 5 6 7 8 9 10 11 12 13	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day	0 0 0 0 0%	55 10,229 239 11.9%	2,000 100%	Demand Forecast Testim	nony			
145 146 1 2 3 4 5 6 7 8 9 10 11 12 13 14	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314	0 0 0 0% \$0 \$0	55 10,229 239 11.9% \$4,161 \$4,626	2,000 100% \$33,559 \$37,314	Demand Forecast Testim	nony	\$0	\$0	\$0
145 146 1 2 3 4 5 6 6 7 8 8 9 10 11 12 13 14 15 16	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities:	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924	0 0 0% \$0 \$0 \$0	55 10,229 239 11.9% \$4,161 \$4,626 \$2,735 \$11,522	2,000 100% \$33,559 \$37,314 \$22,924 \$93,797	Demand Forecast Testin	nony	\$0	\$0	\$0
145 146 1 2 3 4 4 5 6 6 7 8 9 10 11 12 13 14 15 16 17	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924	0 0 0% \$0 \$0 \$0 \$0	55 10,229 239 11.9% \$4,161 \$4,626 \$2,735 \$11,522 62%	2,000 100% \$33,559 \$37,314 \$22,924 \$93,797	Demand Forecast Testin  Demand Forecast Testin  TCAP D.16-10-004	nony	\$0	\$0	\$0
145 146 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR)	0 0 0% \$0 \$0 \$0 \$0	239 11.9% \$4,161 \$4,626 \$2,735 \$11,522 62% 62%	2,000 100% \$33,559 \$37,314 \$22,924 \$93,797	Demand Forecast Testin  Demand Forecast Testin  TCAP D.16-10-004  TCAP D.16-10-004	nony	\$0	\$0	\$0
145 146 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Withdrawal MMcfd	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924	0 0 0% \$0 \$0 \$0 \$0	239 11.9% \$4,161 \$4,626 \$2,735 \$11,522 62% 62% 62%	2,000 100% \$33,559 \$37,314 \$22,924 \$93,797 100% 100%	Demand Forecast Testin  Demand Forecast Testin  TCAP D.16-10-004	nony	\$0	\$0	\$0
145 146 1 1 2 3 4 5 6 6 7 8 8 9 10 11 12 13 14 15 16 17 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR)	0 0 0% \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	55 10,229 239 11,9% \$4,161 \$4,626 \$2,735 \$11,522 62% 62% 62% \$24,627	2,000 100% \$33,559 \$37,314 \$22,924 \$93,797 100% 100% \$39,634	Demand Forecast Testin  Demand Forecast Testin  TCAP D.16-10-004  TCAP D.16-10-004	nony SO	•		
145 146 1 2 3 4 5 6 6 7 8 8 9 10 11 12 13 14 15 16 17 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Inventory \$000 Inventory \$000 Inventory \$000 Inventory \$000 Inventory \$000	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR)	0 0 0% \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	239 11.9% \$4,161 \$4,626 \$2,735 \$11.522 62% 62% 62% \$24,627 \$6,814	2,000 100% \$33,559 \$37,314 \$22,924 \$93,797 100% 100% 100% \$39,634 \$10,966	Demand Forecast Testin  Demand Forecast Testin  TCAP D.16-10-004  TCAP D.16-10-004	sony \$0 1,545,814	919,735	626,080	208,941
145 146 1 2 3 4 5 6 6 7 8 9 10 11 12 13 14 15 16 17 18 19 19 19 19 19 19 19 19 19 19 19 19 19	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR)	0 0 0% \$0 \$0 \$0 \$0 0% 0% 0% 0% 50 50	239 11.9% \$4,161 \$4,626 \$2,735 \$11,522 62% 62% 62% \$24,627 \$6,814 \$12,436	2,000 100% \$33,559 \$37,314 \$22,924 \$93,797 100% 100% 100% \$39,634 \$10,966 \$20,014	Demand Forecast Testin  Demand Forecast Testin  TCAP D.16-10-004  TCAP D.16-10-004	\$0 \$0 1,545,814 100.0%	919,735 59.5%	626,080 40.5%	208,941 100.0%
145 146 1 2 3 4 4 5 6 6 7 8 9 9 10 111 12 13 114 15 16 17 17 18 19 20 21 22 22 23	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000 Withdrawal \$000 Withdrawal \$000	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR)	0 0 0% \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	239 11.9% \$4,161 \$4,626 \$2,735 \$11.522 62% 62% 62% \$24,627 \$6,814	2,000 100% \$33,559 \$37,314 \$22,924 \$93,797 100% 100% 100% \$39,634 \$10,966	Demand Forecast Testin  Demand Forecast Testin  TCAP D.16-10-004  TCAP D.16-10-004	sony \$0 1,545,814	919,735	626,080	208,941
145 146 1 2 3 4 5 6 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 22 23 24 24 25 26 26 27 27 27 28 28 28 28 28 28 28 28 28 28 28 28 28	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Univentory \$000 Withdrawal \$000 Univentory \$000 Withdrawal \$000 Univentory \$000 Withdrawal \$000 Unbundled Storage Capacities:	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)	0 0 0% \$0 \$0 \$0 \$0 0% 0% 0% 0% 50 50	239 11.9% \$4,161 \$4,626 \$2,735 \$11,522 62% 62% 62% \$24,627 \$6,814 \$12,436	2,000 100% \$33,559 \$37,314 \$22,924 \$93,797 100% 100% 100% \$39,634 \$10,966 \$20,014	Demand Forecast Testin  Demand Forecast Testin  TCAP D.16-10-004  TCAP D.16-10-004	\$0 \$0 1,545,814 100.0%	919,735 59.5%	626,080 40.5%	208,941 100.0%
145 146 1 2 3 4 5 6 7 8 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 22 23 24 25	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Injection \$000 Inventory MMCF Withdrawal MMcfd Injection \$000 Undentory MMCF Withdrawal MMcfd Injection \$000 Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR)	0 0 0% \$0 \$0 \$0 \$0 0% 0% 0% 0% \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	239 11.9% \$4,161 \$4,626 \$2,735 \$11,522 62% 62% 62% \$24,627 \$6,814 \$12,436 \$43,878	2,000 100% \$33,559 \$37,314 \$22,924 \$93,797 100% 100% 100% \$39,634 \$10,966 \$20,014	Demand Forecast Testin  Demand Forecast Testin  TCAP D.16-10-004  TCAP D.16-10-004	\$0 \$0 1,545,814 100.0%	919,735 59.5%	626,080 40.5%	208,941 100.0%
145 146 1 2 3 4 4 5 6 6 7 8 8 9 10 11 12 13 14 15 16 11 7 18 19 20 21 22 23 24 25 26	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Univentory \$000 Withdrawal \$000 Univentory \$000 Withdrawal \$000 Univentory \$000 Withdrawal \$000 Unbundled Storage Capacities:	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)	0 0 0% \$0 \$0 \$0 \$0 \$0 \$0 0% 0% 50 \$0 \$0 100%	239 11.9% \$4,161 \$4,626 \$2,735 \$11.522 62% 62% 62% \$24,627 \$6,814 \$12,436 \$43,878	2,000 100% \$33,559 \$37,314 \$22,924 \$93,797 100% 100% \$39,634 \$10,966 \$20,014 \$70,614	Demand Forecast Testin  Demand Forecast Testin  TCAP D.16-10-004  TCAP D.16-10-004	\$0 \$0 1,545,814 100.0%	919,735 59.5%	626,080 40.5%	208,941 100.0%
145 146 1 2 3 4 4 5 5 6 7 8 8 9 10 111 12 13 14 15 16 17 18 19 20 21 22 22 22 24 25 6 27	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Injection \$000 Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)	0 0 0 0% \$0 \$0 \$0 0% 0% \$0 \$0 \$0 \$0 100%	55 10,229 239 11.9% \$4,161 \$4,626 \$2,735 \$11,522 62% 62% \$24,627 \$6,814 \$12,436 \$43,878 100% 100%	2,000 100% \$33,559 \$37,314 \$22,924 \$93,797 100% 100% \$39,634 \$10,966 \$20,014 \$70,614	Demand Forecast Testin  Demand Forecast Testin  TCAP D.16-10-004  TCAP D.16-10-004	\$0 \$0 1,545,814 100.0%	919,735 59.5%	626,080 40.5%	208,941 100.0%
145 146 1 2 3 4 5 6 6 7 8 9 10 11 12 13 14 15 16 17 18 19 19 19 19 19 19 19 19 19 19 19 19 19	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd Injection \$000 Inventory MMCF Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Inventory MMCF Withdrawal MMcfd Withdrawal MMcfd	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)	0 0 0% \$0 \$0 \$0 \$0 0% 0% 0% \$0 \$0 \$0 \$0	55  10,229  239 11,9% \$4,161 \$4,626 \$2,735 \$11,522  62% 62% 62% \$24,627 \$6,814 \$12,436 \$43,878  100% 100%	445  82,500  2,000 100% \$33,559 \$37,314 \$22,924 \$93,797  100% 100% \$39,634 \$10,966 \$20,014 \$70,614  100% 100% 100%	Demand Forecast Testin  Demand Forecast Testin  TCAP D.16-10-004  TCAP D.16-10-004	\$0 \$0 1,545,814 100.0%	919,735 59.5%	626,080 40.5%	208,941 100.0%
145 146 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 22 22 22 22 22 22 22 22 22 22 22	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection MMcfd Injection \$000	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)	0 0 0% \$0 \$0 \$0 \$0 0% 0% \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	239 11.9% \$4,161 \$4,626 \$2,735 \$11,522 62% 62% \$24,627 \$6,814 \$12,436 \$43,878 100% 100% \$0 \$0	445  82,500  2,000 100% \$33,559 \$37,314 \$22,924 \$93,797  100% 100% \$39,634 \$10,966 \$20,014 \$70,614  100% 100% \$0 \$0 \$0	Demand Forecast Testin  Demand Forecast Testin  TCAP D.16-10-004  TCAP D.16-10-004	\$0 1,545,814 100.0% \$11,673	919,735 59.5% \$6,945	626,080 40.5% \$4,728	208,941 100.0% \$1,578
145 146 1 2 3 4 4 5 6 6 7 8 9 10 111 12 13 14 15 16 117 18 19 20 21 22 23 224 25 26 27 28 29 30 31	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Injection \$000 Inventory MMCF Withdrawal MMcfd Injection \$000 Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd Inventory \$000 Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Inventory \$000 Inventory \$000 Inventory \$000	Allocation Method Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)	0 0 0 0 0 0 0% \$0 \$0 \$0 0% 0% \$0 \$0 \$0 100% 100%	55  10,229  239 11.9% \$4,161 \$4,626 \$2,735 \$11,522  62% 62% \$24,627 \$6,814 \$12,436  \$43,878  100% 100% \$0	2,000 100% \$33,559 \$37,314 \$22,924 \$93,797 100% 100% \$39,634 \$10,966 \$20,014 \$70,614	Demand Forecast Testin  Demand Forecast Testin  TCAP D.16-10-004  TCAP D.16-10-004	\$0 \$0 1,545,814 100.0%	919,735 59.5%	626,080 40.5%	208,941 100.0%

							NCCI-Total	NCCI-D	NCCI-T	EOR-Total
			UBS	Total Noncore	SYSTEM TOTAL	L Sources				
33	Injection MMcfd		1	57	447					
34	Inventory MMCF		1	10,230	82,502					
35	Withdrawal MMcfd		1	240	2,002					
36	Injection \$000		\$0	\$28,788	\$73,193					
37	Inventory \$000		\$0	\$11,441	\$48,280					
38	Withdrawal \$000	_	\$0	\$15,171	\$42,938					
39	Total Storage Costs per EC Method w/HR RRQ		\$0	\$55,400	\$164,411		\$11,673	\$6,945	\$4,728	\$1,578
	Summary of Storage Costs for RATE TABLES under new method: Core \$000 Load Balancing \$000 Unbundled Storage \$000 total storage \$000									
_	total storage \$000									
	Storage Core Allocation, per Bruce Wetzel's testimony Present Injection mmcfd									
	Inventory %									
	Inventory MMCF	% Excess Winter Demand	0	9,334	82,427					
	Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd	% Core MPD Peak Day	0	235	2,211					
	Proposed Injection mmcfd									
	% Demand Inventory MMCF	% Excess Winter Demand	0	9,824	83,000	Demand Forecast Demand Forecast				
	MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd	% Core Peak Day	0	248	2,225	Demand Forecast				

		EOR-D	EOR-T	Total EG	EG Tier 1	EG Tier 1 Dist	Trans	EG Tier 2	EG Tier 2 Dist	Trans
			-							-
1 2	Customer Costs Rental Method Per Unit LRMC, \$/Cust/Year									
3	Number of Customers	23	11	389	322.5850853	308	14	67	30	36
4	Customer Costs Rental Method \$000	\$1,942.51	\$929.02	18690.88225	8398.251411	\$8,028.48	\$369.77	10292.63084	\$4,654.29	\$5,638.34
5	Table 1 Control	ψ1,012.01	<b>4020.02</b>	10000100220	0000.201111	ψο,ο2ο. 10	<b>\$</b> 000	10202.00001	ψ1,001.20	φο,οσσίο :
6	Medium Pressure Distribution costs									
7	Medium Pressure Distribution costs (MPD)									
8	Per Unit LRMC, \$/mcfd									
9	MPD Peak Day Demand (mmcfd)									
10	Medium Pressure Distribution Costs \$000	\$69	0	\$6,778	\$3,765	\$3,765	0	\$3,013	\$3,013	0
11	TELD BY A STATE OF									
12	High Pressure Distribution costs									
13 14	High Pressure Distribution costs (HPD) Per Unit LRMC, \$/mcf									
15	HPD Peak Month Demand (mmcf)									
16	High Presure Distribution Costs \$000	\$5,030	0	\$10,878	\$2,933	\$2,933	0	\$7,945	\$7,945	0
17	INSTITUTE OF THE PROPERTY OF T	40,000	-	<b>V.0,0.0</b>	<b>\$2,000</b>	<b>\$2,000</b>		<b>\$1,0.0</b>	<b>\$1,0.0</b>	
18	Unscaled LRMC Based Costs \$000	\$7,042	\$929	\$36,346	\$15,096	\$14,726	\$370	\$21,250	\$15,611	\$5,638
19	Scalar Allocator	88.3%	11.7%		41.5%	40.5%	1.0%	58.5%	43.0%	15.5%
20	Calculation of Scalar:									
	Authorized Revenue Requirement in Rates Base Margin \$000									
	Adjustment to Storage for Honor Rancho \$000									
04	Adjustment to Storage for Aliso Canyon\$000									
21	Target Base Margin \$000									
22	Less items not allocated per LRMC method:									
23 24	Transmission Cost per EC \$000 Storage Costs per EC \$000									
25	Uncollectibles									
26	NGV Compression Adder Costs per EC \$000									
27	Target Scaled Costs \$000									
28	Unscaled LRMC Based Costs \$000									
29	amount to scale \$000									
30	Scalar (as a % of unscaled)	63%	63%	63%	63%	63%	63%	63%	63%	63%
31										
32	Scaled Customer Costs \$000 LRMC/Rental Method	\$1,216	\$581	\$11,696	\$5,255	\$5,024	\$231	\$6,441	\$2,913	\$3,528
33	Scaled Medium Pressure Distribution Costs \$000 LRMC	\$43	\$0	\$4,241	\$2,356	\$2,356	\$0	\$1,885	\$1,885	\$0
34	Scaled High Presure Distribution Costs \$000 LRMC	\$3,148	\$0	\$6,807	\$1,835	\$1,835	\$0	\$4,972	\$4,972	\$0
35	Scaled LRMC Based Costs \$000	\$4,407	\$581	\$22,744	\$9,447	\$9,215	\$231	\$13,298	\$9,769	\$3,528
36	NOVO O									
37	NGV Compression Costs:									
38	Compression Adder Costs \$000									
39 40	Uncollectibles:									
41	Target Base Margin \$000									
42	System Average Uncollectible Rate									
43	Uncollectibles									
44										
45	Allocation of Uncollectibles:									
46	All Costs excl. NGV Adder, EOR, Int, WS, and UBS	\$0	\$0	\$103,860	\$12,491	\$12,004	\$487	\$91,369	\$17,409	\$73,960
47	% All Costs excl. NGV Adder, EOR, Int, WS, and UBS	0.0%	0.0%	4.8%	0.6%	0.6%	0.0%	4.2%	0.8%	3.4%
48	Uncollectibles	\$0	\$0	\$322	\$39	\$37	\$2	\$283	\$54	\$229
49		<del></del>		·	·		·	·		

49 50 51 Transmisison Costs per Embedded Cost Method:

52 53 Embedded Transmission Costs \$000

54

55 Embedded Transmission Costs w/ FF&U \$000

56 Calculate BBT/Local-T Transmission Split:

57

BBT \$

EG Tier 2

EG Tier 1

2020 TCAP Application	EOR-D	EOR-T		Total EG	EG Tier 1	EG Tier 1 Dist	EG Tier 1 Trans	EG Tier 2	EG Tier 2 Dist	EG Tie Tran
LT\$										
Allocation of BBT Costs:										
CYTP Mth	151,758	57,184		2,577,778	97,615	88,449	9,166	2,480,164	242,993	2,237,1
% CYTP	1.6%	0.6%		26.6%	1.0%	0.9%	0.1%	25.6%	2.5%	23.1
BBT Costs per EC method	\$2,765	\$1,042		\$46,971	\$1,779	\$1,612	\$167	\$45,192	\$4,428	\$40,7
Allocation of LT Costs:										
CYPM Mth	12,889	4,857		216,917	7,806	7,515	291	209,111	20,356	188,7
% CYPM	1.21%	0.46%		20.40%	0.73%	0.71%	0.03%	19.67%	1.91%	17.7
LT Costs per EC method	\$872	\$329		\$14,679	\$528	\$509	\$20	\$14,150	\$1,377	\$12,
Total Transmission Costs per EC method	\$3,637	\$1,371		\$61,650	\$2,307	\$2,120	\$187	\$59,343	\$5,805	\$53,
Storage Costs per EC Method (this includes HR RRQ)										
Embedded Storage Costs \$000										
Honor Rancho Revenue Requirement (HRSMA)										
Aliso Canyon Revenue Requirement										
Core Storage	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0
Load Balancing	\$1,146	\$432		\$19,466	\$737	\$668	\$69	\$18,729	\$1,835	\$16,
Unbundled Storage	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Storage Costs \$000	\$1,146	\$432		\$19,466	\$737	\$668	\$69	\$18,729	\$1,835	\$16,
ALLOCATED BASE MARGIN (net of misc revenue & broker fee)	\$9,190	\$2,384		\$104,182	\$12,530	\$12,041	\$489	\$91,652	\$17,463	\$74,
Percentage	0.4%	0.1%		4.6%	0.6%	0.5%	0.0%	4.1%	0.8%	3.3
Average Year Throughput Mth										
average rate \$/therm										
Model Results RD Format for RD Models  Customer Related Costs	Ø4 040	reo1		£44 coc	te see	<b>¢</b> E 024	<b>¢</b> 224	CC 444	<b>6</b> 2.042	e0.5
Customer Related Costs Medium Pressure Distribution Costs	\$1,216 \$43	\$581 \$0		\$11,696 \$4,241	\$5,255 \$2,356	\$5,024 \$2,356	\$231 \$0	\$6,441 \$1,885	\$2,913 \$1,885	\$3,5 \$0
High Pressure Distribution Costs	\$43 \$3,148	\$0 \$0		\$6,807	\$2,356 \$1,835	\$2,356 \$1,835	\$0 \$0	\$1,885 \$4,972	\$1,885 \$4,972	\$(
Backbone Transmission Costs	\$2,765	\$1,042		\$46,971	\$1,779	\$1,612	\$167	\$45,192	\$4,428	\$40,7
Local Transmission Costs	\$872	\$329		\$14,679	\$528	\$509	\$20	\$14,150	\$1,377	\$12,
Storage - Seasonal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Storage - Load Balancing	\$1,146	\$432	\$0	\$19,466	\$737	\$668	\$69	\$18,729	\$1,835	\$16,8
Storage - TBS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Uncollectibles	\$0	\$0		\$322	\$39	\$37	\$2	\$283	\$54	\$22
NGV Compression Costs:	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0
	f0.400	\$2,384		\$104,182	\$12,530	\$12,041	\$489	\$91,652	\$17,463	\$74,
Total Margin Allocation pre-SI & Unbundle FAR	\$9,190	\$2,30 <del>4</del>		\$104,102	ψ12,330	Ψ12,071	Ψ-100	ΨΦ.,σ <b>σ</b> =	Ψ11,400	

### Transmission

Average Year Throughput (MTh)
Cold Year Throughput (1-in-35) (MTh)
Cold Year Peak Month (December) (MTh)
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)
Number of Customers
High Pressure
Average Year Throughput (MTh)
Cold Year Throughput (1-in-35) (MTh)
Cold Year Peak Month (December) (MTh)

Peal Day Can's Tay   Name of Countries   Nam				EOR-D	EOR-T	Total EG	EG Tier 1	EG Tier 1 Dist	Trans	EG Tier 2	EG Tier 2 Dist	Trans
Number of Customes   Number			•									
Number of Continues   Present   Pr	119		Peak Day (1-in-35 Core: 1-in-10 Noncore) (MTh)									
192	120											
Carl Vera Tristograph (Inchical) (Carl Vera Tributory) (Inchical) (Inchical												
Carl Var Pearl More (Control Pearl Var Pearl												
Pear Do print - S Core - 100 Name of Grand MRM   Pear Do print - S Core - 100 Name of Grand MRM   Pear Do print - S Core - 100 Name of Grand MRM   Pear Do print - S Core - 100 Name of Grand MRM   Pear Do print - S Core - 100 Name of Grand MRM   Pear Do print - S Core - 100 Name of Grand MRM   Pear Do print - S Core - 100 Name of Grand MRM   Pear Do print - S Core - 100 Name of Grand MRM   Pear Do print - S Core - 100 Name of Grand MRM   Pear Do print - S Core - 100 Name of Grand MRM   Pear Do print - S Core - 100 Name of Grand MRM   Pear Do print - S Core - 100 Name of Grand MRM   Pear Do print - S Core - 100 Name of Grand MRM   Pear Do print - S Core - 100 Name of Grand MRM   Pear Do print - 100 Name of Grand MRM												
Communication   Communicatio												
Transmission												
Marriage   Marriage												
100   Cod Year Pack Morting (December) (ITT)   Peac Cod Year Pack Morting (December) (ITT)   Peac Cod Year Pack Morting (December) (ITT)   Peac Cod Year Pack Morting (Peac Cod Year Pack Morting (Peac Throughout (ITT)   Peac												
Cold Year Peak Motion (December) (RTIN)   Record (RTIN)   Re												
13												
Migh Peasur												
1.5   1.5												
Cod Var Prew Morth (Cleamber (MTH)   Pear Dec V   1-83 Core 1-14 Oktoorie (MTH)   Pear Dec V   1-84 Core 1-14												
Peak Day (1-in-36 Core; 1-in-10 Noncoe) (MTh)   Number of Customers   Medium Pressure   Medium Press												
139												
Mode												
141   142   143   144   145												
143   Cold Year Peak Inter-In Noncore) (MTh   Peak Day (1-1-35 Core; 1-1-0 Noncore) (MTh   Number of Customers   Number of Custome												
Park Day (1-in-35 Core; 1-in-10 Noncore) (NTh)   Number of Customers												
Number of Customers   Number of Customers												
140												
2017CAP Phase 1 Storage Allocation Proposal   Allocation Method   Core Storage Cancellies:   Allocation Method   Inv per in Joay   Inv p			Number of Sustainers									
Core Storage Cagacities:   Allocation Method   Properties   Properti												
Number of Injection Days   Invertor Days   I	4		Allocation Mother									
Injection MMcIf   Invertory MMCF   McDeanard   Marker   McDeanard   McDeanar			Allocation Metriog									
March   Marc			Inv per Inj Day									
MPD Peak Day   135 Core  Core Only MTh   MPD Peak Day   135 Core  Core Only MTh   MPD Peak Day   135 Core  Core Only MTh   MPD Peak Day   MPD Peak D	4											
7         MPD Peak Day (1-in-35 Core) Core Only MTh           9         % Core MPD Peak Day           10         Withdrawal MMcdd         % Core MPD Peak Day           11         Injection 5000         33559           13         Inventory 5000         37314           44         Withdrawal S000         \$0	5		O/ France Minter Demand									
MPD Peak Day (1-in-35 Core) MTh		Inventory MINICE	% Excess Winter Demand									
Withdrawal MMcfd		MPD Peak Day (1-in-35 Core) Core Only MTh										
1												
Part		Withdrawal MMcfd	% Core MPD Peak Day									
13		Injection \$000	22550									
Withdrawal \$000   \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0												
Load Balancing Storage Capacities:			22924									
17				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1			% AVTR (incl EOR)									
19    Withdrawal MMcfd												
1												
22         Withdrawal \$000         72.6%         27.4%         100.0%         90.6%         9.4%         100.0%         9.8%         90.2%           23         \$1,146         \$432         \$19,466         \$737         \$668         \$69         \$18,729         \$1,835         \$16,894           24         Unbundled Storage Capacities:         Injection MMcfd         100% UBS         \$100% UBS												
Standard   Standard						2,577,778					,	
100		withdrawal \$000				\$19 466						
		Unbundled Storage Capacities:		ψ.,170	Ų.UZ	Ψ10,700	ψ. σ.	<b>4300</b>	Ψ30	ψ.J,120	ψ.,000	Ψ.0,004
27 Withdrawal MMcfd 100% UBS 28 Injection \$000 29 Inventory \$000 30 Withdrawal \$000 31 \$ \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	25	Injection MMcfd										
28 Injection \$000 29 Inventory \$000 30 Withdrawal \$000 31 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0												
29 Inventory \$000 30 Withdrawal \$000 31 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0			100% UBS									
30 Withdrawal \$000 31 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0												
32 Total Storage:			•	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	32	I otal Storage:										

EG Tier 2

EG Tier 1

	EOR-I	EOR-T	Total EG	EG Tier 1	EG Tier 1 Dist	Trans	EG Tier 2	EG Tier 2 Dist	Trans
er EC Method w/HR RRQ	\$1,140	\$432	\$19,466	\$737	\$668	\$69	\$18,729	\$1,835	\$16,894
b	per EC Method w/HR RRQ	per EC Method w/HR RRQ \$1,146	per EC Method w/HR RRQ \$1,146 \$432	per EC Method w/HR RRQ \$1,146 \$432 \$19,466	per EC Method w/HR RRQ \$1,146 \$432 \$19,466 \$737	per EC Method w/HR RRQ \$1,146 \$432 \$19,466 \$737 \$668	per EC Method w/HR RRQ \$1,146 \$432 \$19,466 \$737 \$668 \$69	per EC Method w/HR RRQ \$1,146 \$432 \$19,466 \$737 \$668 \$69 \$18,729	per EC Method w/HR RRQ \$1,146 \$432 \$19,466 \$737 \$668 \$69 \$18,729 \$1,835

#### Summary of Storage Costs for RATE TABLES under new method: Core \$000

Load Balancing \$000

Unbundled Storage \$000 total storage \$000

#### Storage Core Allocation, per Bruce Wetzel's testimony

Present Injection mmcfd

Inventory %

Inventory MMCF

% Excess Winter Demand

Peak Day (1-in-35 Core) Core Only MTh

% Core MPD Peak Day

Withdrawal MMcfd % Core MPD Peak Day

Proposed

Injection mmcfd

% Demand

Inventory MMCF % Excess Winter Demand

MPD Peak Day (1-in-35 Core) Core Only MTh

% Core MPD Peak Day

Withdrawal MMcfd % Core Peak Day

			D/T Split Allocator
1	Customer Costs Rental Method		
2	Per Unit LRMC, \$/Cust/Year		
3	Number of Customers		_
4	Customer Costs Rental Method \$000		# of customers
5	M. F. D. Division		
6	Medium Pressure Distribution costs		
7 8	Medium Pressure Distribution costs (MPD) Per Unit LRMC, \$/mcfd		
9	MPD Peak Day Demand (mmcfd)		
10	Medium Pressure Distribution Costs \$000		100% D
11	<u>.                                      </u>		_
12	High Pressure Distribution costs		
13	High Pressure Distribution costs (HPD)		
14	Per Unit LRMC, \$/mcf		
15	HPD Peak Month Demand (mmcf)		
16 17	High Presure Distribution Costs \$000		_ 100% D
18	Unscaled LRMC Based Costs \$000		
19	Scalar Allocator		=
19	Scalar Allocator		
20	Calculation of Scalar:		
	Authorized Revenue Requirement in Rates Base Margin \$000		
	Adjustment to Storage for Honor Rancho \$000		
	Adjustment to Storage for Aliso Canyon\$000		
21	Target Base Margin \$000		
22	Less items not allocated per LRMC method:		
23	Transmission Cost per EC \$000		
24	Storage Costs per EC \$000		
25 26	Uncollectibles NGV Compression Adder Costs per EC \$000		
27	Target Scaled Costs \$000		
28	Unscaled LRMC Based Costs \$000		
29	amount to scale \$000		
30	Scalar (as a % of unscaled)		
31			
32	Scaled Customer Costs \$000 LRMC/Rental Method		
33	Scaled Medium Pressure Distribution Costs \$000 LRMC		
34	Scaled High Presure Distribution Costs \$000 LRMC		
35	Scaled LRMC Based Costs \$000		=
36 37	NCV Compression Costs		
38	NGV Compression Costs: Compression Adder Costs \$000		2013TCAP Settlement Agreement
39	Comp. Socioti riddoi Gooto 4000		= 20.010/11 Oottoment Agreement
40	Uncollectibles:		
41	Target Base Margin \$000		
42	System Average Uncollectible Rate		
43	Uncollectibles		
44			
45	Allocation of Uncollectibles:		
46	All Costs excl. NGV Adder, EOR, Int, WS, and UBS		
47	% All Costs excl. NGV Adder, EOR, Int, WS, and UBS		=
48	Uncollectibles		=
49 50			
51			
52	Transmisison Costs per Embedded Cost Method:		
53	Embedded Transmission Costs \$000		
54	FF&U		
55	Embedded Transmission Costs w/ FF&U \$000		
56	Calculate BBT/Local-T Transmission Split:		
57		BBT\$	2013TCAP Ms.Fung

D/T Split Allocator 58 LT\$ 59 60 Allocation of BBT Costs: 61 CYTP Mth 62 % CYTP 63 BBT Costs per EC method CYTP 64 65 Allocation of LT Costs: 66 CYPM Mth 67 % CYPM 68 LT Costs per EC method Total Transmission Costs per EC method 69 70 71 Storage Costs per EC Method (this includes HR RRQ) 72 Embedded Storage Costs \$000 73 Honor Rancho Revenue Requirement (HRSMA) 74 Aliso Canyon Revenue Requirement 75 76 77 78 Core Storage 79 Load Balancing 80 Unbundled Storage 81 Total Storage Costs \$000 82 83 84 85 ALLOCATED BASE MARGIN (net of misc revenue & broker fee) 86 87 Percentage 88 Average Year Throughput Mth 89 average rate \$/therm 90 91 92 93 Model Results RD Format for RD Models 94 Customer Related Costs 95 Medium Pressure Distribution Costs 96 High Pressure Distribution Costs 97 Backbone Transmission Costs 98 Local Transmission Costs 99 Storage - Seasonal 100 Storage - Load Balancing 101 Storage - TBS Uncollectibles 102 103 NGV Compression Costs: Total Margin Allocation pre-SI & Unbundle FAR 104 105 % Allocation 106 107 108 Transmission 109 110 Average Year Throughput (MTh) Cold Year Throughput (1-in-35) (MTh) 111 112 Cold Year Peak Month (December) (MTh) 113 Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh) 114 Number of Customers 115 High Pressure 116 Average Year Throughput (MTh) 117 Cold Year Throughput (1-in-35) (MTh) 118 Cold Year Peak Month (December) (MTh)

#### 2020TCAP SCG COST ALLOCATION 2020 TCAP Application

			D/T Split Allocator
119		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	_
120		Number of Customers	
121		Medium Pressure	
122		Average Year Throughput (MTh)	
123		Cold Year Throughput (1-in-35) (MTh)	
124		Cold Year Peak Month (December) (MTh)	
125		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	
126		Number of Customers	
127		CUMULATIVE (Calc'd from DIRECT %'s)	
128		Transmission	
129		Average Year Throughput (MTh)	
130		Cold Year Throughput (1-in-35) (MTh)	
131		Cold Year Peak Month (December) (MTh)	
132		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	
133		Number of Customers	
134		High Pressure	
135		Average Year Throughput (MTh)	
136		Cold Year Throughput (1-in-35) (MTh)	
137		Cold Year Peak Month (December) (MTh)	
138		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh) Number of Customers	
139			
140 141		Medium Pressure	
141		Average Year Throughput (MTh)	
143		Cold Year Throughput (1-in-35) (MTh) Cold Year Peak Month (December) (MTh)	
144		Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	
145		Number of Customers	
146		Number of Customers	
	2017TCAP Phase 1 Storage Allocation Proposal		
1 2 3	2017TCAP Phase 1 Storage Allocation Proposal Core Storage Capacities: Number of Injection Days Injection MMcfd	<u>Allocation Method</u> Inv per Inj Day	
2	Core Storage Capacities: Number of Injection Days		
2	Core Storage Capacities: Number of Injection Days Injection MMcfd % Demand	Inv per Inj Day	
2 3 4 5 6	Core Storage Capacities: Number of Injection Days Injection MMcfd		
2 3 4 5 6 7	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF	Inv per Inj Day	
2 3 4 5 6 7 8	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh	Inv per Inj Day	
2 3 4 5 6 7 8	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day	Inv per Inj Day % Excess Winter Demand	
2 3 4 5 6 7 8 9	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh	Inv per Inj Day	
2 3 4 5 6 7 8 9 10	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day	
2 3 4 5 6 7 8 9 10 11 12	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559	
2 3 4 5 6 7 8 9 10 11 12 13	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559  37314	
2 3 4 5 6 7 8 9 10 11 12 13 14	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559	
2 3 4 5 6 7 8 9 10 11 12 13 14 15	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559  37314	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities:	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559  37314 22924	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559  37314  22924  %AYTP (incl EOR)	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559  37314  22924  %AYTP (incl EOR) %AYTP (incl EOR)	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Withdrawal MMcfd	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559  37314  22924  %AYTP (incl EOR)	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559  37314  22924  %AYTP (incl EOR) %AYTP (incl EOR)	AVTP
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559  37314  22924  %AYTP (incl EOR) %AYTP (incl EOR)	AYTP AVTP per class
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559  37314  22924  %AYTP (incl EOR) %AYTP (incl EOR)	AYTP AYTP per class
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000 Withdrawal \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559  37314  22924  %AYTP (incl EOR) %AYTP (incl EOR)	
2 3 4 5 6 7 8 9 10 11 11 12 13 14 15 16 17 18 19 20 21 22 23 24	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Unbundled Storage Capacities:	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Injection MMcfd Injection \$000 Inventory MMCF Withdrawal MMcfd Injection \$000 Withdrawal Moded Injection \$000 Unbundled Storage Capacities: Injection MMcfd	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)	
2 3 4 5 6 7 8 9 10 11 11 12 13 14 15 16 17 18 19 20 21 22 23 24	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd Injection \$000 Inventory \$000 Withdrawal \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559  37314  22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR) 100% UBS 100% UBS	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd Injection \$000 Inventory \$000 Withdrawal \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559 37314 22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR)	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 22 23 24 25 26 27 28 28 28 28 28 28 28 28 28 28 28 28 28	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal MMcfd Injection \$000 Unbundled Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559  37314  22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR) 100% UBS 100% UBS	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 29 20 20 21 22 22 23 24 25 26 26 27 27 28 28 28 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd  Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal \$000  Unbundled Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559  37314  22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR) 100% UBS 100% UBS	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 22 23 24 25 26 27 28 28 28 28 28 28 28 28 28 28 28 28 28	Core Storage Capacities: Number of Injection Days Injection MMcfd  % Demand Inventory MMCF  MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal \$000  Load Balancing Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000 Inventory \$000 Withdrawal MMcfd Injection \$000 Unbundled Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal Storage Capacities: Injection MMcfd Inventory MMCF Withdrawal MMcfd Injection \$000	Inv per Inj Day  % Excess Winter Demand  % Core MPD Peak Day  33559  37314  22924  %AYTP (incl EOR) %AYTP (incl EOR) %AYTP (incl EOR) 100% UBS 100% UBS	

#### 2020TCAP SCG COST ALLOCATION 2020 TCAP Application

D/T Split Allocator

33	Injection MMcfd
34	Inventory MMCF
35	Withdrawal MMcfd
36	Injection \$000
37	Inventory \$000
38	Withdrawal \$000
39	Total Storage Costs per EC Method w/HR RRQ
	Summary of Storage Costs for RATE TABLES under new method:
	Core \$000
	Load Balancing \$000
	Unbundled Storage \$000
	total storage \$000

#### Storage Core Allocation, per Bruce Wetzel's testimony

Present Injection mmcfd

Inventory %

Inventory MMCF

% Excess Winter Demand

Peak Day (1-in-35 Core) Core Only MTh

% Core MPD Peak Day

Withdrawal MMcfd

% Core MPD Peak Day

#### Proposed

Injection mmcfd

% Demand

Inventory MMCF

% Excess Winter Demand

% Core Peak Day

MPD Peak Day (1-in-35 Core) Core Only MTh

% Core MPD Peak Day

Withdrawal MMcfd

TABLE 1
UNSCALED LONG RUN MARGINAL COST REVENUES
CUSTOMER COST

1			
	Customer LRMC	Customer	
Customer Class	\$/customer	Count	Customer Cost \$000
	Α	В	С
Residential	\$294	5,714,531	\$1,680,240
Core C/I	\$1,474	203,514	\$299,948
Gas A/C	\$6,883	4	\$28
Gas Engine	\$17,982	712	\$12,803
NGV	\$45,590	378	\$17,233
Total Core		<del>-</del>	\$2,010,251
Noncore C/I	\$55,140	593	\$32,700
Small EG	\$26,034	323	\$8,398
Large EG	\$154,535	67	\$10,293
EOR	\$84,457	34	\$2,872
Total Retail Noncore		_	\$54,263
Long Beach	\$783,172	1	\$783
SDG&E	\$1,397,485	1	\$1,397
Southwest Gas	\$687,223	1	\$687
Vernon	\$469,031	1	\$469
Ecogas	\$182,623	1_	\$183
Total Wholesale			\$3,520
UBS	\$0	0	\$0
BTS	\$0	0	\$0
Total Noncore			\$57,782
Total SoCalGas			\$2,068,033

30Ecogas is the Wholesale – ECOGAS Mexico, S. de R.L. de C.V.

31UBS is the Unbundled Storage Program

32 BTS is Backbone Transportation Service

TABLE 2 UNSCALED LRMC COST REVENUES DISTRIBUTION COSTS

					High	
		Medium		High	Pressure	
	Medium	Pressure	Medium	Pressure	Distribution	
	Pressure	Distribution	Pressure	Distribution	Peak Month	High Pressure
	Distribution	Peak Day	Distribution	LRMC	Demand	Distribution Costs
Customer Class	LRMC \$/mcfd	(mcfd)	Costs \$000	\$/mcfd	(mcf)	\$000
	Α	В	С	D	E	F
Residential	\$198.08	2,327,403	\$461,001	\$4.04	37,986,877	\$153,339
Core C/I	\$198.08	527,626	\$104,510	\$4.04	11,298,836	\$45,609
Gas A/C	\$198.08	45	\$9	\$4.04	2,524	\$10
Gas Engine	\$198.08	2,524	\$500	\$4.04	89,085	\$360
NGV	\$198.08	19,041	\$3,772	\$4.04	1,149,783	\$4,641
Total Core			\$569,791			\$203,959
Noncore C/I	\$198.08	96,259	\$19,067	\$4.04	7,676,934	\$30,989
Small EG	\$198.08	19,008	\$3,765	\$4.04	726,597	\$2,933
Large EG	\$198.08	15,209	\$3,013	\$4.04	1,968,123	\$7,945
EOR	\$198.08	350	\$69	\$4.04	1,246,196	\$5,030
Total Retail Noncore			\$25,913			\$46,897
Long Beach	\$198.08	0	\$0	\$4.04	0	\$0
SDG&E	\$198.08	0	\$0	\$4.04	0	\$0
Southwest Gas	\$198.08	0	\$0	\$4.04	0	\$0
Vernon	\$198.08	0	\$0	\$4.04	0	\$0
Ecogas	\$198.08	0	\$0	\$4.04	0	\$0
Total Wholesale			\$0			\$0
UBS	\$198.08	0	\$0	\$4.04	0	\$0
BTS	\$0.00	0	\$0	\$0.00	0	\$0
Total Noncore			\$25,913			\$46,897
Total SoCalGas			\$595,705			\$250,856

TABLE 3
LRMC COST SCALED REVENUES
SCALED CUSTOMER & DISTRIBUTION COSTS
(\$000)

Total SoCalGas	\$2,068,033	\$595,705	\$250,856	\$2,914,594	63%	\$1,823,879
Total Noncore	\$57,782	\$25,913	\$46,897	\$130,592	63%	\$81,721
BTS	\$0	\$0	\$0	\$0	63%	\$0
UBS	\$0	\$0	\$0	\$0	63%	\$0
Total Wholesale	\$3,520	\$0	\$0	\$3,520	63%	\$2,202
Ecogas	\$183	\$0	\$0	\$183	63%	\$114
Vernon	\$469	\$0	\$0	\$469	63%	\$294
Southwest Gas	\$687	\$0	\$0	\$687	63%	\$430
SDG&E	\$1,397	\$0	\$0	\$1,397	63%	\$875
Long Beach	\$783	\$0	\$0	\$783	63%	\$490
Total Retail Noncore	\$54,263	\$25,913	\$46,897	\$127,073	63%	\$79,519
EOR	\$2,872	\$69	\$5,030	\$7,971	63%	\$4,988
Large EG	\$10,293	\$3,013	\$7,945	\$21,250	63%	\$13,298
Small EG	\$8,398	\$3,765	\$2,933	\$15,096	63%	\$9,447
Noncore C/I	\$32,700	\$19,067	\$30,989	\$82,756	63%	\$51,786
Total Core	\$2,010,251	\$569,791	\$203,959	\$2,784,001	63%	\$1,742,158
NGV	\$17,233	\$3,772	\$4,641	\$25,646	63%	\$16,049
Gas Engine	\$12,803	\$500	\$360	\$13,663	63%	\$8,550
Gas A/C	\$28	\$9	\$10	\$47	63%	\$29
Core C/I	\$299,948	\$104,510	\$45,609	\$450,066	63%	\$281,640
Residential	\$1,680,240	\$461,001	\$153,339	\$2,294,580	63%	\$1,435,890
Customer Class	Customer Cost	Medium Pressure Distribution B	High Pressure Distribution C	Unscaled LRMC Revenues D=A+B+C	Scalar E	Scaled LRMC Revenues F=D*E

Calculation of Scalar:

 $Scalar = [Base\ Margin\ -\ Transmission\ -\ Storage\ -Uncollectibles\ -NGV\ Compression\ Adder]\ /\ [Unscaled\ Customer\ +\ Distribution]$ 

Scalar = \$1,823,879 divided by \$2,914,594

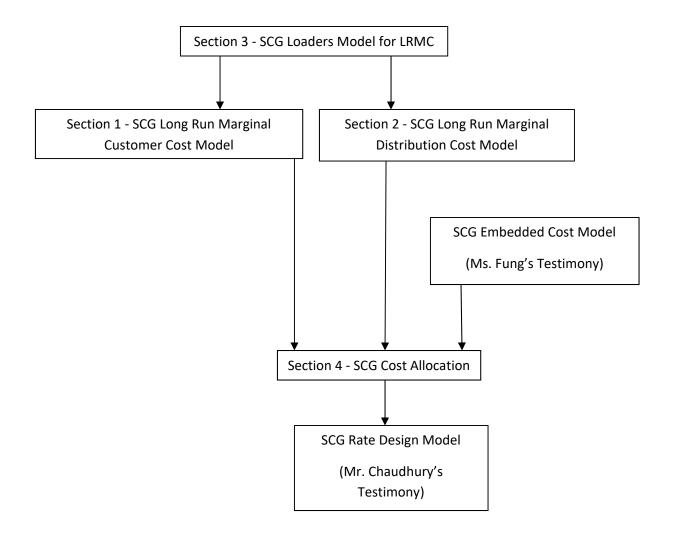
TABLE 4
ALLOCATION OF BASE MARGIN (\$000)

Customer Class	Scaled LRMC Revenues	Uncollect	втѕ	Local Transmission	NGV Public Access	Storage	Allocated Base Margin
	Α	В	С	D	Е	F	G
Residential	\$1,435,890	\$4,940	\$0	\$26,588	\$0	\$85,446	\$1,552,864
Core C/I	\$281,640	\$1,020	\$0	\$7,960	\$0	\$20,826	\$311,446
Gas A/C	\$29	\$0	\$0	\$2	\$0	\$10	\$41
Gas Engine	\$8,550	\$30	\$0	\$66	\$0	\$566	\$9,211
NGV	\$16,049	\$70	\$0	\$996	\$2,964	\$2,163	\$22,241
Total Core	\$1,742,158	\$6,059	\$0	\$35,611	\$2,964	\$109,011	\$1,895,804
Noncore C/I	\$51,786	\$313	\$0	\$9,491	\$0	\$11,673	\$73,264
Small EG	\$9,447	\$39	\$0	\$528	\$0	\$737	\$10,751
Large EG	\$13,298	\$283	\$0	\$14,150	\$0	\$18,729	\$46,460
EOR	\$4,988	\$0	\$0	\$1,201	\$0	\$1,578	\$7,767
Retail Noncore	\$79,519	\$635	\$0	\$25,370	\$0	\$32,717	\$138,242
Long Beach	\$490	\$0	\$0	\$715	\$0	\$601	\$1,806
SDG&E	\$875	\$0	\$0	\$8,246	\$0	\$19,969	\$29,090
Southwest Gas	\$430	\$0	\$0	\$784	\$0	\$502	\$1,716
Vernon	\$294	\$0	\$0	\$562	\$0	\$732	\$1,587
Ecogas	\$114	\$0	\$0	\$668	\$0	\$878	\$1,660
Total Wholesale	\$2,202	\$0	\$0	\$10,975	\$0	\$22,682	\$35,859
UBS	\$0	\$0	\$0	\$0	\$0	\$0	\$0
BTS			\$176,587				\$176,587
Total Noncore	\$81,721	\$635	\$176,587	\$36,345	\$0	\$55,400	\$350,688
Total SoCalGas	\$1,823,879	\$6,695	\$176,587	\$71,956	\$2,964	\$164,411	\$2,246,492
NCCI-D	\$50,766	\$248	\$0	\$5,373	\$0	\$6,945	\$63,332
EOR-D	\$4,407	\$0	*-	\$872	**	\$1,146	\$6,425
EG-D T1	\$9,215	\$37	\$0	\$509	\$0	\$668	\$10,429
EG-D T2	\$9,769	\$54	\$0	\$1,377	\$0	\$1,835	\$13,036
TLS	\$7,564	\$296	\$0 \$0	\$28,213	\$0	\$44,805	\$80,880
Total	\$81,721	\$635	\$0	\$36.345	\$0	\$55,400	\$174,101
	\$0	\$0	ΨΟ	\$0	ΨΟ	\$0	\$0

TABLE 5
COST ALLOCATION COMPARISON (\$000)

	(4000)			
Customer Class	Proposed Allocation of Base Margin	% Total	Current Allocation of Base Margin	% Total
Cuotomor Claco	A	В	C	D
Residential	\$1,552,864	69.1%	\$1,626,188	72.6%
Core C/I	\$311,446	13.9%	\$264,112	11.8%
Gas A/C	\$41	0.0%	\$74	0.0%
Gas Engine	\$9,211	0.4%	\$4,276	0.2%
NGV	\$22,241	1.0%	\$16,094	0.7%
Total Core	\$1,895,804	84.4%	\$1,910,743	85.3%
Noncore C/I	\$73,264	3.3%	\$58,183	2.6%
Small EG	\$10,751	0.5%	\$10,733	0.5%
Large EG	\$46,460	2.1%	\$34,214	1.5%
EOR	\$7,767	0.3%	\$6,006	0.3%
Total Retail Noncore	\$138,242	6.2%	\$109,136	4.9%
Long Beach	\$1,806	0.1%	\$1,477	0.1%
SDG&E	\$29,090	1.3%	\$20,598	0.9%
Southwest Gas	\$1,716	0.1%	\$1,501	0.1%
Vernon	\$1,587	0.1%	\$1,211	0.1%
Ecogas	\$1,660	0.1%	\$961	0.0%
Total Wholesale	\$35,859	1.6%	\$25,748	1.1%
UBS	\$0	0.0%	\$23,290	1.0%
BTS	\$176,587	7.9%	\$171,727	7.7%
Total Noncore	\$350,688	15.6%	\$329,902	14.7%
Total SoCalGas	\$2,246,492	100.0%	\$2,240,645	100.0%
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# SoCalGas 2020 TCAP Cost Allocation Flowchart



**Workpapers to the Prepared Written Testimony of Marjorie Schmidt-Pines** 

# SOUTHERN CALIFORNIA GAS COMPANY 2020 TCAP

Section 5
Long Run Marginal Customer Cost Model
Minimum observed costs - 20th percentile

**Workpapers to the Prepared Written Testimony of Marjorie Schmidt-Pines** 

SoCalGas Residential Customer Cost for Rate Design Customer Charge for 20th min v.7-3-2018

R	es l	ide	nti	al

Marginal Customer Unit Cost @ various LRMC Allocation Method	d <u>s</u>
Customer Cust \$/Cust/Year Rental Method	\$266.54
Customer Cost \$/Cust/Year NCO Method	\$123.27
Customer Cost \$/Cust/Year NCO Method w/Replacement Cost	\$188.93
Customer Cust \$/Cust/Year Rental Method ARM1	\$121.37
Customer Cust \$/Cust/Year Rental Method ARM2	\$243.78
ARM1 Factor	8%
ARM2 Factor	86%

Table X1						
SoCalGas' Residential Marginal Customer Unit Cost @ various LRMC Allocation Methods						
Customer Cust \$/Cust/Month Rental Method	\$22.21					
Customer Cost \$/Cust/Month NCO Method	\$10.27					
Customer Cost \$/Cust/Year NCO Method w/Replacement Cost	\$15.74					
Customer Cust \$/Cust/Month Rental Method ARM1	\$10.11					
Customer Cust \$/Cust/Month Rental Method ARM2	\$20.32					
Note: Average cost for the bottom 10%						

Table 3: SoCalGas' Residential Minimum Connection Cost Per Month

Rental method	NCO Method	ARM 1	ARM2
\$22.21	\$15.74	\$10.11	\$20.32

Note: Average cost for the bottom 20% NCO is with Replacement Adder

## SCG 2020 TCAP LRMC Customer Cost/Rental Method RD Format

			Residential	CCI	G-AC	G-GEN	NGV	Total Core
	Marginal Customer Unit Cost @ various LRMC Allocation Methods							
1	Customer Cust \$/Cust/Year Rental Method		\$281.90	\$1,473.84	\$6,882.72	\$17,981.95	\$45,590.55	
2	Customer Cost \$/Cust/Year NCO Method		\$124.80	\$531.35	\$5,437.97	\$6,132.07	\$40,665.79	
3	Customer Cost \$/Cust/Year NCO Method w/Replacement Cost		\$196.51	\$933.78	\$5,877.27	\$12,233.91	\$43,094.63	
1								
2	Input from O&M Loader Model:							
3	Marginal A&G/Payroll Taxes Loading Factor as a % of O&M expenses	43.64%	SCG LRMC O&N	1 Loaders				
4	General Plant Loading Factor as a % or O&M expenses	44.94%	SCG LRMC O&N	1 Loaders				
5	Annualized Distribution Customer Related Costs \$000/yr	\$2,930,464	SCG LRMC O&N	1 Loaders				
6								
7	2017-20 Factor: Capital	1.1319	SCG LRMC O&N	1 Loaders				
8	2017-20 Factor: O&M	1.0981	SCG LRMC O&N	1 Loaders				

## SCG 2020 TCAP LRMC Customer Cost/Rental Method RD Format

						Total Retail			South West	
		NCCI	EG Tier 1	EG Tier 2	EOR	NonCore	Long Beach	SDG&E	Gas	Vernon
	Marginal Customer Unit Cost @ various LRMC Allocation Methods									
1	Customer Cust \$/Cust/Year Rental Method	\$55,139.92	\$26,034.34	\$154,535.51	\$84,457.16		\$783,175.75	\$1,397,488.30	\$687,226.82	\$469,033.08
2	Customer Cost \$/Cust/Year NCO Method	\$18,929.58	\$20,371.78	\$33,959.47	\$39,250.39		\$315,313.66	\$297,573.76	\$376,150.58	\$235,812.99
3	Customer Cost \$/Cust/Year NCO Method w/Replacement Cost	\$27,140.71	\$22,729.78	\$53,762.28	\$47,610.81		\$554,814.03	\$860,624.16	\$535,391.68	\$355,199.23

2 <u>Input from O&M Loader Model:</u>

- 3 Marginal A&G/Payroll Taxes Loading Factor as a % of O&M expenses
- 4 General Plant Loading Factor as a % or O&M expenses
- 5 Annualized Distribution Customer Related Costs \$000/yr
- 7 2017-20 Factor: Capital
- 8 2017-20 Factor: O&M

## SCG 2020 TCAP LRMC Customer Cost/Rental Method RD Format

		Total Whole				SYSTEM	
		sale	Ecogas	UBS	Total Noncore	TOTAL	Sources
	Marginal Customer Unit Cost @ various LRMC Allocation Methods						
1	Customer Cust \$/Cust/Year Rental Method		\$182,624.21	\$0.00			Cust MC
2	Customer Cost \$/Cust/Year NCO Method		\$132,200.08	\$0.00			Cust MC
3	Customer Cost \$/Cust/Year NCO Method w/Replacement Cost		\$158,012.38	\$0.00	\$2,677,621.15		Cust MC

2 Input from O&M Loader Model:

- 3 Marginal A&G/Payroll Taxes Loading Factor as a % of O&M expenses
- General Plant Loading Factor as a % or O&M expenses
- 5 Annualized Distribution Customer Related Costs \$000/yr

6

- 2017-20 Factor: Capital
- 8 2017-20 Factor: O&M

Marginal Unit Costs																			
<del>.</del>	Core												Core		Noncore Retail				
	Residential	Multi	Master Meter		Residential	Non-Residentia						Non-Residenti		Coo	G-30 - Noncore	0.081		Cmall EC	Lorgo EC
	Single	Multi		(400 004 11 -	Residential	Commercial/Ind		0.004.1	50.004.4	Manuface		Air	Natural Gas	Gas	G-30 - Noncore	8 U&I		Small EG	Large EG
	Family (Detached		(up to	(100,001 therms		Very Small - up to 300	Small - 301 to 3 000	3,001 to 50,000	50,001 to 250,000	Very Large - Over 250 000								1	1
	(Detached homes)	Family	therms/year)	per year and greater)	Total or Avg.	therms/year	therms/year	therms/vear	therms/vear	therms/year	Average	Conditioning	Vehicle	Engine	Distribution	Transmission	Total	< 3million	> 3million
2016 Number of Customers	3,674,386	1,721,561	120,217	49	5,516,213	88,060	63,785	49,146	2,258	331	203,580	9	245	718	534	20	554	250	63
Marginal Investment: 2013 \$/Customer	1																		
Meter & House Reg	\$195.45	\$195.45	\$1,805.27	\$19,464.95	\$230.71	\$606.59	\$1,309.98	\$2,824.17	\$8,953.92	\$12,576.46	\$1,474.36	\$8,989.56	\$49,799.80	\$5,591.55	\$93,227.93		\$105,723.45	\$70,473.40	\$766,675.11
Service Lines Exclusive Use Facilities	\$1,773.76 \$0.00	\$1,773.65 \$0.00	\$9,356.02 \$0.00	\$130,050.51 \$0.00	\$1,940.10 \$0.00	\$9,046.73 \$0.00	\$11,048.15 \$0.00	\$15,681.51 \$0.00	\$45,448.16 \$0.00	\$80,180.63 \$0.00	\$11,794.90 \$0.00	\$7,575.11 \$0.00	\$85,563.97 \$0.00	\$209,792.28 \$0.00	\$313,478.61 \$11,753.92	\$851,964.79 \$28,220.26	\$332,918.54 \$13,193,02	\$102,268.50 \$0.00	\$367,802.70 \$197,632,73
Total	\$1.969.21	\$1,969,10	\$11.161.30	\$149.515.46	\$2,170.81	\$9.653.32	\$12.358.13	\$18,505,68	\$54,402.08	\$92.757.09	\$13,269,27		\$135,363,77	\$215.383.82	\$418.460.46	#############		\$172,741.89	\$1,332,110,55
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Weighted RECC factors used to annualize SRM capital costs	9.58%	9.55%	0.500/	9.44%	9.62%	9.54%	9.55%	9.52%	9 49%	9.51%	0.700/	9.50%	9.40%	9.46%	9.43%	9.40%	9.40%	9.40%	9.40%
Meter & House Reg Service Lines	7.80%	9.55% 7.80%	9.52% 7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	9.72% 7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%
Exclusive Use	7.0070	7.0070	1.0070	7.0070	7.0070	7.0070	1.0070	7.0070	7.0070	7.0070	7.0070	7.0070	7.0070	7.0070	10.05%	10.05%	10.05%	10.05%	10.05%
Annualized Marginal Investment: \$/Cust.																			
Meter & House Reg	\$18.72	\$18.67	\$171.82	\$1,836.75	\$22.19	\$57.87	\$125.10	\$268.89	\$849.79	\$1,196.25	\$143.37	\$853.86	\$4,680.93	\$528.71	\$8,789.14	\$37,244.84	\$9,940.00	\$6,621.07	\$72,030.18
Service Lines	\$138.36 \$0.00	\$138.35	\$729.80 \$0.00	\$10,144.39 \$0.00	\$151.33	\$705.68 \$0.00	\$861.79	\$1,223.21	\$3,545.11 \$0.00	\$6,254.36 \$0.00	\$920.04 \$0.00	\$590.88 \$0.00	\$6,674.28 \$0.00	\$16,364.52	\$24,452.41 \$1,180.91	\$66,456.18 \$2,835.27	\$25,968.79	\$7,977.29 \$0.00	\$28,689.88 \$19,856.00
Exclusive Use Facilities  Total Annualized Marginal Investment: 2013 \$/Cust.	\$0.00 \$157.08	\$0.00 \$157.02	\$0.00 \$901.62	\$0.00 \$11,981.14	\$0.00 \$173.52	\$0.00 \$763.54	\$0.00 \$986.89	\$0.00 \$1,492.10	\$4,394.91	\$0.00 \$7,450.62	\$1,063.42		\$0.00 \$11,355.21	\$0.00 \$16,893.23	\$1,180.91 \$34,422.45		\$1,325.49 \$37,234.29	\$0.00	\$19,856.00 \$120,576.05
Total Allindanizod mai ginal invocancia. 2010 groups	\$101.00	Ç.07.02	<b>\$501.02</b>	\$11,001.14	\$110.0 <u>L</u>	\$7.00.04	\$500.05	\$1,402.10	<b>\$4,004.01</b>	ψ1,400.0 <u>2</u>	\$1,000.4 <u>2</u>	V1,	\$11,000.E1	ψ10,050.20	Ç04,422.40	\$100,000.E0	<b>\$01,204.20</b>	\$14,000.01	<b>\$120,070.00</b>
O&M: \$/Customer																			
Customer Services O&M Cost 2016\$'s \$000/year	\$79,783.59	\$37,381.03	\$2,610.33	\$1.06	\$119,776.01	\$3,911.12	\$4,238.61	\$11,867.83	\$1,305.03	\$188.90	\$21,511.49	\$4.43	\$84.48	\$132.33	\$0.00	\$0.00	\$361.16	\$49.05	\$12.36
2016 Number of Customers	3,674,386	1,721,561 \$21,71	120,217 \$21.71	49	5,516,213 \$21,71	88,060 \$44,41	63,785 \$66.45	49,146 \$241.48	2,258 \$577.96	331 \$570.68	203,580 \$105.67	9 \$492.10	245 \$344.83	718 \$184.30	534 \$0.00	20 \$0.00	554 \$651.92	250	63
Customer Services O&M \$/Customer 2016\$ escalator 2016\$'s to 2020\$'s	\$21.71 1.0981	\$21.71 1.0981	\$21.71 1.0981	\$21.71 1.0981	\$21.71 1.0981	\$44.41 1.0981	\$66.45 1.0981	1 0981	\$577.96 1.0981	\$570.68 1.0981	\$105.67 1.0981	1 0981	\$344.83 1.0981	\$184.30 1.0981	\$0.00 1.0981	\$0.00 1.0981	\$651.92 1.0981	\$196.19	\$196.19
Customer Services O&M \$/Customer 2020\$	\$23.84	\$23.84	\$23.84	\$23.84	\$23.84	\$48.77	\$72.97	\$265.18	\$634.68	\$626.69	\$116.04	\$540.39	\$378.67	\$202.39	\$715.90	\$715.90	\$715.90	\$215.44	\$215.44
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Customer Accounts O&M 2013\$'s \$000/yr	\$72,561.86	\$33,997.43	\$2,374.05	\$0.97	\$108,934.30	\$1,741.48	\$1,160.97	\$1,646.96	\$446.13	\$319.36	\$5,314.89	\$19.08	\$111.65	\$186.66	\$0.00	\$0.00	\$1,286.42	\$612.05	\$154.24
2016 Number of Customers	3,674,386	1,721,561	120,217	49	5,516,213	88,060	63,785	49,146	2,258	331	203,580	9	245	718	534	20	554	250	63
Customer Services O&M \$/Customer 2016\$ escalator 2016\$'s to 2020\$'s	\$19.75 1.0981	\$19.75	\$19.75	\$19.75 1.0981	\$19.75 1.0981	\$19.78	\$18.20	\$33.51	\$197.58	\$964.82	\$26.11	\$2,120.46	\$455.71	\$259.97 1.0981	\$0.00	\$0.00	\$2,322.06	\$2,448.20	\$2,448.20
Customer Accounts O&M \$/Customer 2020\$	\$21.69	\$21.69	\$21.69	\$21.69	\$21.69	\$21.72	\$19.99	\$36.80	\$216.97	\$1.059.52	\$28.67	\$2,328.57	\$500.44	\$285.49	\$2,549.96	\$2.549.96	\$2.549.96	\$2.688.48	\$2 688 48
							•						*********	***************************************	Q2,040.00	QZ,040.00			
Meter & House Reg O&M Total Cost	\$4,122.35	\$1,931.45	\$1,245.73	\$5.47	\$7,305.00	\$250.40	\$391.69	\$650.63	\$94.77	\$19.51	\$1,407.00	\$0.00	\$0.00	\$0.00			\$1,087.00	\$661.00	\$133.00
2016 Number of Customers	3,674,386	1,721,561	120,217	49	5,516,213	88,060	63,785	49,146	2,258	331	203,580	9	245	718	534	20	554	250	63
Customer Services O&M \$/Customer 2016\$	\$1.12 1.0981	\$1.12 1.0981	\$10.36	\$111.73	\$1.32 1.0981	\$2.84 1.0981	\$6.14	\$13.24	\$41.97 1.0981	\$58.95 1.0981	\$6.91 1.0981	\$0.00 1.0981	\$0.00 1.0981	\$0.00 1.0981	\$0.00 1.0981	\$0.00 1.0981	\$1,962.09 1.0981	\$2,644.00 1.0981	\$2,111.11 1.0981
escalator 2016\$'s to 2020\$'s Meter & House Reg O&M \$/Customer 2020\$	\$1.23	\$1.23	1.0981 \$11.38	1.0981 \$122.70	\$1.45	\$3.12	\$6.74	1.0981 \$14.54	\$46.09	\$64.74	\$7.59	\$0.00	\$0.00	\$0.00	\$2,154.66	\$2.154.66	\$2.154.66	\$2.903.49	\$2.318.31
motor a riouse riog dain a dustanta 25254	ψ1.20	V20	Ψ11.00	V122.70	¥1.40	Q0.12	<b>40.1</b> 4	<b>\$14.04</b>	<b>\$40.00</b>	404.74	<b>\$1.00</b>	\$0.00	ψ0.00	ψ0.00	Q2,104.00	QL,104.00	QZ,104.00	QZ,000.40	QL,010.01
Total Service																			
Line Footage	226,964,693	58,515,142	11,541,382	13,966	297,035,183	12,666,284	6,872,167	6,485,228	548,173	114.472	26,686,324	250	54,516	623,741	105.177	16,542	121,720	43,277	16,273
Percent of	.,,		, , , , , ,		. ,,	,,		.,,		,									.,
Total Footage	69.93%	18.03%	3.56%	0.00%	91.52%	3.90%	2.12%	2.00%	0.17%	0.04%	8.22%	0.00%	0.02%	0.19%	0.03%	0.01%	0.04%	0.01%	0.01%
Allocated SL O&M Costs \$000	\$20,713	\$5,340	\$1,053	\$1	\$27,108	\$1,156	\$627	\$592	\$50	\$10	\$2,435	\$0	\$5	\$57	\$10	\$2	\$11	\$4	\$1
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981
Allocated SL O&M Costs 2020\$'s 2016 Number of Customers	\$22,746 3,674,386	\$5,864 1,721,561	\$1,157 120,217	\$1 49	\$29,768 5.516.213	\$1,269 88.060	\$689 63.785	\$650 49,146	\$55 2.258	\$11 331	\$2,674 203,580	\$0	\$5 245	\$63 718	\$11 534	\$2	\$12 554	\$4 250	\$2 63
Service Lines O&M \$/Customer 2020\$	\$6.19	\$3.41	\$9.62	\$28.57	\$5.40	\$14.42	\$10.80	\$13.22	\$24.33	\$34.66	\$13.14	\$2.78	\$22.30	\$87.06	\$19.74	\$82.89	\$22.02	\$17.35	\$25.89
CONTROL ENTER CANT GOOD CONTROL EDECA	ψ0.10	\$0.41	ψ0.02	Q20.07	<b>40.40</b>	V. 1.12	<b>\$10.00</b>	V.0.22	Q2-4.00	404.00	<b>\$10.14</b>	Q2.70	φ££.00	\$57.00	<b>\$15.1</b> 4	Q02.00	QLL.OL	\$17.00	<b>Q2</b> 0.00
Customer Service & Information Cost (CSI) Costs Accounts (FERC												_							
2016 Number of Customers Customer Services & Information O&M \$/Customer 2016\$	3,674,386 \$4.42	1,721,561 \$4.42	120,217 \$4,42	49 \$4.42	5,516,213 \$4.42	88,060 \$46.72	63,785 \$46,72	49,146 \$46,72	2,258 \$46.72	331 \$46.72	203,580 \$46.72	9 \$0.00	245 \$15.642.74	718 \$0.00	534 \$0.00	20 \$0.00	554 \$3.654.60	250 \$195.31	63 \$11.551.84
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1 0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1 0981
Customer Accounts O&M \$/Customer 2020\$	\$4.85	\$4.85	\$4.85	\$4.85	\$4.85	\$51.31	\$51.31	\$51.31	\$51.31	\$51.31	\$51.31	\$0.00	\$17,177.99	\$0.00	\$0.00	\$0.00	\$4,013.28	\$214.47	\$12,685.60
		•					•	•		•	•			•			•		
Total Direct O&M \$/customer/vr	\$57.81	\$55.02	\$71.38	\$201.64	\$57.23	\$139.34	\$161.81	\$381.05	\$973.38	\$1.836.92	\$216.74	\$2.871.75	\$18,079,40	\$574.94	\$5,440,26	\$5,503,41	\$9.455.82	\$6.039.24	\$17.933.71
		•	•							, , , , , , , , , , , , , , , , , , , ,									
O&M Loaders: \$/Customer																			
Administrative & General as % of O&M	43.64% \$25.22	43.64% \$24.01	43.64% \$31.15	43.64% \$87.99	43.64% \$24.97	43.64% \$60.80	43.64% \$70.61	43.64%	43.64% \$424.75	43.64% \$801.56	43.64% \$94.58	43.64% \$1.253.13	43.64% \$7.889.18	43.64% \$250.88	43.64%	43.64% \$2.401.49	43.64% \$4.126.17	43.64% \$2,635.30	43.64% \$7.825.61
Administrative & General \$/customer/yr 2020\$'s	\$25.22	\$24.01	\$31.15	\$87.99	\$24.97	\$60.80	\$70.61	\$166.28	\$424.75	\$801.56	\$94.58	\$1,253.13	\$7,889.18	\$250.88	\$2,373.93	\$2,401.49	\$4,126.17	\$2,635.30	\$7,825.61
General Plant as % of O&M	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%
General Plant \$/customer/yr 2020\$'s	\$25.98	\$24.73	\$32.08	\$90.62	\$25.72	\$62.62	\$72.72	\$171.25	\$437.45	\$825.53	\$97.41	\$1,290.60	\$8,125.09	\$258.39	\$2,444.91	\$2,473.29	\$4,249.55	\$2,714.10	\$8,059.61
Materials & Supplies Loader: Per Customer Direct+A&G+GP O&M \$/customer/yr	\$109.01	\$103.76	\$134.61	\$380.25	\$107.93	\$262.76	\$305.14	\$718.58	\$1.835.57	\$3,464.02	\$408.73	0E 41E 47	\$34.093.67	\$1,084.21	\$10,259.10	\$10,378.19	\$17,831.54	\$11,388.65	\$33,818.94
2016 Number of Customers	\$109.01 3,674,386	\$103.76 1,721,561	\$134.61 120,217	\$380.25 49	\$107.93 5,516,213	\$262.76 88,060	\$305.14 63,785	\$/18.58 49,146	\$1,835.57 2,258	\$3,464.02 331	\$408.73 203,580	\$5,415.47	\$34,093.67 245	\$1,084.21 718	\$10,259.10 534	\$10,378.19 20	\$17,831.54 554	\$11,388.65 250	\$33,818.94 63
Total Direct+A&G+GP O&M \$000/yr	\$400,536	\$178.625	\$16,183	\$19	\$595,362	\$23,139	\$19.463	\$35,315	2,258 \$4,145	\$1.147	\$83,209	\$49	\$8,353	\$778	\$5,478	\$208	\$9,879	\$2,847	\$2,131
Percent of Total	56.79%	25.33%	2.29%	0.00%	84.42%	3.28%	2.76%	5.01%	0.59%	0.16%	11.80%	0.01%	1.18%	0.11%	0.78%	0.03%	1.40%	0.40%	0.30%
Allocated M&S \$2,930,464.06	\$1,664,315	\$742,225	\$67,243	\$77	\$2,473,860	\$96,146	\$80,875	\$146,744	\$17,222	\$4,764	\$345,751	\$203	\$34,708	\$3,235	\$22,764	\$862	\$41,048	\$11,831	\$8,853
2016 Number of Customers	3,674,386	1,721,561	120,217	49	5,516,213	88,060	63,785	49,146	2,258	331	203,580	9	245	718	534	20	554	250	63
M&S Loader \$/customer/yr 2020\$s	\$0.45	\$0.43	\$0.56	\$1.58	\$0.45	\$1.09	\$1.27	\$2.99	\$7.63	\$14.39	\$1.70	\$22.50	\$141.67	\$4.51	\$42.63	\$43.12	\$74.09	\$47.32	\$140.53
Total O&M Loaders \$/customer/yr	\$51.66	\$49.17	\$63.79	\$180.19	\$51.14	\$124.51	\$144.60	\$340.51	\$869.82	\$1,641.49	\$193.68	\$2,566.22	\$16,155.94	\$513.77	\$4,861.47	\$4,917.90	\$8,449.82	\$5,396.73	\$16,025.75
LRMC Rental Customer Cost \$/customer/year	\$266,54	\$261,21	\$1.036.79	\$12.362.97	\$281.90	\$1.027.39	£4 202 22	£2.242.C7	\$6,238,11	\$10,929.03	64 472 04	ec 002.70	\$45,590,55	\$17,981.95	644 724 12	\$116.957.61	\$EE 430.00	\$26.034.34	\$154,535,51
LRING Retital Customer Cost \$/customer/year	<b>\$∠00.34</b>	\$201.21	\$1,036.79	\$12,362.9/	\$281.90	\$1,027.39	\$1,295.30	\$2,213.67	<b>₽</b> 0,∠38.11	\$10,9Z9.03	\$1,473.84	<b>₽0,882.72</b>	<b>\$45,590.55</b>	\$17,981.95	\$44,724.18	\$116,957.61	<b>\$55,139.92</b>	\$20,U34.34	ə 104,030.01

Marginal Unit Costs		Noncore Wholesal	e				П	İ
			_				Total O&M Cost	
	EOR	Wholesale				International	for All	
	G-40	LB	SDG&E	SWG	Vernon	Ecogas	Customers	
2016 Number of Customers	33	1	1	1	1	1	5,721,670	cust 2
Marginal Investment: 2013 \$/Customer								l
Meter & House Reg Service Lines	\$262,839.23 \$222,966.35	\$0.00 \$0.00	\$0.00 \$0.00	\$0.00 \$0.00	\$0.00 \$0.00	\$0.00 \$0.00		cust 5 cust 5
Exclusive Use Facilities Total	\$31,275.11 \$517,080.69	\$4,656,772.60 \$4,656,772.60	\$10,947,781.49 \$10,947,781.49	\$3,096,235.69 \$3,096,235.69	\$2,321,309.97 \$2,321,309.97	\$501,886.62 \$501,886.62	Д	cust 6
	φ517,000.03	\$4,030,772.00	\$10,547,701.45	\$5,050,255.05	\$2,321,303.87	\$301,000.02		
Weighted RECC factors used to annualize SRM capital costs Meter & House Reg	9.39%	0	0	0	0	0		cust 10
Service Lines	7.80%	7.80%	7.80%	7.80%	7.80%	7.80%		cust 10
Exclusive Use Annualized Marginal Investment: \$/Cust.	10.05%	10.05%	10.05%	10.05%	10.05%	10.05%		cust 10
Meter & House Reg	\$24,672.44	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		
Service Lines Exclusive Use Facilities	\$17,392.14 \$3,142.18	\$0.00 \$467,862.08	\$0.00 \$1,099,914.53	\$0.00 \$311,076.23	\$0.00 \$233,220.09	\$0.00 \$50,424.13		
Total Annualized Marginal Investment: 2013 \$/Cust.	\$45,206.77	\$467,862.08	\$1,099,914.53	\$311,076.23	\$233,220.09	\$50,424.13		
O&M: \$/Customer								
Customer Services O&M Cost 2016\$'s \$000/year	\$1.50	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$141,932.81	cust 8
2016 Number of Customers Customer Services O&M \$/Customer 2016\$	33 \$45.48	1 \$0.00	1 \$0.00	1 \$0.00	1 \$0.00	1 \$0.00	5,721,670 \$24.81	cust 2
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	Loader Model
Customer Services O&M \$/Customer 2020\$	\$49.95	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.24	
Customer Accounts O&M 2013\$'s \$000/yr	\$77.78	\$7.85	\$6.27	\$12.60	\$5.63	\$3.89	\$116,733.31	cust 8
2016 Number of Customers Customer Services O&M \$/Customer 2016\$	33 \$2,356,87	1 \$7.850.76	1 \$6.267.17	1 \$12 601 52	1 \$5,630.09	1 \$3.891.80	5,721,670 \$20,40	cust 2
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	Loader Model
Customer Accounts O&M \$/Customer 2020\$	\$2,588.19	\$8,621.27	\$6,882.26	\$13,838.29	\$6,182.65	\$4,273.76	\$22.40	
Meter & House Reg O&M Total Cost	\$70.00	\$13.00	\$13.00	\$25.00	\$2.00	\$2.00	\$10,718.00	cust 8
2016 Number of Customers Customer Services O&M \$/Customer 2016\$	33 \$2,121.21	1 \$13,000.00	1 \$13,000.00	1 \$25,000.00	1 \$2,000.00	1 \$2,000.00	5,721,670 \$1.87	cust 2
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	Loader Model
Meter & House Reg O&M \$/Customer 2020\$	\$2,329.40	\$14,275.88	\$14,275.88	\$27,453.62	\$2,196.29	\$2,196.29	\$2.06	
Total Service								
Line Footage	11,524	0	0	0	0	0	324,549,532	cust 8
Percent of Total Footage	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
Allocated SL O&M Costs \$000	\$1	\$0	\$0	\$0	\$0	\$0	\$29,619	cust 8
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	Loader Model
Allocated SL O&M Costs 2020\$'s 2016 Number of Customers	\$1 33	\$0 1	\$0 1	\$0 1	\$0 1	\$0 1	\$32,526 5,721,670	\$0 \$0 cust 2
Service Lines O&M \$/Customer 2020\$	\$35.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5.68	1
Customer Service & Information Cost (CSI) Costs Accounts (FERC								
2016 Number of Customers Customer Services & Information O&M \$/Customer 2016\$	33 \$14,319.86	1 \$130,781.85	1 \$123,834.41	1 \$143,287.23	1 \$105,771.08	1 \$57,682.49	5,721,670 \$7.26	\$0.00 \$0.00
escalator 2016\$'s to 2020\$'s	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	1.0981	Loader Model
Customer Accounts O&M \$/Customer 2020\$	\$15,725.27	\$143,617.39	\$135,988.10	\$157,350.11	\$116,151.95	\$63,343.72	\$7.98	ĺ
Total Direct O&M \$/customer/yr	\$20,727.80	\$166,514,54	\$157,146,25	\$198.642.02	\$124.530.89	\$69.813.77	\$65.36	
	4-1):-::::	*****	7.2.,	7.11,1.11	*	***,****	1	
O&M Loaders: \$/Customer Administrative & General as % of O&M	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	43.64%	cust 4. a&a
Administrative & General \$/customer/yr 2020\$'s	\$9,044.85	\$72,660.82	\$68,572.84	\$86,680.07	\$54,340.70	\$30,464.16	\$28.52	
General Plant as % of O&M	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	44.94%	cust 4, gen plant
General Plant \$/customer/yr 2020\$'s	\$9,315.31	\$74,833.53	\$70,623.31	\$89,271.98	\$55,965.60	\$31,375.10	\$29.37	
Materials & Supplies Loader:								
Per Customer Direct+A&G+GP O&M \$/customer/yr 2016 Number of Customers	\$39,087.97 33	\$314,008.89	\$296,342.39	\$374,594.06	\$234,837.19	\$131,653.03	5 721 670	cust 2
Total Direct+A&G+GP O&M \$000/yr	\$1,290	1 \$314	1 \$296	1 \$375	1 \$235	1 \$132	\$705,248.54	CUSt 2
Percent of Total	0.18%	0.04%	0.04%	0.05%	0.03%	0.02%	100.00%	I an dea Madel
Allocated M&S \$2,930,464.06 2016 Number of Customers	\$5,360 33	\$1,305 1	\$1,231 1	\$1,557 1	\$976 1	\$547 1	\$2,930,464.06 5,721,670	Loader Model cust 2
M&S Loader \$/customer/yr 2020\$s	\$162.42	\$1,304.78	\$1,231.37	\$1,556.52	\$975.80	\$547.05	\$0.51	
Total O&M Loaders \$/customer/yr	\$18,522.58	\$148,799.12	\$140,427.52	\$177,508.57	\$111,282.10	\$62,386.31	\$58.41	
LRMC Rental Customer Cost \$/customer/year	\$84,457.16	\$783,175.75	\$1,397,488.30	\$687,226.82	\$469,033.08	\$182,624.21	\$123.77	
	-04,401.10	2700,170.70	÷.,007,100.00	, 301 JEE0.0E	- 100,000.00	Ţ. OZ,OZ-1,Z I	<b>V.20</b>	•

LRMC Customer Cost/Rental Method																			
Marginal Unit Costs	Core												Core		Noncore Retai				
	Residential					Non-Residentia	al .					Non-Resident			INDITIONE INEGA				
	Single	Multi	Master Meter		Residential	Commercial/Inc	lustrial					Air	Natural Gas	Gas	G-30 - Noncor	re C&I		Small EG	Large EG
	Family		(up to	(100,001 therms		Very Small -	Small -	3,001 to	50,001 to	Very Large -								1	, - '
	(Detached		100,000	per year and		up to 300	301 to 3,000		250,000	Over 250,000									, ,
	homes)	Family	therms/year)	greater)	Total or Avg.	therms/year	therms/year	therms/year	therms/year	therms/year	Average	Conditioning	y Vehicle	Engine	Distribution	Transmission	Total	< 3million	> 3million
NCO Method:																			
2016 Number of Customers	3,674,386	1,721,561	120,217	49	5,516,213	88,060	63,785	49,146	2,258	331	203,580	9	245	718	534	20	554	250	63
New Hookups Rate	0.54%	0.70%	0.19%	0.00%	0.59%	0.77%	0.72%	0.59%	0.35%	0.30%	0.70%	0.00%	3.67%	1.81%	0.19%	0.00%	0.18%	19.20%	0.00%
No of New Customer Hookups /year	19,921	12,121	234	0	32,276	679	457	290	8	1	1,435	0	9	13	1	0	1	10	0
Marginal Investment: \$/Customer																			
Meter & House Reg	\$195.45	\$195.45	\$1,805.27	\$19,464.95	\$230.71	\$606.59	\$1,309.98	\$2,824.17	\$8,953.92	\$12,576.46	\$1,474.36	\$8,989.56	\$49,799.80	\$5,591.55	\$93,227.93	\$396,314.38	\$105,723.45	\$70,473.40	\$766,675.11
Service Lines	\$1,773.76 \$0.00	\$1,773.65 \$0.00	\$9,356.02 \$0.00	\$130,050.51 \$0.00	\$1,940.10 \$0.00	\$9,046.73 \$0.00	\$11,048.15 \$0.00	\$15,681.51 \$0.00	\$45,448.16 \$0.00	\$80,180.63 \$0.00	\$11,794.90 \$0.00	\$7,575.11 \$0.00	\$85,563.97 \$0.00	\$209,792.28 \$0.00	\$313,478.61 \$11,753.92	\$851,964.79 \$28,220.26	\$332,918.54 \$13,193.02	\$102,268.50 \$0.00	\$367,802.70 \$197,632,73
Exclusive Use Facilities Total Marginal Investment \$/customer	\$1.969.21	\$1,969,10	\$11,161,30	\$149.515.46	\$0.00	\$9.653.32	\$12,358,13	\$18,505,68	\$54,402,08	\$92,757.09	\$13,269.27	\$16,564,66		\$215.383.82	\$418,460,46		\$13,193.02	\$172.741.89	\$1,332,110,55
Total Walquia IIIVestilletti (#Custoriei	\$1,505.21	\$1,505.10	\$11,101.50	\$140,515.40	\$2,170.01	49,000.02	\$12,550.15	\$10,303.00	\$34,402.00	402,737.00	\$13,208.27	\$10,504.00	\$133,303.77	ψ213,300.02	\$410,400.40	***************************************	\$0.00	\$172,741.05	\$1,332,110.33
Weighted PVRR for Meter & House Reg	129.06%	129.13%	129.12%	129.23%	129.03%	129.10%	129.09%	129.11%	129.12%	129.08%	128.89%	129.11%	129.30%	129.21%	129.28%	129.30%	129.30%	129.31%	129.31%
PVCC for Service Lines	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%
PVRR:																			*****
Meter & House Reg \$/customer Service Lines \$/customer	\$252.26 \$2.293.99	\$252.39 \$2.293.85	\$2,330.94 \$12,100.12	\$25,154.06 \$168.193.98	\$297.67 \$2.509.13	\$783.12 \$11.700.12	\$1,691.00 \$14.288.54	\$3,646.40 \$20.280.85	\$11,561.12 \$58,777.98	\$16,233.41 \$103.697.40	\$1,900.30 \$15.254.32	\$11,606.23 \$9,796.87		\$7,224.81 \$271.323.80	\$120,526.94 \$405.421.06		\$136,701.70 \$430.562.68	\$91,131.66 \$132.263.58	\$991,414.87 \$475.678.27
PVRR of Hookup Cost \$/customer	\$2,546.26	\$2,546.24	\$14,431.06	\$193,348.05	\$2,806.81	\$12,483.24	\$15,979.54	\$23,927.25		\$119,930.81	\$17,154.62	\$21,403.10		\$278,548.61	\$525,948.01	#######################################		\$223,395.24	\$1,467,093.15
Total PVRR of Hookup Cost for Class \$'s	\$50,723,965	\$30.863.014	\$3,376,867	\$0	\$90.592.489	\$8,476,117	\$7.302.651	\$6.938.904	\$562.713	\$119.931	\$24.616.875	\$0	\$1.575.462	\$3.621.132	\$525,948	\$0	\$567,264	\$2.233.952	\$0
PVRR of Hookup Cost \$/customer	\$13.80	\$17.93	\$28.09	\$0.00	\$16.42	\$96.25	\$114.49	\$141.19	\$249.21	\$362.33	\$120.92	\$0.00	\$6,430.46	\$5,043.36	\$984.92	\$0.00	\$1,023.94	\$8,935.81	\$0.00
O&M Cost w/Loaders \$/Cust.																			
Total Direct O&M	\$57.81	\$55.02	\$71.38	\$201.64	\$57.23	\$139.34	\$161.81	\$381.05	\$973.38	\$1,836.92	\$216.74	\$2,871.75	\$18,079.40	\$574.94	\$5,440.26	\$5,503.41	\$9,455.82	\$6,039.24	\$17,933.71
Total O&M Loaders \$/customer/yr	\$51.66	\$49.17	\$63.79	\$180.19	\$51.14	\$124.51	\$144.60	\$340.51	\$869.82	\$1,641.49	\$193.68	\$2,566.22	\$16,155.94	\$513.77	\$4,861.47	\$4,917.90	\$8,449.82	\$5,396.73	\$16,025.75
															<u> </u>				
LRMC NCO Customer Cost \$/customer/year	\$123.27	\$122.12	\$163.26	\$381.83	\$124.80	\$360.11	\$420.90	\$862.76	\$2,092.41	\$3,840.74	\$531.35	\$5,437.97	\$40,665.79	\$6,132.07	\$11,286.65	\$10,421.31	\$18,929.58	\$20,371.78	\$33,959.47
NCO w/ Replacement Cost Adder																			
Marginal Investment: Meter & House Reg \$/Customer	\$195.45	\$195.45	\$1,805.27	\$19,464.95	\$230.71	\$606.59	\$1,309.98	\$2,824.17	\$8,953.92	\$12,576.46	\$1,474.36	\$8,989.56	\$49,799.80	\$5,591.55	\$93,227.93	\$396,314.38	\$105,723.45	\$70,473.40	\$766,675.11
Service Lines Replacement Cost	\$3,167.23	\$3,167.23	\$14,373.42	\$160,276.57	\$3,412.85	\$14,393.15	\$17,029.09	\$22,772.18	\$71,036.90	\$182,652.55	\$18,143.64	\$11,447.04	\$112,536.62	\$312,229.22	\$342,511.43	\$917,974.12	\$363,286.25	\$108,519.95	\$350,966.12
Exclusive Use Facilities	\$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	\$11,753.92	\$28,220.26	\$13,193.02	\$0.00	\$197,632.73
Total	\$1,969.21	\$1,969.10	\$11,161.30	\$149,515.46	\$2,170.81	\$9,653.32	\$12,358.13	\$18,505.68	\$54,402.08	\$92,757.09	\$13,269.27	\$16,564.66	\$135,363.77	\$215,383.82	\$418,460.46	################	\$0.00	\$172,741.89	\$1,332,110.55
Weighted PVRR for Meter & House Reg	129.06%	129.13%	129.12%	129.23%	129.03%	129.10%	129.09%	129.11%	129.12%	129.08%	128.89%	129.11%	129.30%	129.21%	129.28%	129.30%	129.30%	129.31%	129.31%
PVCC for Service Lines	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%
PVCC for Exclusive Use Facilities (Meters)	12070	72070	.2070	070	070	72070	.2070	.2070	070	.2070	.2070	.2070	0,0	070	129%	129%	129%	129%	129%
Weighted Replacement Factor for Meter & House Reg	1.79%	1.27%	1.63%	0.97%	1.96%	1.66%	1.77%	1.65%	1.82%	2.13%	2.75%	1.88%	0.40%	1.04%	0.37%	0.42%	0.38%	0.29%	0.29%
Replacement Factor for Service Lines	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
Replacement Factor for Exclusive Use Facilities															4.00%	4.00%	4.00%	4.00%	4.00%
•																			
Meter & House Reg, Replacement	\$4.53	\$3.19	\$37.99	\$244.29	\$5.83	\$12.98	\$29.88	\$60.24	\$210.75	\$345.38	\$52.21	\$218.33	\$256.55	\$74.90	\$451.86	\$2,128.85	\$520.11	\$263.24	\$2,863.77
Service Lines, Replacement	\$61.14	\$61.14	\$277.45	\$3,093.81	\$65.88	\$277.83	\$328.71	\$439.57	\$1,371.22	\$3,525.73	\$350.23	\$220.96	\$2,172.29	\$6,026.94	\$6,611.48	\$17,719.60	\$7,012.49	\$2,094.75	\$6,774.68
Exclusive Use Facilities, Replace												<u> </u>			\$604.51	\$1,451.38	\$678.52	\$0.00	\$10,164.36
Replacement Adder \$/Customer	\$65.66	\$64.33	\$315.44	\$3,338.10	\$71.70	\$290.81	\$358.59	\$499.81	\$1,581.97	\$3,871.11	\$402.43	\$439.29	\$2,428.84	\$6,101.84	\$7,667.85	\$21,299.83	\$8,211.13	\$2,358.00	\$19,802.81
NCO w/o Repl Cost \$/Cust/vr	\$123.27	\$122.12	\$163.26	\$381.83	\$124.80	\$360.11	\$420.90	\$862.76	\$2 092 41	\$3,840,74	\$531.35	\$5 437 97	\$40.665.79	\$6 132 07	\$11,286,65	\$10.421.31	\$18.929.58	\$20.371.78	\$33.959.47
NCO w/ Repl Cost: \$/Cust/yr.	\$188.93	\$186.45	\$478.70	\$3,719.94	\$196.51	\$650.91	\$779.49	\$1.362.57	\$3,674,38	\$7,711.85			\$43,094.63	\$12,233.91	\$18,954.50		\$27,140,71	\$22,729.78	\$53,762,28
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Marginal Unit Costs								
• • • • • • • • • • • • • • • • • • • •		Noncore Wholesa	le					1
	500						Total O&M Cost	l
	EOR	Wholesale				International	for All	
								l
	G-40	LB	SDG&E	SWG	Vernon	Ecogas	Customers	l
		•						
								l
								l
NCO Method:								
2016 Number of Customers	33	1	1	1	1	1	5,721,670	cust 2
New Hookups Rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		l
No of New Customer Hookups /year	0	0	0	0	0	0	33,744	
Marginal Investment: \$/Customer								l
Meter & House Reg	\$262,839.23	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		cust 5
Service Lines	\$222,966.35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		cust 5
Exclusive Use Facilities	\$31,275.11	\$4,656,772.60	\$10,947,781.49	\$3,096,235.69	\$2,321,309.97	\$501,886.62		cust 6, cust 7
Total Marginal Investment \$/customer	\$517,080.69	\$4,656,772.60	\$10,947,781.49	\$3,096,235.69	\$2,321,309.97	\$501,886.62		l
Weighted PVRR for Meter & House Reg	129.33%							cust 10
PVCC for Service Lines	129.33%	129.33%	129.33%	129.33%	129.33%	129.33%		2013 RECC
PVRR:								l
Meter & House Reg \$/customer	\$339,919.37	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		l
Service Lines \$/customer PVRR of Hookup Cost \$/customer	\$288,361.79 \$628,281.17	\$0.00 \$0.00	\$0.00 \$0.00	\$0.00 \$0.00	\$0.00 \$0.00	\$0.00 \$0.00		ł
Total PVRR of Hookup Cost for Class \$'s	\$020,281.17	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		l
PVRR of Hookup Cost \$/customer	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		
O&M Cost w/Loaders \$/Cust.								l
Total Direct O&M	\$20,727.80	\$166,514.54	\$157,146.25	\$198,642.02	\$124,530.89	\$69,813.77		l
Total O&M Loaders \$/customer/yr	\$18,522.58	\$148,799.12	\$140,427.52	\$177,508.57	\$111,282.10	\$62,386.31		l
LRMC NCO Customer Cost \$/customer/year	\$39,250.39	\$315,313.66	\$297,573.76	\$376,150.58	\$235,812.99	\$132,200.08		
NCO w/ Replacement Cost Adder	#000 000 00	60.00	<b>#0.00</b>	<b>#0.00</b>	<b>#0.00</b>	60.00		
Marginal Investment: Meter & House Reg \$/Customer	\$262,839.23	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		cust 5
Service Lines Replacement Cost	\$313,328.03	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		cust 5
Exclusive Use Facilities Total	\$31,275.11	\$4,656,772.60	\$10,947,781.49	\$3,096,235.69	\$2,321,309.97	\$501,886.62 \$501.886.62		cust 6, cust 7
rotal	\$517,080.69	\$4,656,772.60	\$10,947,781.49	\$3,096,235.69	\$2,321,309.97	\$501,886.62		l
Weighted PVRR for Meter & House Reg	129.33%							cust 10
PVCC for Service Lines	129%							2013 RECC
PVCC for Exclusive Use Facilities (Meters)	129%	129%	129%	129%	129%	129%		
Weighted Replacement Factor for Meter & House Reg Replacement Factor for Service Lines	0.21% 1.5%							cust 10
Replacement Factor for Exclusive Use Facilities	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%		cust 10
Meter & House Reg, Replacement	\$703.78							l
Service Lines, Replacement	\$6,048.15							l
Exclusive Use Facilities, Replace	\$1,608.50	\$239,500.36	\$563,050.40	\$159,241.10	\$119,386.24	\$25,812.30		]
Replacement Adder \$/Customer	\$8,360.43	\$239,500.36	\$563,050.40	\$159,241.10	\$119,386.24	\$25,812.30		1
								l
NCO w/o Repl Cost \$/Cust/yr NCO w/ Repl Cost: \$/Cust/yr.	\$39,250.39 \$47,610.81	\$315,313.66 \$554,814.03	\$297,573.76 \$860,624.16	\$376,150.58 \$535,391.68	\$235,812.99 \$355,199.23	\$132,200.08 \$158,012.38	<b>├</b>	l
NOO W/ Rept Cost: a/Custryr.	747,010,81	φ334,014.U3	400U,024.16	4333,381.68	4300,199.Z3	\$100,U12.38		1

							Core							
			Residential							Non-Resid	lential			
	Single	Multi	Master	Meter	Residential			G-10	)			Gas Air	Natrual Gas	Gas
	Family	Family	Small	Large	Total	Very Small	Small	Medium	Large	Very Large	Total	Conditioning	Vehicle	Engine
2016 Number of Customers	3,674,386	1,721,561	120,217	49	5,516,213	88,060	63,785	49,146	2,258	331	203,580	9	245	718

						Nonco	re						
						Non-Resid	ential						Total
		G-30		Small	Large	EOR		Whol	esale		Internat	ional	Over All
	Distribution	Transmission	Total	EG	EG	G-40	LB	SDG&E	SWG	Vernon	Mexacali	Rosarito	Customers
2016 Number of Customers	534	20	554	250	63	33	1	1	1	1	1	0	5,721,670

1) Residential Segmentation
1a) Segmentation of Residential Total Customer Counts into Bands

			Residential		
	Single	Multi	Master	Meter	
	Family	Family	Small	Large	Total
2016 Number of Customers	3,674,386	1,721,561	120,217	49	5,516,213
Percent of Total	67%	31%	2%	0%	100%

values from 'Number of Customers', cust 2 tab

1b) Segmentation of Residential Meter, Regulator & MSA Investment Costs into Bands

			Residential		
	Single				
	Family	Family	Small	Large	Total
Per Cust. Meter, Reg. & MSA Investment	\$195.45	\$195.45	\$1,805.27	\$19,464.95	
2016 Number of Customers	3,674,386	1,721,561	120,217	49	5,516,213
Total Meter, Reg. & MSA Investment	\$718,174,622	\$336,486,537	\$217,024,674	\$953,783	\$1,272,639,615
Percent of Total Meter, Reg. & MSA Investment	56%	26%	17%	0%	100%

note: used to segment Meters, Regulators & MSAs O&M Costs values from 'Investment Meters, REGs', cust 5 tab

# 2) G10 Segmentation

### 2a) Segmentation of G-10 Total Customer Counts into Bands

			G-1	0		
	Very Small	Small	Medium	Large	Very Large	Total
2016 Number of Customers	88,060	63,785	49,146	2,258	331	203,580
Percent of Total	43%	31%	24%	1%	0%	100%

values from 'Number of Customers', cust 2 tab

2b) Segmentation of G-10 Meter, Regulator & MSA Investment Costs into Bands

			G-1	0		
	Very Small	Small	Medium	Large	Very Large	Total
Per Cust. Meter, Reg & MSA Investment	\$606.59	\$1,309.98	\$2,824.17	\$8,953.92	\$12,576.46	
2016 Number of Customers	88,060	63,785	49,146	2,258	331	203,580
Total Meter, Reg & MSA Investment	\$53,416,216	\$83,557,068	\$138,796,556	\$20,217,962	\$4,162,809	\$300,150,611
Percent of Total Meter, Reg & MSA Investment	18%	28%	46%	7%	1%	100%

note: used to segment Meters, Regulators & MSAs O&M Costs values from 'Investment Meters, REGs', cust 5 tab

# 3) G 30 Segmentation

3a) Segmentation of G-30 total customer counts by Service Level

		G-30	
	Distribution	Transmission	Total
2016 Number of Customers	534	20	554
Percent of Total	96%	4%	100%

values from 'cust 2' tab

# 3b) Allocation of G-30 Total Big GEMS Costs by Service Level

			G-30	
		Distribution	Transmission	Total
Meter/Reg Investment Cost Per Customer	2013 \$s	\$93,227.93	\$396,314.38	
2016 Number of Customers		534	20	554
Total Cost	2013 \$s	\$49,783,716	\$7,926,288	\$57,710,004
Percent of Total Cost		86%	14%	100%

note: used to segment Meters, Regulators & MSAs O&M Costs values from 'Investment Meters, REGs', cust 5 tab

#### SCG 2020 TCAP LRMC Customer Cost Average Per Customer Investment in Meters & Regulators by Customer Class

								Core						
			Residential							Non-Residential				
Single Multi Investment Per Customer: Family Family					Residential			G	-10			Gas Air	Natrual Gas	Gas
mer:	Family	Family	Small	Large	Average	Very Small	Small	Medium	Large	Very Large	Average	Conditioning	Vehicle	Engine
2016 \$s	\$172.67	\$172.67	\$1,594.85	\$17,196.05	\$203.82	\$535.88	\$1,157.28	\$2,494.97	\$7,910.22	\$11,110.51	\$1,302.51	\$7,941.70	\$43,994.96	\$4,939.78
2020 \$s	\$195.45	\$195.45	\$1,805.27	\$19,464.95	\$230.71	\$606.59	\$1,309.98	\$2,824.17	\$8,953.92	\$12,576.46	\$1,474.36	\$8,989.56	\$49,799.80	\$5,591.55
	\$195.45	\$105.45	\$1 805 27	\$19.464.95	\$230.71	\$606.59	\$1 30Q QR	\$2,824,17	\$8 953 92	\$12 576 46	\$1 <i>474</i> 36	\$8 989 56	\$49.799.80	\$5,591.55
	2016 \$s	mer: Family 2016 \$s \$172.67	mer:         Family         Family           2016 \$s         \$172.67         \$172.67           2020 \$s         \$195.45         \$195.45	Single   Multi   Maste	weer:         Family         Family         Small         Large           2016 \$s         \$172.67         \$172.67         \$1,594.85         \$17,196.05           2020 \$s         \$195.45         \$1,805.27         \$19,464.95	Single   Multi   Master Meter   Residential	Single   Multi   Master Meter   Residential	Single   Multi   Master Meter   Residential   Average   Very Small   Small   Large   Average   Very Small   Small   Large   Average   Very Small   S	Residential   Single   Multi   Master Meter   Residential   Family   Small   Large   Average   Very Small   Small   Medium	Residential   Single   Multi   Master Meter   Residential   G-10	Residential   Non-Residential   Non-Residential   Non-Residential   Non-Residential   Non-Residential   Non-Residential   Single   Multi   Master Meter   Residential   Small   Small   Medium   Large   Very Large   Very Small   Small   Medium   Large   Very Large	Residential   Non-Residential   Non-Residential   Non-Residential	Residential   Non-Residential   Non-Residential   Non-Residential   Non-Residential   Single   Multi   Master Meter   Residential   Section   Small   Small   Small   Small   Small   Small   Medium   Small   Small	Residential   Single   Multi   Master   Meter   Residential   Residential   G-10   Gas Air   Natrual Gas   Very Small   Large   Average   Very Small   Small   Medium   Large   Very Large   Average   Very

For Res and Non-Residential G10 customers we multiply 5 yr average meter size and pressure type combination for new customers per class times unit cost for each associated combination. For other classes we multiply average meter size and pressure type combination for all customers per class times unit cost for each associated combination.

#### Average Per Customer Investment in Service Lines by Customer Class

									Core						
				Residentia							Non-Residential				
		Single	Multi	Maste	r Meter	Residential			G	-10			Gas Air	Natrual Gas	Gas
Investment Per Cu	stomer:	Family	Family	Small	Large	Average	Very Small	Small	Medium	Large	Very Large	Average	Conditioning	Vehicle	Engine
Service Lines	2016 \$s	\$1,567.00	\$1,566.90	\$8,265.45	\$114,891.36	\$1,713.96	\$7,992.22	\$9,760.34	\$13,853.62	\$40,150.56	\$70,834.49	\$10,420.05	\$6,692.13	\$75,590.33	\$185,338.15
Service Lines	2020 \$s	1,773.76	1,773.65	9,356.02	130,050.51	1,940.10	9,046.73	11,048.15	15,681.51	45,448.16	80,180.63	11,794.90	7,575.11	85,563.97	209,792.28
Total		1,773.76	1,773.65	9,356.02	130,050.51	1,940.10	9,046.73	11,048.15	15,681.51	45,448.16	80,180.63	11,794.90	7,575.11	85,563.97	209,792.28

formerly tabs: 'Investment Meter, Reg' and 'Investment Service Lines'
For residential and non-residential G10 customers we multiply Ken's 5 yr average footage, pipe type, pipe size configuration per class times Distribution Managers' cost per foot each associated configuration.
For other classes we multiply average footage, pipe type and pipe size combination for all customers per class times unit cost for each associated combination.

#### Service Lines Replacement Costs

	Core Residential Non-Residential														
									Core						
				Residential							Non-Residential				
		Single	Multi	Master	r Meter	Residential			G	-10			Gas Air	Natrual Gas	Gas
Investment Per Cus	stomer:	Family	Family	Small	Large	Average	Very Small	Small	Medium	Large	Very Large	Average	Conditioning	Vehicle	Engine
Service Lines Repla	ceme 2016 \$s	2,798.05	2,798.05	12,698.01	141,594.17	3,015.03	12,715.43	15,044.12	20,117.78	62,756.59	161,361.92	16,028.75	10,112.73	99,418.96	275,834.68
Service Lines	2020 \$s	3,167.23	3,167.23	14,373.42	160,276.57	3,412.85	14,393.15	17,029.09	22,772.18	71,036.90	182,652.55	18,143.64	11,447.04	112,536.62	312,229.22
Total		3,167.23	3,167.23	14,373.42	160,276.57	3,412.85	14,393.15	17,029.09	22,772.18	71,036.90	182,652.55	18,143.64	11,447.04	112,536.62	312,229.22

#### SCG 2020 TCAP LRMC Customer Cost Average Per Customer Investment in

							Noncore							1
							Non-Resident	al						Total
		•			<3 Million									
			G-30		SM. COGEN	>3 Million EG	EOR		Wh	olesale		Internat	tional	Over All
Investment Per C	vestment Per Customer: Distribution Transmission Avera				G-50	G-50	G-40	LB	SDG&E	SWG	Vernon	DGN	Rosarito	Customers
Meter, Reg.	2016 \$s	\$82,360.96	\$350,118.57	\$97,210.60	\$62,258.77	\$677,308.75	\$241,675.42	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Meter, Reg.	2020 \$s	\$93,227.93	\$396,314.38	\$105,723.45	\$70,473.40	\$766,675.11	\$262,839.23	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Total		\$93,227.93	\$396,314.38	\$105,723.45	\$70,473.40	\$766,675.11	\$262,839.23	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	

For Res and Non-Residential G10 custo For other classes we multiply average m

Average Per Customer Investment in Service Lines by Customer Class

							Noncore							
							Non-Resident	ial						Total
			G-30		SM. COGEN	EG	EOR		Wh	olesale		Interna	ational	Over All
Investment Per Customer:		Distribution	Transmission	Average	G-50	G-50	G-40	LB	SDG&E	SWG	Vernon	DGN	Rosarito	Customers
Service Lines	2016 \$s	\$276,938.43	\$752,656.77	\$294,112.38	\$90,347.72	\$324,930.32	\$196,976.60	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Service Lines	2020 \$s	313,478.61	851,964.79	332,918.54	102,268.50	367,802.70	222,966.35	0.00	0.00	0.00	0.00	0.00	0.00	
Total		313,478.61	851,964.79	332,918.54	102,268.50	367,802.70	222,966.35	0.00	0.00	0.00	0.00	0.00	0.00	

formerly tabs: 'Investment Meter, Reg' a For residential and non-residential G10 For other classes we multiply average for

#### Service Lines Replacement Costs

oo. 1.00 Emioo .topic																
							Noncore									
			G-30		SM. COGEN	EG	EOR		Wh	olesale		Intern	ational	Over All		
Investment Per Cus	stomer:	Distribution	Transmission	Average	G-50	G-50	G-40	LB	SDG&E	SWG	Vernon	DGN	Rosarito	Customers		
Service Lines Replaceme 2016 \$s		302,587.08	810,971.81	320,940.32	95,870.48	310,056.27	276,805.41	0.00	0.00	0.00	0.00	0.00	0.00			
Service Lines	2020 \$s	342,511.43	917,974.12	363,286.25	108,519.95	350,966.12	313,328.03	0.00	0.00	0.00	0.00	0.00	0.00			
			-													
Total		342,511.43	917,974.12	363,286.25	108,519.95	350,966.12	313,328.03	0.00	0.00	0.00	0.00	0.00	0.00			

		Meter	Above	avg labor and nonlabor				
Code	Element	Size	Std	\$/meter	avg \$/meter	avg \$/regulator	Total	
S10	SGL	1	0	\$144	\$47	\$18	\$209	_
M10	MULT	1	0	\$121	\$47	\$5	\$173	
30	AG	3	0	\$166	\$124	\$18	\$308	
	CMB	3		\$363	\$427	\$112	\$902	
31	LBS	3	1	\$161	\$427	\$279	\$867	
S40	SZ	4	0	\$171	\$577	\$219	\$967	
S50	SZ	5	0	\$171	\$577	\$219	\$967	
	CMB	4		\$309	\$713	\$258	\$1,280	
	CMB	5		\$309	\$713	\$258	\$1,280	
41	@LBS	4	1	\$2,120	\$463	\$278	\$2,861	
51	@LBS	5	1	\$2,120	\$463	\$278	\$2,861	
S60	STD	6	0	\$1,437	\$730	\$219	\$2,386	
S70	STD	7	0	\$1,437	\$730	\$219	\$2,386	
61	LBS	6	1	\$3,386	\$730	\$279	\$4,395	
71	LBS	7	1	\$3,386	\$730	\$279	\$4,395	
S80	STD	8	0	\$1,437	\$818	\$280	\$2,535	
S90	STD	9	0	\$1,437	\$818	\$280	\$2,535	
81	LBS	8	1	\$3,386	\$818	\$640	\$4,844	
91	LBS	9	1	\$3,386	\$818	\$640	\$4,844	
99	TURBINE METERS	10		\$422,967	\$17,118	\$3,300	\$443,385	
100	ROTARY METERS	10		\$4,770	\$4,433	\$3,300	\$12,503	
110	ULTRASONIC METERS	12		\$906,081	\$119,284	\$0	\$1,025,365	

		Meter	Above	Number of customers	avg labor							Average Meter & Regulator CAPEX/
Code	Rate	Size (1)	Std (2)	(3)	\$/meter	avg \$/meter	avg \$/regulator	tot lab	tot met	tot reg	tot cost	Customer
S10	SF	1	0	44,606	\$143.91	\$47.02	\$18.07	\$6,419,106	\$2,097,153	\$806,036	\$9,322,294	\$208.99
30	SF	3	0	30,792	\$166.35	\$123.97	\$18.07	\$5,122,146	\$3,817,174	\$556,415	\$9,495,735	\$308.38
31	SF	3	1	19	\$161.18	\$427.15	\$279.00	\$3,062	\$8,116	\$5,301	\$16,479	\$867.33
S40	SF	4	0	5,457	\$171.25	\$576.52	\$219.00	\$934,503	\$3,146,047	\$1,195,083	\$5,275,633	\$966.76
41	SF	4	1	34	\$2,120.25	\$462.92	\$278.00	\$72,088	\$15,739	\$9,452	\$97,280	\$2,861.17
S50	SF	5	0	282	\$171.25	\$576.52	\$219.00	\$48,292	\$162,577	\$61,758	\$272,628	\$966.76
S60	SF	6	0	985	\$1,437.05	\$729.76	\$219.00	\$1,415,492	\$718,818	\$215,715	\$2,350,024	\$2,385.81
61	SF	6	1	41	\$3,386.05	\$729.76	\$279.00	\$138,828	\$29,920	\$11,439	\$180,187	\$4,394.81
S70	SF	7	0	3	\$1,437.05	\$729.76	\$219.00	\$4,311	\$2,189	\$657	\$7,157	\$2,385.81
S80	SF	8	0	128	\$1,437.05	\$818.36	\$280.00	\$183,942	\$104,750	\$35,840	\$324,532	\$2,535.40
81	SF	8	1	30	\$3,386.05	\$818.36	\$640.00	\$101,581	\$24,551	\$19,200	\$145,332	\$4,844.40
S90	SF	9	0	7	\$1,437.05	\$818.36	\$280.00	\$10,059	\$5,728	\$1,960	\$17,748	\$2,535.40
91	SF	9	1	4	\$3,386.05	\$818.36	\$640.00	\$13,544	\$3,273	\$2,560	\$19,378	\$4,844.40
100	SF	10	1	1	\$4,769.78	\$4,433.19	\$3,300.00	\$4,770	\$4,433	\$3,300	\$12,503	\$12,502.97
	tot SF			82,389			**/***	\$14,471,725	\$10,140,469	\$2,924,716	\$27,536,910	\$172.67
M10	MF		0	55.746	\$121.14	\$47.02	\$4.52	\$6.753.010	\$2.620.900	\$251.834	\$9.625.744	\$172.67
		1										
30	MF	3	0	4,148	\$166.35	\$123.97	\$18.07	\$690,006	\$514,213	\$74,955	\$1,279,173	\$308.38
31	MF	3	1	1	\$161.18	\$427.15	\$279.00	\$161	\$427	\$279	\$867	\$867.33
S40	MF	4	0	157	\$171.25	\$576.52	\$219.00	\$26,886	\$90,513	\$34,383	\$151,782	\$966.76
S60	MF	6	0	6	\$1,437.05	\$729.76	\$219.00	\$8,622	\$4,379	\$1,314	\$14,315	\$2,385.81
61	MF	6	1	4	\$3,386.05	\$729.76	\$279.00	\$13,544	\$2,919	\$1,116	\$17,579	\$4,394.81
81	MF	8	1	2	\$3,386.05	\$818.36	\$640.00	\$6,772	\$1,637	\$1,280	\$9,689	\$4,844.40
	tot MF			60,064				\$7,499,001	\$3,234,987	\$365,161	\$11,099,150	\$172.67
M10	MM Band 1	1	0	473	\$121.14	\$47.02	\$4.52	\$57,299	\$22,238	\$2,137	\$81.674	\$172.67
30	MM Band 1	3	0	141	\$166.35	\$123.97	\$18.07	\$23,455	\$17,479	\$2,548	\$43,482	\$308.38
31	MM Band 1	3	1	13	\$161.18	\$427.15	\$279.00	\$2,095	\$5,553	\$3,627	\$11,275	\$867.33
S40	MM Band 1	4	0	204	\$171.25	\$576.52	\$219.00	\$34,935	\$117,609	\$44,676	\$197,220	\$966.76
41	MM Band 1	4	1	37	\$2,120.25	\$462.92	\$278.00	\$78,449	\$17,128	\$10,286	\$105,863	\$2,861.17
S50	MM Band 1	5	0	14	\$171.25	\$576.52	\$219.00	\$2,397	\$8,071	\$3,066	\$13.535	\$966.76
S60	MM Band 1	6	0	151	\$1,437.05	\$729.76	\$219.00	\$216,994	\$110,194	\$33,069	\$360,258	\$2,385.81
61	MM Band 1	6	1	39	\$3,386.05	\$729.76	\$279.00	\$132,056	\$28,461	\$10,881	\$171,398	\$4,394.81
S70	MM Band 1	7	'n	2	\$1,437.05	\$729.76	\$219.00	\$2,874	\$1,460	\$438	\$4.772	\$2,385.81
S80	MM Band 1	8	0	60	\$1,437.05	\$818.36	\$280.00	\$86,223	\$49,101	\$16,800	\$152,124	\$2,535.40
81	MM Band 1	8	4	63	\$3.386.05	\$818.36	\$640.00	\$213,321	\$51,556	\$40,320	\$305,124	\$2,535.40 \$4.844.40
S90	MM Band 1	9	0	11	\$1,437.05	\$818.36	\$280.00	\$15,808	\$9,002	\$3,080	\$27.889	\$4,644.40 \$2.535.40
91	MM Band 1	9	0	35	\$3,386.05	\$818.36	\$280.00 \$640.00	\$15,808 \$118,512	\$9,002 \$28,642	\$3,080	\$27,889 \$169,554	\$2,535.40 \$4,844.40
100	MM Band 1	10	1	35 31	\$3,386.05	\$4.433.19					\$387.592	
100	tot MM 1	10	1	1,274	\$4,769.78	\$4,433.19	\$3,300.00	\$147,863 \$1,132,280	\$137,429 \$603.925	\$102,300 \$295,628	\$387,592	\$12,502.97 \$1,594.85
				-				· / / · · / · · ·	******	,	, , ,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
61	MM Band 2	6	1	3	\$3,386.05	\$729.76	\$279.00	\$10,158	\$2,189	\$837	\$13,184	\$4,394.81
71	MM Band 2	7	1	1	\$3,386.05	\$729.76	\$279.00	\$3,386	\$730	\$279	\$4,395	\$4,394.81
81	MM Band 2	8	1	5	\$3,386.05	\$818.36	\$640.00	\$16,930	\$4,092	\$3,200	\$24,222	\$4,844.40
91	MM Band 2	9	1	17	\$3,386.05	\$818.36	\$640.00	\$57,563	\$13,912	\$10,880	\$82,355	\$4,844.40
99	MM Band 2	10	1	1	\$422,966.95	\$17,118.00	\$3,300.00	\$422,967	\$17,118	\$3,300	\$443,385	\$443,384.95
100	MM Band 2	10	1	22	\$4,769.78	\$4,433.19	\$3,300.00	\$104,935	\$97,530	\$72,600	\$275,065	\$12,502.97
	tot MM 2			49				\$615,939	\$135,571	\$91,096	\$842,606	\$17,196.05

		Meter	Above	Number of customers	avg labor							Average Meter & Regulator CAPEX/
Code	Rate	Size (1)	Std (2)	(3)	\$/meter	avg \$/meter	avg \$/regulator	tot lab	tot met	tot reg	tot cost	Customer
S10	G10 Band 1	1	0	2,133	\$143.91	\$47.02	\$18.07	\$306,953	\$100,283	\$38,544	\$445,780	\$208.99
30	G10 Band 1	3	0	447	\$166.35	\$123.97	\$18.07	\$74,357	\$55,413	\$8,077	\$137,847	\$308.38
31	G10 Band 1	3	1	27	\$161.18	\$427.15	\$279.00	\$4,352	\$11,533	\$7,533	\$23,418	\$867.33
S40	G10 Band 1	4	0	309	\$171.25	\$576.52	\$219.00	\$52,916	\$178,143	\$67,671	\$298,730	\$966.76
41	G10 Band 1	4	1	24	\$2,120.25	\$462.92	\$278.00	\$50,886	\$11,110	\$6,672	\$68,668	\$2,861.17
S50	G10 Band 1	5	0	37	\$171.25	\$576.52	\$219.00	\$6,336	\$21,331	\$8,103	\$35,770	\$966.76
51	G10 Band 1	5	1	3	\$2,120.25	\$462.92	\$278.00	\$6,361	\$1,389	\$834	\$8,584	\$2,861.17
S60	G10 Band 1	6	0	88	\$1,437.05	\$729.76	\$219.00	\$126,460	\$64,219	\$19,272	\$209,951	\$2,385.81
61	G10 Band 1	6	1	43	\$3,386.05	\$729.76	\$279.00	\$145,600	\$31,380	\$11,997	\$188,977	\$4,394.81
S70	G10 Band 1	7	0	1	\$1,437.05	\$729.76	\$219.00	\$1,437	\$730	\$219	\$2,386	\$2,385.81
71	G10 Band 1	7	1	1	\$3,386.05	\$729.76	\$279.00	\$3,386	\$730	\$279	\$4,395	\$4,394.81
S80	G10 Band 1	8	0	23	\$1,437.05	\$818.36	\$280.00	\$33,052	\$18,822	\$6,440	\$58,314	\$2,535.40
81	G10 Band 1	8	1	26	\$3,386.05	\$818.36	\$640.00	\$88,037	\$21,277	\$16,640	\$125,954	\$4,844.40
91	G10 Band 1	9	1	6	\$3,386.05	\$818.36	\$640.00	\$20,316	\$4,910	\$3,840	\$29,066	\$4,844.40
100	G10 Band 1	10	1	5	\$4,769.78	\$4,433.19	\$3,300.00	\$23,849	\$22,166	\$16,500	\$62,515	\$12,502.97
	tot Band 1			3,173				\$944,298	\$543,437	\$212,621	\$1,700,356	\$535.88
S10	G10 Band 2	1	0	551	\$143.91	\$47.02	\$18.07	\$79,293	\$25,905	\$9,957	\$115,155	\$208.99
30	G10 Band 2	3	0	517	\$166.35	\$123.97	\$18.07	\$86,001	\$64,091	\$9,937	\$159,434	\$308.38
31	G10 Band 2	3	1	22	\$161.18	\$427.15	\$279.00	\$3,546	\$9,397	\$6,138	\$19,081	\$867.33
S40	G10 Band 2 G10 Band 2	4	0	615	\$161.18	\$427.15 \$576.52	\$279.00 \$219.00	\$3,546 \$105,318	\$9,397 \$354,557	\$6,138 \$134,685	\$594,560	\$867.33 \$966.76
41	G10 Band 2 G10 Band 2	4	1	49	\$1,71.25	\$462.92	\$278.00		\$354,557 \$22,683	\$134,685	\$140,197	\$966.76 \$2,861.17
								\$103,892				
S50	G10 Band 2	5	0	66	\$171.25	\$576.52	\$219.00	\$11,302	\$38,050	\$14,454	\$63,806	\$966.76
51	G10 Band 2	5	1	4	\$2,120.25	\$462.92	\$278.00	\$8,481	\$1,852	\$1,112	\$11,445	\$2,861.17
S60	G10 Band 2	6	0	259	\$1,437.05	\$729.76	\$219.00	\$372,195	\$189,009	\$56,721	\$617,925	\$2,385.81
61	G10 Band 2	6	1	50	\$3,386.05	\$729.76	\$279.00	\$169,302	\$36,488	\$13,950	\$219,741	\$4,394.81
S70	G10 Band 2	7	0	1	\$1,437.05	\$729.76	\$219.00	\$1,437	\$730	\$219	\$2,386	\$2,385.81
71	G10 Band 2	7	1	1	\$3,386.05	\$729.76	\$279.00	\$3,386	\$730	\$279	\$4,395	\$4,394.81
S80	G10 Band 2	8	0	62	\$1,437.05	\$818.36	\$280.00	\$89,097	\$50,738	\$17,360	\$157,195	\$2,535.40
81	G10 Band 2	8	1	76	\$3,386.05	\$818.36	\$640.00	\$257,340	\$62,195	\$48,640	\$368,175	\$4,844.40
S90	G10 Band 2	9	0	3	\$1,437.05	\$818.36	\$280.00	\$4,311	\$2,455	\$840	\$7,606	\$2,535.40
91	G10 Band 2	9	1	23	\$3,386.05	\$818.36	\$640.00	\$77,879	\$18,822	\$14,720	\$111,421	\$4,844.40
100	G10 Band 2	10	1	6	\$4,769.78	\$4,433.19	\$3,300.00	\$28,619	\$26,599	\$19,800	\$75,018	\$12,502.97
	tot Band 2			2,305				\$1,401,399	\$904,302	\$361,839	\$2,667,540	\$1,157.28
S10	G10 Band 3	1	0	31	\$143.91	\$47.02	\$18.07	\$4,461	\$1,457	\$560	\$6,479	\$208.99
30	G10 Band 3	3	0	180	\$166.35	\$123.97	\$18.07	\$29,942	\$22,314	\$3,253	\$55,509	\$308.38
31	G10 Band 3	3	1	48	\$161.18	\$427.15	\$279.00	\$7,736	\$20,503	\$13,392	\$41,632	\$867.33
S40	G10 Band 3	4	0	695	\$171.25	\$576.52	\$219.00	\$119,018	\$400,679	\$152,205	\$671,901	\$966.76
41	G10 Band 3	4	1	58	\$2,120.25	\$462.92	\$278.00	\$122,974	\$26,849	\$16,124	\$165,948	\$2,861.17
S50	G10 Band 3	5	Ö	101	\$171.25	\$576.52	\$219.00	\$17,296	\$58,228	\$22,119	\$97,643	\$966.76
51	G10 Band 3	5	1	4	\$2,120.25	\$462.92	\$278.00	\$8,481	\$1,852	\$1,112	\$11,445	\$2,861.17
S60	G10 Band 3	6	0	625	\$1,437.05	\$729.76	\$219.00	\$898,155	\$456,103	\$136,875	\$1,491,132	\$2,385.81
61	G10 Band 3	6	1	117	\$3,386.05	\$729.76	\$279.00	\$396,168	\$85,382	\$32,643	\$514,193	\$4,394.81
S70	G10 Band 3	7	0	6	\$1,437.05	\$729.76		\$8,622	\$4,379	\$1,314	\$14,315	\$2,385.81
71	G10 Band 3 G10 Band 3	7	-	2			\$219.00			\$1,314 \$558	\$14,315 \$8.790	\$2,385.81 \$4.394.81
		, 8	1		\$3,386.05	\$729.76	\$279.00	\$6,772	\$1,460			
S80	G10 Band 3	-	•	234	\$1,437.05	\$818.36	\$280.00	\$336,269	\$191,495	\$65,520	\$593,284	\$2,535.40
81	G10 Band 3	8	1	212	\$3,386.05	\$818.36	\$640.00	\$717,842	\$173,491	\$135,680	\$1,027,013	\$4,844.40
S90	G10 Band 3	9	0	34	\$1,437.05	\$818.36	\$280.00	\$48,860	\$27,824	\$9,520	\$86,204	\$2,535.40
91	G10 Band 3	9	1	119	\$3,386.05	\$818.36	\$640.00	\$402,940	\$97,384	\$76,160	\$576,484	\$4,844.40
100	G10 Band 3 tot Band 3	10	11	79 2.545	\$4,769.78	\$4,433.19	\$3,300.00	\$376,813 \$3,502,349	\$350,222 \$1,919,623	\$260,700 \$927,735	\$987,735 \$6,349,706	\$12,502.97 \$2,494.97
	5414 0			2,010				ψο,οοΣ,ο το	ψ1,010,020	ψ021,100	ψο,ο .ο,, σο	<b>V</b> 2,101101
41	G10 Band 4	4	1	1	\$2,120.25	\$462.92	\$278.00	\$2,120	\$463	\$278	\$2,861	\$2,861.17
61	G10 Band 4	6	1	5	\$3,386.05	\$729.76	\$279.00	\$16,930	\$3,649	\$1,395	\$21,974	\$4,394.81
S80	G10 Band 4	8	0	2	\$1,437.05	\$818.36	\$280.00	\$2,874	\$1,637	\$560	\$5,071	\$2,535.40
81	G10 Band 4	8	1	31	\$3,386.05	\$818.36	\$640.00	\$104,967	\$25,369	\$19,840	\$150,176	\$4,844.40
S90	G10 Band 4	9	0	2	\$1,437.05	\$818.36	\$280.00	\$2,874	\$1,637	\$560	\$5,071	\$2,535.40
91	G10 Band 4	9	1	37	\$3,386.05	\$818.36	\$640.00	\$125,284	\$30,279	\$23,680	\$179,243	\$4,844.40
		10	0	5	\$4,769.78	\$4,433.19	\$3,300.00	\$23,849	\$22,166	\$16,500	\$62,515	\$12,502.97
	G10 Band 4		U							Ψ10,500	ψ02,010	
100 100	G10 Band 4 G10 Band 4 tot Band 4	10	1	50 133	\$4,769.78	\$4,433.19	\$3,300.00	\$238,489 \$517,388	\$221,660 \$306,859	\$165,000 \$227,813	\$625,149 \$1,052,060	\$12,502.97 \$12,502.97 \$7,910.22

		Meter	Above	Number of customers	avg labor	•						Average Meter & Regulator CAPEX/
Code 91	Rate G10 Band 5	Size (1)	Std (2)	(3) 4	\$/meter \$3,386,05	avg \$/meter \$818.36	avg \$/regulator \$640.00	tot lab \$13.544	\$3,273	\$2,560	\$19.378	Customer \$4.844.40
	G10 Band 5	10	1	18	\$4,769.78	\$4,433.19	\$3,300.00	\$13,544 \$85,856	\$3,273 \$79,797	\$2,560 \$59,400	\$19,378 \$225,054	\$4,844.40 \$12,502.97
100	tot Band 5	10	- '	22	ψ4,109.16	Ф4,433.19	φο,ουυ.υυ	\$99,400	\$83,071	\$59,400 \$61,960	\$244,431	\$12,502.97
	tot band 5			22				ψ39,400	φου,071	ψ01,900	Ψ244,451	\$11,110.51
31	GAC	6	1	1	\$3,386.05	\$729.76	\$279.00	\$3,386	\$730	\$279	\$4,395	\$4,394.81
880	GAC	8	0	1	\$1,437.05	\$818.36	\$280.00	\$1,437	\$818	\$280	\$2,535	\$2,535.40
1	GAC	8	1	2	\$3,386.05	\$818.36	\$640.00	\$6,772	\$1,637	\$1,280	\$9,689	\$4,844.40
1	GAC	9	1	1	\$3,386.05	\$818.36	\$640.00	\$3,386	\$818	\$640	\$4,844	\$4,844.40
00	GAC	10	1	4	\$4,769.78	\$4,433.19	\$3,300.00	\$19,079	\$17,733	\$13,200	\$50,012	\$12,502.97
	tot GAC			9				\$34,060	\$21,736	\$15,679	\$71,475	\$7,941.70
10	NGV	1	0	14	\$143.91	\$47.02	\$18.07	\$2,015	\$658	\$253	\$2,926	\$208.99
)	NGV	3	0	2	\$166.35	\$123.97	\$18.07	\$333	\$248	\$36	\$617	\$308.38
1	NGV	3	1	18	\$161.18	\$427.15	\$279.00	\$2,901	\$7,689	\$5,022	\$15,612	\$867.33
1	NGV NGV	4 5	1	12 5	\$2,120.25 \$2,120.25	\$462.92 \$462.92	\$278.00 \$278.00	\$25,443 \$10,601	\$5,555 \$2,315	\$3,336 \$1,390	\$34,334 \$14,306	\$2,861.17 \$2,861.17
1 1	NGV	6	1	23	\$2,120.25	\$729.76	\$278.00	\$10,601	\$2,315 \$16,785	\$1,390 \$6,417	\$14,306 \$101,081	\$2,861.17 \$4,394.81
1	NGV	7	1	23 5	\$3,386.05	\$729.76	\$279.00	\$16,930	\$3,649	\$1,395	\$21,974	\$4,394.81
1	NGV	8	1	5 40	\$3,386.05	\$729.76 \$818.36	\$279.00 \$640.00	\$16,930 \$135,442	\$3,649 \$32,734	\$1,395 \$25,600	\$21,974 \$193,776	\$4,394.81 \$4,844.40
1	NGV	9	1	30	\$3,386.05	\$818.36	\$640.00	\$101,581	\$24,551	\$19,200	\$145,332	\$4,844.40 \$4,844.40
9	NGV	10	1	21	\$422,966.95	\$17,118.00	\$3,300.00	\$8,882,306	\$359,478	\$69,300	\$9,311,084	\$443,384.95
00	NGV	10	i	75	\$4,769.78	\$4,433.19	\$3,300.00	\$357,733	\$332,489	\$247,500	\$937,723	\$12,502.97
	tot NGV			245	<b>\$</b> 1,1 22112	<b>4</b> 1, 1001110	40,000.00	\$9,613,165	\$786,150	\$379,449	\$10,778,764	\$43,994.96
	-											
S10	GEN	1	0	2	\$143.91	\$47.02	\$18.07	\$288	\$94	\$36	\$418	\$208.99
0	GEN	3	0	12	\$166.35	\$123.97	\$18.07	\$1,996	\$1,488	\$217	\$3,701	\$308.38
	GEN	3	1	8	\$161.18	\$427.15	\$279.00	\$1,289	\$3,417	\$2,232	\$6,939	\$867.33
40	GEN	4	0	45	\$171.25	\$576.52	\$219.00	\$7,706	\$25,943	\$9,855	\$43,504	\$966.76
	GEN	4	1	19	\$2,120.25	\$462.92	\$278.00	\$40,285	\$8,796	\$5,282	\$54,362	\$2,861.17
50	GEN	5	0	11	\$171.25	\$576.52	\$219.00	\$1,884	\$6,342	\$2,409	\$10,634	\$966.76
1	GEN	5	1	6	\$2,120.25	\$462.92	\$278.00	\$12,721	\$2,778	\$1,668	\$17,167	\$2,861.17
60	GEN	6	0	109	\$1,437.05	\$729.76	\$219.00	\$156,638	\$79,544	\$23,871	\$260,053	\$2,385.81
1	GEN	6	1	113	\$3,386.05	\$729.76	\$279.00	\$382,623	\$82,463	\$31,527	\$496,614	\$4,394.81
70	GEN GEN	7 7	0	6 4	\$1,437.05	\$729.76	\$219.00	\$8,622	\$4,379	\$1,314	\$14,315	\$2,385.81
1		8	1		\$3,386.05	\$729.76	\$279.00	\$13,544	\$2,919	\$1,116	\$17,579	\$4,394.81
80 1	GEN GEN	8	1	114 161	\$1,437.05	\$818.36 \$818.36	\$280.00 \$640.00	\$163,823 \$545,154	\$93,293 \$131,755	\$31,920 \$103,040	\$289,036	\$2,535.40 \$4,844.40
90	GEN	9	0	17	\$3,386.05 \$1,437.05	\$818.36	\$280.00	\$24,430	\$13,912	\$4,760	\$779,949 \$43,102	\$4,644.40 \$2,535.40
1	GEN	9	1	64	\$3,386.05	\$818.36	\$640.00	\$216,707	\$52,375	\$40,960	\$310,042	\$4,844.40
9	GEN	10	1	2	\$422,966.95	\$17,118.00	\$3,300.00	\$845,934	\$34,236	\$6,600	\$886,770	\$443,384.95
00	GEN	10	1	25	\$4,769.78	\$4,433.19	\$3,300.00	\$119,244	\$110,830	\$82.500	\$312,574	\$12,502.97
	tot GEN			718	<b>4</b> 1,1 00110	<b>*</b> 1, 1001110	**,******	\$2,542,890	\$654,562	\$349,307	\$3,546,759	\$4,939.78
1	G30 Tran	5	1	1	\$2,120.25	\$462.92	\$278.00	\$2,120	\$463	\$278	\$2,861	\$2,861.17
60	G30 Tran	6	0	1	\$1,437.05	\$729.76	\$219.00	\$1,437	\$730	\$219	\$2,386	\$2,385.81
1	G30 Tran	7	1	1	\$3,386.05	\$729.76	\$279.00	\$3,386	\$730	\$279	\$4,395	\$4,394.81
1	G30 Tran	9	1	1	\$3,386.05	\$818.36	\$640.00	\$3,386	\$818	\$640	\$4,844	\$4,844.40
9	G30 Tran	10	1	4	\$422,966.95	\$17,118.00	\$3,300.00	\$1,691,868	\$68,472	\$13,200	\$1,773,540	\$443,384.95
00	G30 Tran	10	1	7	\$4,769.78	\$4,433.19	\$3,300.00	\$33,388	\$31,032	\$23,100	\$87,521	\$12,502.97
10	G30 Tran	10	1	5	\$906,080.94	\$119,284.00	\$0.00	\$4,530,405	\$596,420	\$0	\$5,126,825	\$1,025,364.94
	tot G30 Tran			20				\$6,265,990	\$698,665	\$37,716	\$7,002,371	\$350,118.57
	000 B: .				010110	0.107.15	A070.00	0.04	0.407	0070	*****	4007.00
1	G30 Dist	3	1	1	\$161.18	\$427.15	\$279.00	\$161	\$427	\$279	\$867	\$867.33
40	G30 Dist	4	0	1	\$171.25	\$576.52	\$219.00	\$171	\$577 \$463	\$219	\$967	\$966.76
1	G30 Dist	5		1	\$2,120.25	\$462.92	\$278.00	\$2,120		\$278	\$2,861	\$2,861.17
1	G30 Dist G30 Dist	6 8	1	6 38	\$3,386.05 \$3,386.05	\$729.76 \$818.36	\$279.00 \$640.00	\$20,316 \$128,670	\$4,379 \$31,098	\$1,674 \$24,320	\$26,369 \$184,087	\$4,394.81 \$4,844.40
11 390	G30 Dist G30 Dist	9	0	38 2	\$3,386.05 \$1,437.05	\$818.36 \$818.36	\$640.00 \$280.00	\$128,670 \$2,874	\$31,098 \$1,637	\$24,320 \$560	\$184,087 \$5,071	\$4,844.40 \$2,535.40
1	G30 Dist	9	1	76	\$3,386.05	\$818.36	\$640.00	\$2,074	\$62,195	\$48,640	\$368,175	\$2,555.40 \$4,844.40
	G30 Dist	10	1	89	\$422,966.95	\$17,118.00	\$3,300.00	\$37,644,058	\$1,523,502	\$293,700	\$39,461,260	\$4,044.40 \$443,384.95
IQ.					Ψ-422,300.33	φ17,110.00	φο,ουυ.υυ		\$1,020,002			
99 100	G30 Dist	10	1	321	\$4,769.78	\$4,433.19	\$3,300.00	\$1,531,099	\$1,423,055	\$1,059,300	\$4,013,454	\$12,502.97

		Meter	Above	Number of customers	avg labor							Average Meter & Regulator CAPEX/
Code	Rate	Size (1)	Std (2)	(3)	\$/meter	avg \$/meter	avg \$/regulator	tot lab	tot met	tot reg	tot cost	Customer
31	Sml G50	3	1	1	\$161.18	\$427.15	\$279.00	\$161	\$427	\$279	\$867	\$867.33
51	Sml G50	5	1	2	\$2,120.25	\$462.92	\$278.00	\$4,240	\$926	\$556	\$5,722	\$2,861.17
61	Sml G50	6	1	99	\$3,386.05	\$729.76	\$279.00	\$335,219	\$72,247	\$27,621	\$435,086	\$4,394.81
71	Sml G50	7	1	1	\$3,386.05	\$729.76	\$279.00	\$3,386	\$730	\$279	\$4,395	\$4,394.81
81	Sml G50	8	1	49	\$3,386.05	\$818.36	\$640.00	\$165,916	\$40,099	\$31,360	\$237,376	\$4,844.40
91	Sml G50	9	1	37	\$3,386.05	\$818.36	\$640.00	\$125,284	\$30,279	\$23,680	\$179,243	\$4,844.40
99	Sml G50	10	1	30	\$422,966.95	\$17,118.00	\$3,300.00	\$12,689,008	\$513,540	\$99,000	\$13,301,548	\$443,384.95
100	Sml G50	10	1	30	\$4,769.78	\$4,433.19	\$3,300.00	\$143,093	\$132,996	\$99,000	\$375,089	\$12,502.97
110	Sml G50	10	1	1	\$906,080.94	\$119,284.00	\$0.00	\$906,081	\$119,284	\$0	\$1,025,365	\$1,025,364.94
	tot G50			250				\$14,372,389	\$910,528	\$281,775	\$15,564,692	\$62,258.77
81	G50 EG	8	1	3	\$3,386.05	\$818.36	\$640.00	\$10,158	\$2,455	\$1,920	\$14,533	\$4,844.40
91	G50 EG	9	1	1	\$3,386.05	\$818.36	\$640.00	\$3,386	\$818	\$640	\$4,844	\$4,844.40
99	G50 EG	10	1	15	\$422,966.95	\$17,118.00	\$3,300.00	\$6,344,504	\$256,770	\$49,500	\$6,650,774	\$443,384.95
100	G50 EG	10	1	9	\$4,769.78	\$4,433.19	\$3,300.00	\$42,928	\$39,899	\$29,700	\$112,527	\$12,502.97
110	G50 EG	12	1	35	\$906,080.94	\$119,284.00	\$0.00	\$31,712,833	\$4,174,940	\$0	\$35,887,773	\$1,025,364.94
	tot G50 EG			63				\$38,113,809	\$4,474,882	\$81,760	\$42,670,451	\$677,308.75
		_										
71	G40	7	1	1	\$3,386.05	\$729.76	\$279.00	\$3,386	\$730	\$279	\$4,395	\$4,394.81
81	G40	8	1	2	\$3,386.05	\$818.36	\$640.00	\$6,772	\$1,637	\$1,280	\$9,689	\$4,844.40
91	G40	9	1	3	\$3,386.05	\$818.36	\$640.00	\$10,158	\$2,455	\$1,920	\$14,533	\$4,844.40
99	G40	10	1	15	\$422,966.95	\$17,118.00	\$3,300.00	\$6,344,504	\$256,770	\$49,500	\$6,650,774	\$443,384.95
100	G40	10	1	7	\$4,769.78	\$4,433.19	\$3,300.00	\$33,388	\$31,032	\$23,100	\$87,521	\$12,502.97
	tot G40			28				\$6,398,209	\$292,624	\$76,079	\$6,766,912	\$241,675.42

	Pipe		New	
	Diameter		Business	Replacemen
Code	Inches	Pipe Type	\$/ft	\$/ft
0.5P	0.5	Р	\$91.55	\$133.24
1P	1	Р	\$92.90	\$164.92
2P	2	Р	\$223.00	\$291.44
3P	3	Р	\$279.28	\$357.77
4P	4	Р	\$288.94	\$835.13
6P	6	Р	\$1,224.04	\$1,057.43
3P	8	Р	\$1,769.02	\$1,629.24
0.5	0.5	S	\$293.61	\$404.07
0.75	0.75	S	\$293.61	\$404.07
1S	1	S	\$305.21	\$515.37
1.25	1.25	S	\$349.59	\$569.65
28	2	S	\$512.81	\$629.92
3S	3	S	\$543.96	\$645.55
48	4	S	\$601.81	\$659.11
6S	6	S	\$1,312.90	\$1,223.19
88	8	S	\$1,932.47	\$1,683.38
10S	10	S	\$2,510.02	\$2,475.18
12S	12	S	\$3,207.66	\$2,791.03
16S	16	S	\$8,106.28	\$7,077.29
208	20	S	\$8 106 28	\$7,077,29

#### Calculation of Weighted Average Service Line and Service Line Replacement Cost \$/customer

					# New					Replacement		
		Pipe			Customers		New		Service Line	Service Line		Replacement
		Diameter	Pipe frac	Pipe Type	last 5 years	Avg Length	Business	Replacement	CAPEX	CAPEX	Service Line	Service Line
Code (1)	Rate	Inches	(2)	(3)	(4)	feet (5)	\$/ft (6)	\$/ft (6)	\$/customer	\$/customer	CAPEX \$'s	CAPEX \$'s
0.5P	SF	0	12	Р	61,397	21.0	\$91.55	\$133.24	\$1,567	\$2,798	\$96,209,099	\$171,791,611
0.75	SF	0	34	S	96	30.0	\$293.61	\$404.07	\$1,567	\$12,122	\$150,432	\$1,163,711
1P	SF	1	0	Р	9,975	57.4	\$92.90	\$164.92	\$1,567	\$9,469	\$15,630,825	\$94,451,450
1S	SF	1	0	S	44	8.5	\$305.21	\$515.37	\$1,567	\$4,369	\$68,948	\$192,225
2P	SF	2	0	P	44	274.6	\$223.00	\$291.44	\$1,567	\$80,034	\$68,948	\$3,521,486
	Tot SF				71,556				\$1,567	\$2,798	\$112,128,252	\$271,120,483
0.5P	MF	0	12	P	2,466	34.9	\$91.55	\$133.24	\$1,567	\$4,656	\$3,864,222	\$11,480,911
0.75	MF	0	34	S	100	7.6	\$293.61	\$404.07	\$1,567	\$3,087	\$156,700	\$308,707
1P	MF	1	0	Р	4,061	37.6	\$92.90	\$164.92	\$1,567	\$6,204	\$6,363,587	\$25,193,673
1S	MF	1	0	S	107	27.6	\$305.21	\$515.37	\$1,567	\$14,204	\$167,669	\$1,519,827
1.25	MF	1	25	S	2	3.5	\$349.59	\$569.65	\$1,224	\$1,994	\$2,447	\$3,988
2P	MF	2	0	Р	269	78.0	\$223.00	\$291.44	\$1,567	\$22,742	\$421,523	\$6,117,601
2S	MF	2	0	S	193	45.3	\$512.81	\$629.92	\$1,567	\$28,512	\$302,431	\$5,502,909
3P	MF	3	0	Р	1	20.0	\$279.28	\$357.77	\$1,567	\$7,155	\$1,567	\$7,155
3S	MF	3	0	S	1	352.0	\$543.96	\$645.55	\$1,567	\$227,235	\$1,567	\$227,235
	Tot MF				7,200				\$1,567	\$2,798.05	\$11,281,713	\$50,362,004
0.5P	MM Band 1	0	12	Р	76	40.2	\$91.55	\$133.24	\$3,684	\$5,361	\$279,971	\$407,450
0.75	MM Band 1	0	34	S	21	5.8	\$293.61	\$404.07	\$1,706	\$2,348	\$35,823	\$49,300
1P	MM Band 1	1	0	P	470	68.4	\$92.90	\$164.92	\$6,351	\$11,275	\$2,985,056	\$5,299,239
1S	MM Band 1	1	0	S	61	14.6	\$305.21	\$515.37	\$4,468	\$7,544	\$272,549	\$460,211
1.25	MM Band 1	1	25	S	7	1.3	\$349.59	\$569.65	\$450	\$733	\$3,147	\$5,128
2P	MM Band 1	2	0	Р	89	90.0	\$223.00	\$291.44	\$20,065	\$26,223	\$1,785,829	\$2,333,871
28	MM Band 1	2	0	S	49	36.7	\$512.81	\$629.92	\$18,806	\$23,101	\$921,516	\$1,131,943
3P	MM Band 1	3	0	Р	2	230.0	\$279.28	\$357.77	\$64,233	\$82,287	\$128,467	\$164,574
3S	MM Band 1	3	0	S	1	3.0	\$543.96	\$645.55	\$1,632	\$1,937	\$1,632	\$1,937
	Tot MM 1				776				\$8,265	\$12,698	\$6,413,991	\$9,853,653
	<del></del>											
0.5P	MM Band 2	0	12	P	1	222.0	\$91.55	\$133.24	\$20,325	\$29,579	\$20,325	\$29,579
0.75	MM Band 2	0	34	S	2	332.0	\$293.61	\$404.07	\$97,479	\$134,150	\$194,958	\$268,300
1S	MM Band 2	1	0	S	1	198.0	\$305.21	\$515.37	\$60,432	\$102,042	\$60,432	\$102,042
1.25	MM Band 2	1	25	S	3	96.3	\$349.59	\$569.65	\$33,676	\$54,874	\$101,028	\$164,623
2P	MM Band 2	2	0	Р	4	736.8	\$223.00	\$291.44	\$164,299	\$214,719	\$657,194	\$858,876
2\$	MM Band 2	2	0	S	9	151.0	\$512.81	\$629.92	\$77,435	\$95,117	\$696,915	\$856,055
3P	MM Band 2	3	0	Р	1	96.0	\$279.28	\$357.77	\$26,810	\$34,346	\$26,810	\$34,346
3S	MM Band 2	3	0	S	7	287.0	\$543.96	\$645.55	\$156,117	\$185,274	\$1,092,817	\$1,296,915
4P	MM Band 2	4	0	P	1	52.0	\$288.94	\$835.13	\$15,025	\$43,427	\$15,025	\$43,427
4S	MM Band 2	4	0	S	2	616.0	\$601.81	\$659.11	\$370,718	\$406,010	\$741,436	\$812,020
6S	MM Band 2	6	0	S	1	53.0	\$1,312.90	\$1,223.19	\$69,584	\$64,829	\$69,584	\$64,829
	Tot MM 2				32			* /	\$114,891	\$141,594	\$3,676,524	\$4,531,013
									•			
0.5P	G10 Band 1	0	12	Р	111	55.0	\$91.55	\$133.24	\$5,037	\$7,331	\$559,117	\$813,698
0.75	G10 Band 1	0	34	S	140	8.2	\$293.61	\$404.07	\$2,397	\$3,299	\$335,586	\$461,832
1P	G10 Band 1	1	0	Р	489	96.8	\$92.90	\$164.92	\$8,995	\$15,969	\$4,398,752	\$7,808,912
1S	G10 Band 1	1	0	S	184	4.0	\$305.21	\$515.37	\$1,228	\$2,073	\$225,872	\$381,395
1.25	G10 Band 1	1	25	S	1	2.0	\$349.59	\$569.65	\$699	\$1,139	\$699	\$1,139
2P	G10 Band 1	2	0	P	48	221.5	\$223.00	\$291.44	\$49,386	\$64,542	\$2,370,534	\$3,098,013
2S	G10 Band 1	2	0	S	23	2.1	\$512.81	\$629.92	\$1,092	\$1,342	\$25,123	\$30,860
3P	G10 Band 1	3	0	P	2	101.5	\$279.28	\$357.77	\$28,346	\$36,314	\$56,693	\$72,627
4P	G10 Band 1	4	0	P	1	41.0	\$288.94	\$835.13	\$11,847	\$34,240	\$11,847	\$34,240
יד	tot Band 1	-	<u> </u>		999	71.0	Ψ200.07	ψοσο. 10	\$7,992	\$12,715	\$7,984,223	\$12,702,716
	tot Banu I				פפפ				φ1,332	φ14,113	φ1,304,443	ψ1∠,1∪∠,110

					# New					Replacement		
		Pipe			Customers		New		Service Line	Service Line		Replacement
		Diameter	Pipe frac	Pipe Type	last 5 years	Avg Length	Business	Replacement	CAPEX	CAPEX	Service Line	Service Line
Code (1)	Rate	Inches	(2)	(3)	(4)	feet (5)	\$/ft (6)	\$/ft (6)	\$/customer	\$/customer	CAPEX \$'s	CAPEX \$'s
0.5P	G10 Band 2	0	12	P	78	60.4	\$91.55	\$133.24	\$5,532	\$8,051	\$431,491	\$627,961
0.75	G10 Band 2	0	34	S	207	7.1	\$293.61	\$404.07	\$2,085	\$2,869	\$431,581	\$593,940
1P	G10 Band 2	1	0	P	629	104.3	\$92.90	\$164.92	\$9,686	\$17,194	\$6,092,202	\$10,815,219
1S	G10 Band 2	1	Ō	S	252	2.7	\$305.21	\$515.37	\$836	\$1,411	\$210,590	\$355,590
1.25	G10 Band 2	1	25	S	4	11.8	\$349.59	\$569.65	\$4,108	\$6,693	\$16,431	\$26,773
2P	G10 Band 2	2	0	P	101	206.1	\$223.00	\$291.44	\$45,950	\$60,051	\$4,640,958	\$6,065,192
2S	G10 Band 2	2	0	s S	33	20.1	\$512.81	\$629.92	\$10,288	\$12,637	\$339,490	\$417,012
3P	G10 Band 2	3	0	P	3	709.0	\$279.28	\$357.77	\$198,006	\$253,658	\$594,019	\$760,975
3F	tot Band 2		0	Г	1,307	709.0	\$279.20	\$337.77	\$9,760	\$15,044	\$12,756,761	\$19,662,662
	tot Bana 2				1,007				ψ5,100	ψ10,044	ψ12,700,701	ψ10,002,002
0.5P	G10 Band 3	0	12	Р	33	55.4	\$91.55	\$133.24	\$5,072	\$7,381	\$167,360	\$243,563
0.75	G10 Band 3	0	34	S	266	6.2	\$293.61	\$404.07	\$1,824	\$2,511	\$485,317	\$667,891
1P	G10 Band 3	1	0	Р	694	95.2	\$92.90	\$164.92	\$8,841	\$15,694	\$6,135,402	\$10,891,911
1S	G10 Band 3	1	0	S	417	3.6	\$305.21	\$515.37	\$1,105	\$1,865	\$460,604	\$777,750
1.25	G10 Band 3	1	25	S	13	2.2	\$349.59	\$569.65	\$753	\$1,227	\$9,789	\$15,951
2P	G10 Band 3	2	0	P	276	219.7	\$223.00	\$291.44	\$48,986	\$64,019	\$13,520,091	\$17,669,187
2S	G10 Band 3	2	0	S	62	43.8	\$512.81	\$629.92	\$22,440	\$27,564	\$1,391,264	\$1,708,957
3P	G10 Band 3	3	0	P	7	801.9	\$279.28	\$357.77	\$223,939	\$286,880	\$1,567,573	\$2,008,157
4P	G10 Band 3	4	0	Р	6	283.8	\$288.94	\$835.13	\$82,011	\$237,038	\$492,067	\$1,422,227
6P	G10 Band 3	6	0	Р	2	153.0	\$1,224.04	\$1,057.43	\$187,279	\$161,788	\$374,557	\$323,575
OI .	tot Band 3				1,776	133.0	Ψ1,224.04	ψ1,037.43	\$13,854	\$20,118	\$24,604,024	\$35,729,169
	tot Bana o				1,770				ψ10,004	Ψ20,110	ΨΣ-1,00-1,02-1	ψου,720,100
0.75	G10 Band 4	0	34	S	1	1.0	\$293.61	\$404.07	\$294	\$404	\$294	\$404
1P	G10 Band 4	1	0	Р	20	83.4	\$92.90	\$164.92	\$7,743	\$13,746	\$154,859	\$274,915
1S	G10 Band 4	1	0	S	4	19.5	\$305.21	\$515.37	\$5,952	\$10,050	\$23,807	\$40,199
2P	G10 Band 4	2	0	P	65	149.4	\$223.00	\$291.44	\$33,327	\$43,555	\$2,166,263	\$2,831,054
2S	G10 Band 4	2	0	S	8	38.4	\$512.81	\$629.92	\$19,679	\$24,173	\$157,434	\$193,384
3P	G10 Band 4	3	Ô	P	6	196.3	\$279.28	\$357.77	\$54,831	\$70,242	\$328,986	\$421,451
3S	G10 Band 4	3	Ö	s S	3	556.0	\$543.96	\$645.55	\$302,442	\$358,927	\$907,326	\$1,076,782
4P	G10 Band 4	4	0	P	5	524.6	\$288.94	\$835.13	\$151,579	\$438,110	\$757,893	\$2,190,549
-11	tot Band 4			· ·	112	024.0	Ψ200.04	φοσσ. το	\$40,151	\$62,757	\$4,496,863	\$7,028,738
2P	G10 Band 5	2	0	Р	4	217.3	\$223.00	\$291.44	\$48,448	\$63,316	\$193,791	\$253,262
2S	G10 Band 5	2	0	S	1	5.0	\$512.81	\$629.92	\$2,564	\$3,150	\$2,564	\$3,150
3P	G10 Band 5	3	0	Р	2	305.0	\$279.28	\$357.77	\$85,179	\$109,120	\$170,358	\$218,239
4P	G10 Band 5	3	0	Р	6	408.7	\$288.94	\$835.13	\$118,081	\$341,291	\$708,485	\$2,047,743
4S	G10 Band 5	4	0	S	2	26.5	\$601.81	\$659.11	\$15,948	\$17,466	\$31,896	\$34,933
6S	G10 Band 5	6	0	S	1	20.0	\$1,312.90	\$1,223.19	\$26,258	\$24,464	\$26,258	\$24,464
	tot Band 5				16				\$70,834	\$161,362	\$1,133,352	\$2,581,791
45	212						***	<b>*</b>	*****	A. 505	<b>A</b> 5.400	40.075
1P	GAC	1	0	P	2	27.5	\$92.90	\$164.92	\$2,555	\$4,535	\$5,109	\$9,070
1S	GAC	1	0	S	1	34.0	\$305.21	\$515.37	\$10,377	\$17,522	\$10,377	\$17,522
2S	GAC	2	0	S	1	22.0	\$512.81	\$629.92	\$11,282	\$13,858	\$11,282	\$13,858
	tot GAC				4				\$6,692	\$10,113	\$26,769	\$40,451

					# New					Replacement		
		Pipe			Customers		New		Service Line	Service Line		Replacement
		Diameter	Pipe frac	Pipe Type	last 5 years	Avg Length		Replacement	CAPEX	CAPEX	Service Line	Service Line
Code (1)	Rate	Inches	(2)	(3)	(4)	feet (5)	\$/ft (6)	\$/ft (6)	\$/customer	\$/customer	CAPEX \$'s	CAPEX \$'s
0.5P	NGV	0	12	Р	3	43.7	\$91.55	\$133.24	\$3,998	\$5,819	\$11,994	\$17,456
0.75	NGV	0	34	S	4	81.0	\$293.61	\$404.07	\$23,783	\$32,729	\$95,130	\$130,918
1P	NGV	1	0	P	9	134.8	\$92.90	\$164.92	\$12,521	\$22,227	\$112,686	\$200,046
1S	NGV	1	0	S	7	89.3	\$305.21	\$515.37	\$27,252	\$46,017	\$190,767	\$322,119
1.25	NGV	1	25	S	1	330.0	\$349.59	\$569.65	\$115,364	\$187,984	\$115,364	\$187,984
2P	NGV	2	0	P	51	159.9	\$223.00	\$291.44	\$35,649	\$46,590	\$1,818,124	\$2,376,077
2S	NGV	2	0	S	10	107.6	\$512.81	\$629.92	\$55,179	\$67,779	\$551,789	\$677,789
3P	NGV	3	0	P	11	314.3	\$279.28	\$357.77	\$87,768	\$112,436	\$965,447	\$1,236,797
3S	NGV	3	0	S	13	210.3	\$543.96	\$645.55	\$114,400	\$135,766	\$1,487,205	\$1,764,960
4P	NGV	4	0	P	17	233.3	\$288.94	\$835.13	\$67,407	\$194,828	\$1,145,921	\$3,312,072
4S	NGV	4	0	S	15	182.3	\$601.81	\$659.11	\$109,729	\$120,175	\$1,645,933	\$1,802,626
6P	NGV	6	0	P	2	576.5	\$1,224.04	\$1,057.43	\$705,661	\$609,611	\$1,411,321	\$1,219,222
6S	NGV	6	0	S	7	194.4	\$1,312.90	\$1,223.19	\$255,267	\$237,825	\$1,786,867	\$1,664,778
00	tot NGV		- 0		150	134.4	ψ1,512.50	ψ1,225.15	\$75,590	\$99,419	\$11,338,550	\$14,912,843
	1011101				100				Ψ10,000	ψου, τιυ	ψ11,000,000	ψ14,012,040
0.5P	GEN	0	12	Р	23	141.3	\$91.55	\$133.24	\$12,936	\$18,827	\$297,539	\$433,018
0.75	GEN	0	34	S	184	214.2	\$293.61	\$404.07	\$62,883	\$86,539	\$11,570,417	\$15,923,161
1P	GEN	1	0	Р	211	312.3	\$92.90	\$164.92	\$29,013	\$51,505	\$6,121,673	\$10,867,537
1S	GEN	1	0	S	23	730.6	\$305.21	\$515.37	\$222,992	\$376,531	\$5,128,810	\$8,660,216
1S	GEN	1	25	S	6	1,314.5	\$305.21	\$515.37	\$401,203	\$677,448	\$2,407,215	\$4,064,687
2P	GEN	2	0	Р	174	1,714.9	\$223.00	\$291.44	\$382,433	\$499,795	\$66,543,279	\$86,964,328
2S	GEN	2	0	S	32	405.3	\$512.81	\$629.92	\$207,864	\$255,330	\$6,651,657	\$8,170,555
3P	GEN	3	0	Р	21	2,917.6	\$279.28	\$357.77	\$814,820	\$1,043,834	\$17,111,215	\$21,920,512
3S	GEN	3	0	S	4	259.5	\$543.96	\$645.55	\$141,158	\$167,521	\$564,631	\$670,084
4P	GEN	4	0	Р	9	4,268.4	\$288.94	\$835.13	\$1,233,329	\$3,564,707	\$11,099,959	\$32,082,366
4S	GEN	4	0	S	1	27.0	\$601.81	\$659.11	\$16,249	\$17,796	\$16,249	\$17,796
	tot GEN				688				\$185,338	\$275,835	\$127,512,645	\$189,774,259
0.5P	G30 Dist	0	12	Р	6	163.5	\$91.55	\$133.24	\$14,969	\$21,785	\$89,814	\$130,709
0.75	G30 Dist	0	34	S	18	95.3	\$293.61	\$404.07	\$27,990	\$38,520	\$503,819	\$693,354
1P	G30 Dist	1	0	P	6	376.3	\$92.90	\$164.92	\$34,960	\$62,063	\$209,760	\$372,377
1S	G30 Dist	1	0	S	11	56.5	\$305.21	\$515.37	\$17,229	\$29,092	\$189,522	\$320,016
1.25	G30 Dist	1	25	S	16	111.8	\$349.59	\$569.65	\$39,067	\$63,658	\$625,064	\$1,018,531
2P	G30 Dist	2	0	P	51	261.7	\$223.00	\$291.44	\$58,367	\$76,279	\$2,976,715	\$3,890,221
2S	G30 Dist	2	0	S	104	213.1	\$512.81	\$629.92	\$109,291	\$134,248	\$11,366,270	\$13,961,743
3P	G30 Dist	3	0	P	48	342.4	\$279.28	\$357.77	\$95,624	\$122,500	\$4,589,949	\$5,880,004
3S	G30 Dist	3	0	S	64	375.8	\$543.96	\$645.55	\$204,410	\$242,586	\$13,082,212	\$15,525,490
4P	G30 Dist	4	0	P	13	670.4	\$288.94	\$835.13	\$193,700	\$559,855	\$2,518,106	\$7,278,118
4S	G30 Dist	4	0	s	76	788.9	\$601.81	\$659.11	\$474,790	\$519,990	\$36,084,019	\$39,519,210
6P	G30 Dist	6	0	P	2	2,339.5	\$1,224.04	\$1,057.43	\$2,863,648	\$2,473,868	\$5,727,297	\$4,947,737
6S	G30 Dist	6	0	S	24	866.3	\$1,312.90	\$1,223.19	\$1,137,403	\$1,059,689	\$27,297,669	\$25,432,534
8S	G30 Dist	8	0	S	5	1,841.6	\$1,932.47	\$1,683.38	\$3,558,831	\$3,100,104	\$17,794,155	\$15,500,519
10S	G30 Dist	10	0	S	1	73.0	\$2,510.02	\$2,475.18	\$183,232	\$180,688	\$183,232	\$180,688
100	tot G30 Dist	10			445	70.0	Ψ2,010.02	ΨΣ, 47 0.10	\$276,938	\$302,587	\$123,237,602	\$134,651,252
	101 000 5.01								42.0,000	4002,001	<b>\$120,201,002</b>	Ψ101,001,202
2P	G30 Tran	2	0	Р	3	1,363.0	\$223.00	\$291.44	\$303,955	\$397,234	\$911,865	\$1,191,702
2S	G30 Tran	2	0	S	5	1,484.6	\$512.81	\$629.92	\$761,325	\$935,172	\$3,806,623	\$4,675,861
4S	G30 Tran	4	0	S	1	53.0	\$601.81	\$659.11	\$31,896	\$34,933	\$31,896	\$34,933
6S	G30 Tran	6	0	S	2	1,593.0	\$1,312.90	\$1,223.19	\$2,091,446	\$1,948,547	\$4,182,893	\$3,897,093
8S	G30 Tran	8	0	S	1	42.0	\$1,932.47	\$1,683.38	\$81,164	\$70,702	\$81,164	\$70,702
16S	G30 Tran	16	0	S	1	95.0	\$8,106.28	\$7,077.29	\$770,097	\$672,343	\$770,097	\$672,343
	tot G30 Tran	-			13				\$752,657	\$810,972	\$9,784,538	\$10,542,634

					# New					Replacement		
		Pipe			Customers		New		Service Line	Service Line		Replacemen
		Diameter	Pipe frac	Pipe Type	last 5 years	Avg Length	Business	Replacement	CAPEX	CAPEX	Service Line	Service Line
Code (1)	Rate	Inches	(2)	(3)	(4)	feet (5)	\$/ft (6)	\$/ft (6)	\$/customer	\$/customer	CAPEX \$'s	CAPEX \$'s
0.75	Sml G50	0	34	S	9	4.1	\$293.61	\$404.07	\$1,207	\$1,661	\$10,861	\$14,946
1P	Sml G50	1	0	Р	44	88.3	\$92.90	\$164.92	\$8,205	\$14,565	\$361,005	\$640,877
1S	Sml G50	1	0	S	19	28.2	\$305.21	\$515.37	\$8,595	\$14,513	\$163,301	\$275,741
1.25	Sml G50	1	25	S	3	142.7	\$349.59	\$569.65	\$49,876	\$81,272	\$149,627	\$243,815
2P	Sml G50	2	0	Р	61	113.5	\$223.00	\$291.44	\$25,307	\$33,073	\$1,543,700	\$2,017,436
2S	Sml G50	2	0	S	21	52.2	\$512.81	\$629.92	\$26,764	\$32,875	\$562,040	\$690,381
3P	Sml G50	3	0	Р	3	530.7	\$279.28	\$357.77	\$148,203	\$189,857	\$444,609	\$569,572
3S	Sml G50	3	0	S	3	28.0	\$543.96	\$645.55	\$15,231	\$18,075	\$45,693	\$54,226
4P	Sml G50	4	0	Р	3	284.3	\$288.94	\$835.13	\$82,155	\$237,453	\$246,464	\$712,359
4S	Sml G50	4	0	S	7	525.9	\$601.81	\$659.11	\$316,470	\$346,598	\$2,215,292	\$2,426,188
6P	Sml G50	6	0	Р	2	131.5	\$1,224.04	\$1,057.43	\$160,962	\$139,053	\$321,923	\$278,105
6S	Sml G50	6	0	S	7	750.3	\$1,312.90	\$1,223.19	\$985,054	\$917,750	\$6,895,379	\$6,424,247
8S	Sml G50	8	0	S	3	461.0	\$1,932.47	\$1,683.38	\$890,867	\$776,036	\$2,672,602	\$2,328,108
10S	Sml G50	10	0	S	1	467.0	\$2,510.02	\$2,475.18	\$1,172,180	\$1,155,909	\$1,172,180	\$1,155,909
	tot Sml G50				186				\$90,348	\$95,870	\$16,804,676	\$17,831,910
1.25	G50 EG	1	25	S	2	84.5	\$349.59	\$569.65	\$29,540	\$48,135	\$59,080	\$96,271
	G50 EG	1		S	2				. ,			
2S	G50 EG G50 EG	2 3	0	S	2	27.0	\$512.81 \$543.96	\$629.92	\$13,846	\$17,008	\$27,692	\$34,015
3S		3	0	S		520.0		\$645.55	\$282,860	\$335,687	\$282,860	\$335,687
4S	G50 EG G50 EG	4	0	S	5 6	402.2	\$601.81 \$1.312.90	\$659.11	\$242,050	\$265,093	\$1,210,250	\$1,325,465
6S	G50 EG	8	0	S	5	199.7		\$1,223.19	\$262,146	\$244,235	\$1,572,878	\$1,465,410
8S		-			5	338.2	\$1,932.47	\$1,683.38	\$653,560	\$569,317	\$3,267,802	\$2,846,587
10S	G50 EG tot G50 EG	10	0	S	22	290.0	\$2,510.02	\$2,475.18	\$727,906	\$717,802	\$727,906	\$717,802
	101 G50 EG				22				\$324,930	\$310,056	\$7,148,467	\$6,821,238
2S	G40	2	0	S	8	83.3	\$512.81	\$629.92	\$42,692	\$52,440	\$341,535	\$419,524
3S	G40	3	0	S	6	448.5	\$543.96	\$645.55	\$243,966	\$289,530	\$1,463,798	\$1,737,182
4P	G40	4	0	Р	2	1,747.5	\$288.94	\$835.13	\$504,925	\$1,459,392	\$1,009,850	\$2,918,783
4S	G40	4	0	S	8	394.0	\$601.81	\$659.11	\$237,115	\$259,688	\$1,896,920	\$2,077,507
6S	G40	6	0	S	2	8.5	\$1,312.90	\$1,223.19	\$11,160	\$10,397	\$22,319	\$20,794
8S	G40	8	0	S	2	26.5	\$1,932.47	\$1,683.38	\$51,210	\$44,609	\$102,421	\$89,219
16S	G40	16	0	S	1	108.0	\$8,106.28	\$7,077.29	\$875,479	\$764,348	\$875,479	\$764,348
	tot G40				29				\$196,977	\$276,805	\$5,712,321	\$8,027,357

#### SCG 2020 TCAP LRMC Customer Cost

Big GEMS Investment by Customer Class for Retail Noncore (exclusive use on Cust MC)

		NonCore C&I Distribution G30	NonCore C&I Transmission G30	Total NonCore C&I G30	EG G-50	EOR G-40	LB	SDG&E	SWG	Vernon	Mexicali	Source
# of Meters												
ROTARY 11M & LARGER: (*)				0	0	2	1	Ö	6	0	0	
TURBINE MSA'S (*)				3	40	2	0	1	6	0	1	
ORIFICE METERS (ultra sonic)				5	36	0	4	9	0	2	0	
Total # meters				8	76	4	5	10	12	2	1	_
Investment in Meters: ROTARY 11M & LARGER: (*) TURBINE MSA'S (*) ORIFICE METERS (ultra sonic) Total Investment \$'s	Exclusive Use Meter Cost \$/meter \$12,503 \$443,385 \$1,025,365 2016 \$s	\$0 \$1,165,809 \$4,493,385 \$5,659,194	\$0 \$164,346 \$633,440 \$797,786	\$0 \$1,330,155 \$5,126,825 \$6,456,980	\$0 \$17,735,398 \$36,913,138 \$54,648,536	\$25,006 \$886,770 \$0 \$911,776	\$12,503 \$0 \$4,101,460 \$4,113,963	\$0 \$443,385 \$9,228,284 \$9,671,669	\$75,018 \$2,660,310 \$0 \$2,735,328	\$0 \$0 \$2,050,730 \$2,050,730	\$0 \$443,385 \$0 \$443,385	_
allocation of Total NonCore C&I to Distributi  Total Investment \$'s	on & Transmission 2020 \$s	88% \$6,405,886	12% \$903,048	\$7,308,935	\$61,859,044	\$1,032,079	\$4,656,773	\$10,947,781	\$3,096,236	\$2,321,310	\$501,887	
2016 Number of Customers		545	32	554	313	33	1	1	1	1	1	Tab 'cust 2"
Exclusive Use Cost Per Customer	2020 \$s	\$11,753.92	\$28,220.26	\$13,193.02	\$197,632.73	\$31,275.11	\$4,656,772.60	\$10,947,781.49	\$3,096,235.69	\$2,321,309.97	\$501,886.62	_

Note : This is part of Exclusive Use Facilities Costs

		TURBINE	ROTARY	ULTRASONIC
Exclusive Use Meter Cost \$/meter	2016 \$s	METERS 4"-12"	METERS 4" - 6"	METERS 4" - 16"
Avg. Labor Cost		\$60,092	\$1,690	\$123,995
Avg. Contract Cost		\$170,500	\$0	\$247,500
Avg. Materials Cost		\$212,793	\$10,813	\$653,870
TOTAL		\$443,385	\$12,503	\$1,025,365

#### SCG 2020 TCAP LRMC Customer Cost Allocation of Customer-Related Distribution O&M

Part																
2016 Number of Customers   Single   Fingle   F					Desidential			1	Cor	ė		No. D.	-t-ttt			
Pamily   Family   F			Single	Multi		r Motor	Pecidential			G-	10	Non-Re	sidentiai	Gae Air	Natrual Gae	Gas
2016 Number of Customers   \$.5674.386								Very Small	Small			Very Large	Total			
2 Total Cost	1 2016 Number of Customer	s	3,674,386	1,721,561	120,217	49	5,516,213	88,060	63,785	49,146	2,258	331	203,580	9	245	718
2 Total Cost	Customer Services O&M C	`nete														
Service Lines OAM Costs   2016 Ms   21.71   21.71   21.71   21.71   21.71   21.71   21.71   21.71   21.71   21.71   21.71   21.71   21.71   21.71   21.71   21.71   21.71   21.71   21.71   22.84   23.84			\$79.784	\$37.381	\$2.610	\$1	\$119.776	\$3.911	\$4.239	\$11.868	\$1.305	\$189	\$21.511	\$4	\$84	\$132
Customer Accounts O&M Costs  Cost Por Customer:  2016 MSs \$72,562 \$33,997 \$2,374 \$1 \$1,066,594 \$1,741 \$1,161 \$1,647 \$446 \$319 \$5,315 \$19 \$112 \$187 \$10.000 \$1,000 \$																
Force   2016 MSs   \$72,962   \$33,997   \$12,74   \$1   \$10,8934   \$11,741   \$11,615   \$16,67   \$40,000   \$20,000   \$19,75   \$19,7	4	2020 \$s	23.84	23.84	23.84	23.84	23.84	48.77	72.97	265.18	634.68	626.69	116.04	540.39	378.67	202.39
Force   2016 MSs   \$72,962   \$33,997   \$12,74   \$1   \$10,8934   \$11,741   \$11,615   \$16,67   \$40,000   \$20,000   \$19,75   \$19,7	•															
6 cost Per Customer: 2016 Ss 19.75 19.75 19.75 19.75 19.75 19.75 19.75 19.75 19.75 19.78 19.80 21.69 2																
2020 \$\$ 21.69 21.69 21.69 21.69 21.69 21.69 21.72 19.99 36.80 216.97 1,059.52 28.67 2,328.57 500.44 285.49 9 segmentation by number of customers 66.61% 31.21% 2.18% 0.001%  **Meters, Reg & MSAs O&M Costs**  10 Total Cost 2016 M\$s \$4,122 \$1,931 \$1,246 \$5 \$7,305 \$250 \$392 \$661 \$85 \$20 \$1,407 \$0 \$0 \$0 \$0 \$11 Cost Per Customer: 2016 \$\$ 1.12 1.12 10.36 111.73 1.32 2.84 6.14 13.24 41.97 59.95 6.91 64.74 64.74 64.74 64.74 64.74 64.74 64.74 64.74 64.74 64.74 64.74 64.74 64.74 64.74 64.74 64.74 64.74 65.74 66.85 \$32.65.947 66.85 \$32.65.																
## Meters, Reg & MSAs O&M Costs    Meters, Reg & MSAs O&M Costs	6 Cost Per Customer:															
9 segmentation by number of customers 66.61% 31.21% 2.18% 0.001%  Meters, Reg & MSAs O&M Costs  10 Total Costs 2016 MSs 54,122 \$1,931 \$1,246 \$5 \$7,305 \$250 \$392 \$651 \$95 \$20 \$1,407 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	, L	2020 \$s	21.69	21.69	21.69	21.69	21.69	21.72	19.99	36.80	216.97	1,059.52	28.67	2,328.57	500.44	285.49
Total Cost 2016 M\$s \$4,122 \$1,931 \$1,246 \$5 \$7,305 \$250 \$392 \$651 \$95 \$20 \$1,407 \$0 \$0 \$0 \$0 \$11 \$12 \$12 \$1.12 \$1.12 \$10.36 \$111.73 \$1.32 \$2.84 \$6.14 \$13.24 \$41.97 \$59.95 \$6.91 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.72 \$66.66 \$16 \$15 \$2.76 \$1.66 \$15 \$2.76 \$1.66 \$15 \$2.76 \$1.66 \$2.76 \$1.6	-	customers	66.61%	31.21%	2.18%	0.001%										
Total Cost 2016 M\$s \$4,122 \$1,931 \$1,246 \$5 \$7,305 \$250 \$392 \$651 \$95 \$20 \$1,407 \$0 \$0 \$0 \$0 \$11 \$12 \$12 \$1.12 \$1.12 \$10.36 \$111.73 \$1.32 \$2.84 \$6.14 \$13.24 \$41.97 \$59.95 \$6.91 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.74 \$64.72 \$66.66 \$16 \$15 \$2.76 \$1.66 \$15 \$2.76 \$1.66 \$15 \$2.76 \$1.66 \$2.76 \$1.6																
Cost Per Customer:   2016 \$\\$   1.12   1.12   10.36   111.73   1.32   2.84   6.14   13.24   41.97   58.95   6.91	Meters, Reg & MSAs O&M	Costs														
Service Lines O&M Costs    3   Total Costs   2016M Ss   529,619   2020 \$s   \$32,252,547   5   5   548,173   114,472   26,686,324   250   54,516   623,741														\$0	\$0	\$0
Service Lines O&M Costs    33																
Total Costs   2016M \$   \$2020 \$   \$32,252,5947	12	2020 \$s	1.23	1.23	11.38	122.70	1.45	3.12	6.74	14.54	46.09	64.74	7.59	64.74	64.74	64.74
Total Costs   2016M \$   \$2020 \$   \$32,252,5947																
Total Costs   2016M \$   \$2020 \$   \$32,252,5947																
14   2020 \$\$   \$32,525,947			200.010	,												
16 Percent of Total Footage 69.92% 18.03% 3.56% 0.00% 91.51% 3.90% 2.12% 2.00% 0.17% 0.04% 8.22% 0.00% 0.02% 0.19% 17 Allocated SL O&M Costs 2020 \$s \$22,743,084 \$5,863,532 \$1,156,509 \$1,400 \$29,764,525 \$1,269,230 \$688,628 \$649,855 \$54,930 \$11,471 \$2,674,113 \$25 \$5,463 \$62,502 \$1.00 \$10,000 \$10	14		\$32,525,947													
17 Allocated St. O&M Costs 2020 \$s \$22,743,084 \$5,863,532 \$1,156,509 \$1,400 \$29,764,525 \$1,269,230 \$688,628 \$649,855 \$54,930 \$11,471 \$2,674,113 \$25 \$5,463 \$62,502 \$1,565,000 \$1,411 \$10,80 \$13,22 \$24,33 \$34,65 \$13,14 \$2.78 \$2.78 \$22,30 \$87,05 \$10,80 \$10,8	15 Total Service Line Footage															
18 Cost Per Customer 2020 \$\$ \$6.19 \$3.41 \$9.62 \$28.56 \$5.40 \$14.41 \$10.80 \$13.22 \$24.33 \$34.65 \$13.14 \$2.78 \$22.30 \$87.05 \$  Calculation of Customer Service & Information Cost (CSI) Costs Accounts (FERC Accounts 907 to 910):  5 Total Cost: 2016 M\$\$ \$16,235 \$7.606 \$5.31 \$0 \$24,373 \$4,115 \$2.980 \$2.296 \$106 \$15 \$9,512 \$0 \$3,832 \$0 \$1 Cost Per Customer: 2016 \$4 4.42 4.42 4.42 4.42 4.42 4.42 4.672 46.72 46.72 46.72 46.72 46.72 46.72 46.72 40.72 46.72 46.72 40.72	16 Percent of Lotal Footage	2020 %														
Calculation of Customer Service & Information Cost (CSI) Costs Accounts (FERC Accounts 907 to 910):  5 Total Cost: 2016 M\$s \$16,235 \$7,606 \$531 \$0 \$24,373 \$4,115 \$2,980 \$2,296 \$106 \$15 \$9,512 \$0 \$3,832 \$0 \$1 Cost Per Customer: 2016 \$4 4.42 4.42 4.42 4.42 4.42 4.42 4.672 46,72																
5 Total Cost: 2016 M\$s \$16,235 \$7,606 \$531 \$0 \$24,373 \$4,115 \$2,980 \$2,296 \$106 \$15 \$9,512 \$0 \$3,832 \$0 \$0.051 Per Customer: 2016 \$\$ 4.42 4.42 4.42 4.42 4.42 4.42 4.42 4			*****	*****							, ,					
5 Total Cost: 2016 M\$s \$16,235 \$7,606 \$531 \$0 \$24,373 \$4,115 \$2,980 \$2,296 \$106 \$15 \$9,512 \$0 \$3,832 \$0 \$0.051 Per Customer: 2016 \$\$ 4.42 4.42 4.42 4.42 4.42 4.42 4.42 4																
5 Total Cost: 2016 M\$s \$16,235 \$7,606 \$531 \$0 \$24,373 \$4,115 \$2,980 \$2,296 \$106 \$15 \$9,512 \$0 \$3,832 \$0 \$0.051 Per Customer: 2016 \$\$ 4.42 4.42 4.42 4.42 4.42 4.42 4.42 4																
5 Total Cost: 2016 M\$s \$16,235 \$7,606 \$531 \$0 \$24,373 \$4,115 \$2,980 \$2,296 \$106 \$15 \$9,512 \$0 \$3,832 \$0 \$0.051 Per Customer: 2016 \$\$ 4.42 4.42 4.42 4.42 4.42 4.42 4.42 4																
3 Cost Per Customer: 2016 \$s 4.42 4.42 4.42 4.42 4.42 4.42 4.6.72 46.72 46.72 46.72 46.72 0.00 15.642.74 0.00																
	4 Cost Per Customer:	2016 \$S 2020 \$s	4.42	4.42	4.42 4.85	4.42 4.85	4.42	46.72 51.31	51.31	51.31	51.31	51.31	46.72 51.31	0.00	15,642.74	0.00

#### Calculation of Customer Service & Information Cost (CSI) Costs Accounts (FERC Accounts 907 to 910):

						2016 Costs in			
				PBR Exclusion	Other	Transport			
139	Calculation of Customer Service & Information Costs (CSI Costs	):	2016 Costs M\$	Items	Adjustments	Rates		Exclusions	2016 \$
140	907 Cus Svc-Supervision + Payroll Taxes	NON-DSM CUST. INFO	\$706	\$0	\$0	\$706	FERC Form 2	Self Generation (acct 908)	\$10,380,031
141	908 Cus Svc-Cust Assist Exp (PBR Ex DAP, DSM &Self-Gen)	NON-DSM CUST. INFO	\$202,027	(\$164,317)	\$0	\$37,709	FERC Form 2	Energy Efficiency (acct 908)	\$82,565,008
142	909 Cus Svc-Info & Instruction Exp	NON-DSM CUST. INFO	\$630	\$0	\$0	\$630	FERC Form 2	Low Income Energy Efficiency (a	\$58,819,473
143	910 Cus Svc-Misc CSI Exp	NON-DSM CUST. INFO	\$2,507	\$0	\$0	\$2,507	FERC Form 2	AB802MA (acct 908)	\$1,608
144			\$205,870	(\$164,317)	\$0	\$41,552		MEOMA (acct 908)	\$10,787,248
147								WDRMA (acct 908 and 907001)	\$1,764,125
148	CS&I O&M, 2016 \$000's					\$41,552	-		\$164,317,493
149							•		

													Total Retail	
			Residential	CCI	G-AC	G-GEN	NGV	Total Core	NCCI	EG Tier 1	EG Tier 2	EOR	NonCore	Long Beach
1	Calculation of CSI Cost Allocator:													
2	Energy Markets Costs:													
3	Mgmnt estimate - FTE			0.3	0.0	0.0	0.0	0	0.7	0.2	3.3	2.2	6.4	0.6
4	Energy Markets		0.0%	2.8%	0.0%	0.0%	0.0%	2.8%	7.3%	2.4%	36.1%	23.5%	69.3%	6.5%
5	Energy Markets	\$1,072	\$0	\$30	\$0	\$0	\$0	\$30	\$78	\$26	\$387	\$252	\$743	\$70
6	Large C&I:													
7	# Large C&I Customers		0	2,589	0	0	0	2,589	554	0	0	0	554	0
8	% Large C&I only		0.0%	82.4%	0.0%	0.0%	0.0%	82.4%	17.6%	0.0%	0.0%	0.0%	17.6%	0.0%
9	Large C&I	\$5,739	\$0	\$4,727	\$0	\$0	\$0	\$4,727	\$1,012	\$0	\$0	\$0	\$1,012	\$0
10	NGV	\$2,040	\$0	\$0	\$0	\$0	\$2,040	\$2,040	\$0	\$0	\$0	\$0	\$0	\$0
11	Residential	\$7,693	\$7,693	\$0	\$0	\$0	\$0	\$7,693	\$0	\$0	\$0	\$0	\$0	\$0
12	Small Business													
13	# G10, G-AC, G-GE Customers only		0	203,580	0	0	0	203,580	0	0	0	0	0	0
14	Small Business		0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
15	Small Business	\$364	\$0	\$364	\$0	\$0	\$0	\$364	\$0	\$0	\$0	\$0	\$0	\$0
16	Econ Development													
17	# Large C&I Customers		0	2,589	0	0	0	2,589	554	0	0	0	554	0
18	% Large C&I only		0.0%	82.4%	0.0%	0.0%	0.0%	82.4%	17.6%	0.0%	0.0%	0.0%	17.6%	0.0%
19	Econ Development	(\$70)	\$0	(\$58)	\$0	\$0	\$0	(\$58)	(\$12)	\$0	\$0	\$0	(\$12)	\$0
20	Other Residential	\$5,279	\$5,279	\$0	\$0	\$0	\$0	\$5,279	\$0	\$0	\$0	\$0	\$0	\$0
21	Total	\$22,117	\$12,973	\$5,063	\$0	\$0	\$2,040	\$20,075	\$1,078	\$26	\$387	\$252	\$1,743	\$70
22	Allocator %		58.7%	22.9%	0.0%	0.0%	9.2%	90.8%	4.9%	0.1%	1.8%	1.1%	7.9%	0.3%

#### SCG 2020 TCAP LRMC Customer Cost Allocation of Customer-Related Distribution O&M

								Noncore						
								n-Residential						Total
			G-30		Small EG	EG	EOR			lesale		Intl		Over All
		Distribution	Transmission	Total		G-50	G-40	LB	SDG&E	SWG	Vernon	ECOGAS		Customers
1 2016 Number of Customers		534	20	554	250	63	33	1	1	1	1	1		5,721,670
Customer Services O&M Cost	s													
2 Total Cost	2016 M\$s			\$361	\$49	\$12	\$2	\$0	\$0	\$0	\$0	\$0		\$141,933
3 Cost Per Customer:	2016 \$s			651.92	196.19	196.19	45.48	0.00	0.00	0.00	0.00	0.00		
4	2020 \$s			715.90	215.44	215.44	49.95	0.00	0.00	0.00	0.00	0.00		
					Total EG	\$61	l							
Customer Accounts O&M Costs														
5 Total Cost:	2016 M\$s	1		\$1,286	\$612	\$154	\$78	\$8	\$6	\$13	\$6	\$4	ı	\$116,733
6 Cost Per Customer:	2016 \$s		İ	2,322.06	2,448.20	2,448.20	2,356.87	7,850.76	6.267.17	12,601.52	5,630.09	3,891.80	l	Ųo,,, oo
7	2020 \$s			2,549.96	2,688.48	2,688.48	2,588.19	8,621.27	6,882.26	13,838.29	6,182.65	4,273.76		
8					1									
9 segmentation by number of cust	omers				EG O&M cost	\$766								
					80%	20%	note: split EG	costs by # of cu	stomers					
Meters, Reg & MSAs O&M Co	sts													
10 Total Cost	2016 M\$s			\$1.087	\$661	\$133	\$70	\$13	\$13	\$25	\$2	\$2		\$10,718
11 Cost Per Customer:	2016 \$s			1,962.09	2,644.00	2,111.11	2,121.21	13,000.00	13,000.00	25,000.00	2,000.00	2,000.00		4.0,
12	2020 \$s	2,154.66	2,154.66	2,154.66	2,903.49	2,318.31	2,329.40	14,275.88	14,275.88	27,453.62	2,196.29	2,196.29		
			•											
Service Lines O&M Costs														
Total Costs	2016M \$s	-												
14	2010W \$S													
15 Total Service Line Footage	2020 ψ3	105,177	16,542	121,720	43,277	16,273	11,524	0	0	0	0	0		324,592,809
16 Percent of Total Footage		0.03%	0.01%	0.04%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		100.00%
17 Allocated SL O&M Costs	2020 \$s	\$10,539	\$1,658	\$12,197	\$4,337	\$1,631	\$1,155	\$0	\$0	\$0	\$0	\$0		\$32,525,947
18 Cost Per Customer	2020 \$s	\$19.74	\$82.88	\$22.02	\$17.35	\$25.88	\$34.99	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$5.68
	•	•	•		•		•		•		•			•
Calculation of Customer Servi	co & Informatio													
5 Total Cost:	2016 M\$s	<del>"</del>		\$2,025	\$49	\$728	\$473	\$131	\$124	\$143	\$106	\$58		\$41,552
3 Cost Per Customer:	2016 Was			3.654.60	195.31	11,551.84	14,319.86	130,781,85	123.834.41	143,287.23	105,771.08	57.682.49		7.26
A COOK I OF OUSCOME.	2020 \$s		İ	4.013.28	214.47	12,685.60	15,725.27	143,617.39	135,988.10	157,350.11	116,151.95	63,343.72	l	7.20
7 L	2020 43			7,013.20	214.47	12,000.00	10,120.21	170,017.33	100,000.10	107,000.11	110,101.90	00,043.72		l

#### Calculation of Customer Service & Information

139 Calculation of Customer Service & Information
140 907 Cus Svc-Supervision + Payroll Taxes
141 908 Cus Svc-Cust Assist Exp (PBR Ex DAP, DSM i
142 909 Cus Svc-Info & Instruction Exp

143 910 Cus Svc-Misc CSI Exp

144 147

148 CS&I O&M, 2016 \$000's

149										
					Total				SYSTEM	
		SDG&E	South West Gas	Vernon	Whole sale	DGN	UBS	Total Noncore	TOTAL	Sources
1	Calculation of CSI Cost Allocator:									
2	Energy Markets Costs:									
3	Mgmnt estimate - FTE	0.6	0.7	0.5	2.3	0.3	0.0	8.9	9.2	
4	Energy Markets	6.1%	7.1%	5.3%	25.0%	2.9%	0.0%	97.2%	100.0%	_
5	Energy Markets	\$66	\$76	\$56	\$268	\$31	\$0	\$1,042	\$1,072	<del>-</del>
6	Large C&I:									
7	# Large C&I Customers	0	0	0	0	0	0	554	3,143	2013 Customer Count
8	% Large C&I only	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	17.6%	100.0%	
9	Large C&I	\$0	\$0	\$0	\$0	\$0	\$0	\$1,012	\$5,739	<del>_</del>
10	NGV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,040	
11	Residential	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,693	
12	Small Business									
13	# G10, G-AC, G-GE Customers only	0	0	0	0	0	0	0	203,580	2013 Customer Count from SCG Cust Cost model "cust 2"
14	Small Business	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
15	Small Business	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$364	<del>_</del>
16	Econ Development									
17	# Large C&I Customers	0	0	0	0	0	0	554	3,143	2013 Customer Count from SCG Cust Cost model "cust 2"
18	% Large C&I only	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	17.6%	100.0%	
19	Econ Development	\$0	\$0	\$0	\$0	\$0	\$0	(\$12)	(\$70)	<del>_</del>
20	Other Residential	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,279	
21	Total	\$66	\$76	\$56	\$268	\$31	\$0	\$2,041	\$22,117	\$22,117
22	Allocator %	0.3%	0.3%	0.3%	1.2%	0.1%	0.0%	9.2%	100.0%	
							101.2%	,		

Schmidt-Pines Section 5 Workpapers Page 31 of 34 File = SCG 2020TCAP LRMC Customer Costs 20th percentile min 0618 Tab = cust 8 o&m

#### SCG 2020 TCAP LRMC Customer Cost Weighted Average RECC and Replacement Factors

#### Weighted Average Meter and House Regulator RECC and Replacement Factors

<u>Line</u> 1.			Excluded AVERAGE	AVERAGE	AVERAGE	AVERAGE	WEIGHTED	WEIGHTED	WEIGHTED
2.	CUSTOMER CLASS	RATE	LABOR COST	METER COST	REGULATOR COST	TOTAL COST	REPLACEMENT	RECC	PVRR
	<u></u>	<u> </u>	<u> </u>		lars	1017120001	Percent	Percent	<u> </u>
3.	SINGLE FAMILY	GR	175.65	123.08	35.50	334.23	1.79%	9.58%	129.06%
4.	MULTIPLE FAMILY	GR	124.85	53.86	6.08	184.79	1.27%	9.55%	129.13%
5.	MASTER METERED BAND 1	GM,GS	888.76	474.04	232.05	1594.85	1.63%	9.52%	129.12%
6.	MASTER METERED BAND 2	GM,GS	12570.19	2766.76	1859.10	17196.05	0.97%	9.44%	129.23%
7.	RESIDENTIAL WEIGHTED AVERAGE		170.67	146.45	32.51	349.62	1.96%	9.62%	129.03%
_									
8.	SMALL CORE BAND 1	G-10	297.60	171.27	67.01	535.88	1.66%	9.54%	129.10%
9.	SMALL CORE BAND 2	G-10	607.98	392.32	156.98	1157.28	1.77%	9.55%	129.09%
10.	SMALL CORE BAND 3	G-10	1376.17	754.27	364.53	2494.97	1.65%	9.52%	129.11%
11.	SMALL CORE BAND 4	G-10	3890.13	2307.21	1712.88	7910.22	1.82%	9.49%	129.12%
12.	SMALL CORE BAND 5	G-10	4518.19	3775.95	2816.36	11110.51	2.13%	9.51%	129.08%
13.	G10 AVERAGE		430.93	901.17	194.53	1,526.63	2.75%	9.72%	128.89%
14.	GAS COOLING	GAC	3784.48	2415.11	1742.11	7941.70	1.88%	9.50%	129.11%
15.	Natural Gas Vehicles	NGV	39237.41	3208.78	1548.77	43994.96	0.40%	9.40%	129.30%
16.	GAS ENGINES	GENG	3541.63	911.65	486.50	4939.78	1.04%	9.46%	129.21%
17.	NONCORE COMM/IND TRANSMISSION	G-30	313299.52	34933.26	1885.80	350118.57	0.42%	9.43%	129.28%
18.	NONCORE COMM/IND DISTRIBUTION	G-30	73994.04	5695.95	2670.97	82360.96	0.37%	9.40%	129.30%
19.	NONCORE COMM/IND TOTAL	G-30	82.633.22	6,751.44	2.642.63	92027.30	0.38%	9.40%	129.30%
20.	COGENERATION	G-50	57489.56	3642.11	1127.10	62258.77	0.29%	9.40%	129.31%
21.	EOR	G-40	228507.46	10450.85	2717.11	241675.42	0.21%	9.39%	129.33%
22.	SYSTEM AVERAGE		191.96	174.27	38.68	404.91	2.01%	9.63%	129.02%
22.	INVERSE OF BOOK LIFE		0.00%	4.00%	3.03%				
22	DECC		0.20%	40.0E9/	0.040/				
23.	RECC		9.36%	10.05%	9.04%				
23.	PVRR		129.36%	128.58%	129.30%				

#### SCG 2020 TCAP LRMC Customer Cost Weighted Average RECC and Replacement Factors

#### Weighted Average RECC and Replacement Factor for Exclusive Use Facilities

<u>Line</u> 1. 2.	CUSTOMER CLASS	RATE	GEMs	AVERAGE	WEIGHTED REPLACEMENT	WEIGHTED
۷.	COSTOMER CLASS	KATE	Dollars	TOTAL COST Dollars	Percent	RECC
3.	NONCORE COMM/IND TRANSMISSION	G-30	903,048	903,048	4.00%	10.05%
4.	NONCORE COMM/IND DISTRIBUTION	G-30	6,405,886	6,405,886	4.00%	10.05%
5.	NONCORE COMM/IND TOTAL	G-30	7,308,935	7,308,935	4.00%	10.05%
6.	COGENERATION	G-50	61,859,044	61,859,044	4.00%	10.05%
7.	EOR	G-40	1,032,079	1,032,079	4.00%	10.05%
8.	LONG BEACH		4,656,773	4,656,773	4.00%	10.05%
9.	SAN DIEGO GAS & ELECTRIC		10,947,781	10,947,781	4.00%	10.05%
10.	SOUTHWEST GAS		3,096,236	3,096,236	4.00%	10.05%
11.	VERNON		2,321,310	2,321,310	4.00%	10.05%
12.	DGN	_	 501,887	501,887	4.00%	10.05%
13.	SYSTEM TOTAL		99,032,979	99,032,979	4.00%	10.05%
14.	INVERSE OF BOOK LIFE		4.00%			
15.	RECC factors		10.05%			

Source:Meter cost detail

# **SOUTHERN CALIFORNIA GAS**

# 2016 Economic Assumptions Update LEVELIZED ANNUAL CAPITAL COST AND RECC FACTORS

	utility socal	Aı	uth RO	R ===>	8.02%		Fed <sup>-</sup>	Tax Rate	· ====>	35.009	6	State Tax	Rate ===>	8.84%	Ad Valor	um Rate ===>		1.288%	
FERC			Fed	State		Normlzd	Normlzd		Deprecia	ation Metho	d		LACC	Compone	nts (in percent)				Sum of
Account	Account Name	Book Life		Tax Life	Percent Salvage	Federal Taxes ?	State Taxes ?	Feder	al Tax	State	Тах	Book Depr	Return on Capital	Income Taxes	Property Taxes	Total LACC	RECC Factors	PVCC Factors	Rev Req
GAS UN	IDERGROUND STORAGE	9	10	11	12	13	14		15		16	19	20	21	22	23	25	26	27
G-352	Wells	49	15	22	-70%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.47	4.22	1.80	0.74	10.22	7.83	124.47	220.59
G-353 G-354	Lines Compressor Station Equipment	54 41	15 15	22 22	-40% -15%	TRUE TRUE	FALSE FALSE	db/sl db/sl	150% 150%	db/sl db/sl	200% 200%	2.59 2.80	4.71 4.75	1.99 2.02	0.87 0.87	10.17 10.44	7.72 8.16	124.71 124.61	288.57 290.37
G-356	Purification Equipment	39	15	22	-30%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.33	4.49	1.90	0.80	10.52	8.27	124.59	262.18
GAS TR	GAS TRANSMISSION PLANT																		
	Land	0	0	0	0%	FALSE	FALSE	none	0%	none	0%	0.00	8.03	3.75	1.29	13.06	n/a	162.69	1342.09
G-366	Structures & Improvements	47 64	39 15	45	-40%	TRUE	FALSE	sl 	0%	db/sl	0%	2.98	5.38	2.53	0.82	11.70	9.01	141.94	319.79
G-367 G-368	Mains Compressor Station Equipment	50	15	22 22	-60% -15%	TRUE	FALSE FALSE	db/sl db/sl	150% 150%	db/sl db/sl	200% 200%	2.50 2.30	4.71 4.93	2.00 2.08	0.87 0.92	10.08 10.23	7.55 7.83	124.68 124.81	265.55 324.48
G-369	Measuring & Regulating Equipment	46	15	22	-50%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.26	4.39	1.86	0.78	10.29	7.94	124.57	250.31
G-371	Other Equipment	21	15	22	-10%	TRUE	FALSE	db/sl	150%	db/sl	200%	5.24	4.48	1.96	0.73	12.40	10.55	123.98	217.44
GAS DIS	STRIBUTION PLANT																		
G-374.1		0	0	0	0%	FALSE	FALSE	none	0%	db/sl	0%	0.00	8.03	3.75	1.29	13.06	n/a	162.69	1342.09
	Land Rights	40 40	40 39	40 45	0% -10%	FALSE TRUE	FALSE FALSE	sl sl	0% 0%	db/sl db/sl	0% 0%	2.50 2.75	5.81	2.71 2.66	0.92 0.88	11.94 11.93	9.35 9.35	141.94 141.88	359.86 343.62
G-375 G-376	Structures & Improvements Mains	68	20	45 35	-10%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.75	5.65 4.82	2.00	0.88	10.46	9.35 7.81	141.88	228.89
G-378	Measuring & Regulating Equipment	47	20	35	-95%	TRUE	FALSE	db/sl	150%	db/sl	200%	4.15	4.05	1.84	0.64	10.68	8.22	129.47	184.20
G-380	Services	67	20	35	-115%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.21	4.45	2.03	0.75	10.44	7.80	129.33	136.21
G-381 G-382	Meters	25 30	20 20	35 35	5% -10%	TRUE	FALSE FALSE	db/sl	150% 150%	db/sl	200%	3.80 3.67	5.05 4.84	2.39 2.20	0.84	12.07	10.05 9.36	128.58 129.36	254.29 263.10
G-382 G-383	Meter & Regulator Installations House Regulators	33	20	35 35	-10% 5%	TRUE TRUE	FALSE	db/sl db/sl	150%	db/sl db/sl	200% 200%	2.88	5.14	2.20	0.81 0.89	11.52 11.26	9.36	129.30	291.74
G-387	Other Equipment	21	20	35	5%	TRUE	FALSE	db/sl	150%	db/sl	200%	4.52	5.04	2.43	0.81	12.81	10.90	128.02	235.56
GAS GE	NERAL PLANT																		
G-390	Structures & Improvements	33	39	45	-15%	TRUE	FALSE	sl	0%	db/sl	0%	3.48	5.44	2.58	0.81	12.32	9.89	141.51	307.79
G-391.1	Office Furniture & Equipment	14	7	10	0%	TRUE	FALSE	db/sl	200%	db/sl	200%	7.14	3.93	1.69	0.71	13.48	12.02	110.96	174.60
G-391.2	Computer Equipment	5	5	6	0%	TRUE	FALSE	db/sl	200%	db/sl	200%	20.00	4.12	1.92	0.55	26.59	25.56	106.11	130.85
G-393	Stores Equipment	20	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	5.00	4.95	2.36	0.77	13.08	11.20	128.14	228.15
	Shop & Garage Equipment	29	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.45	5.00	2.31	0.84	11.60	9.47	129.10	268.37
	Large Portable Tools	24	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	4.17	4.95	2.32	0.80	12.25	10.25	128.65	246.08
G-395 G-397	Laboratory Equipment Communications Equipment	25 15	20 7	35 10	0% 0%	TRUE	FALSE FALSE	db/sl db/sl	150% 200%	db/sl db/sl	200% 200%	4.00 6.67	4.96 3.93	2.32 1.68	0.81 0.72	12.09 13.00	10.06 11.50	128.76 111.07	250.54 179.06
G-397 G-398	Miscellaneous Equipment	20	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	5.00	4.95	2.36	0.72	13.08	11.20	128.14	228.15
	Software Programs - 10yr ASL	10	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	10.00	3.50	1.35	0.66	15.50	14.26	103.91	150.10
	Software Programs - 15yr ASL	15	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	6.67	3.54	1.31	0.72	12.23	10.83	104.55	172.40
	Software Programs - 20yr ASL	20	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	5.00	3.64	1.32	0.77	10.72	9.18	105.05	194.69
G-391.3	Software Programs - 3yr ASL	3	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	33.33	4.15	1.94	0.45	39.87	39.08	102.71	118.89
G-391.4	Software Programs - 6yr ASL	6	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	16.67	3.61	1.49	0.58	22.36	21.29	103.27	132.27

# Southern California Gas Company WEIGHTED AVERAGE DEPRECIATED RATE BASE

# Service Line, Regulator, & Meter (SRM) Assets (Thousands of Dollars)

As of December 31, 2016

Line	Account Description	G-380		G-381	G-382	G-383	Total
110.	Account Description		J				
	Fixed Capital						
	Plant In Service	\$ 2,422,564	\$	889,712	\$ 513,017	\$ 156,919	\$ 3,982,212
	Work-In-Progress (non-interest bearing)	\$ -	\$	-	\$ -	\$ -	\$ 
3	Total Fixed Capital	\$ 2,422,564	\$	889,712	\$ 513,017	\$ 156,919	\$ 3,982,212
	Working Capital						
4	Materials & Supplies	_		_	_	_	_
5	Working Cash	_		_	_	_	-
6	Total Working Capital	\$ -	\$		\$ -	\$	\$ 
			<u> </u>				 
	Other Deductions						
7	Customer Advances For Construction	\$ (16,769)		(6,158)	(3,553)	(1,086)	(27,567)
8	Total Other	\$ (16,769)	\$	(6,158)	\$ (3,553)	\$ (1,086)	\$ (27,567)
	Deductions For Reserves						
	Accumulated Depreciation Reserve	\$ (1,974,092)	\$	(162,010)	\$ (151,640)	\$ (62,863)	\$ (2,350,605)
	Accumulated Amortization Reserve				<del>.</del>		
11	Accumulated Deferred Taxes	 (227,755)		(82,916)	 (48,026)	 (14,726)	(373,422)
12	Total Deductions For Reserves	\$ (2,201,848)	\$	(244,925)	\$ (199,666)	\$ (77,588)	\$ (2,724,027)
13	Weighted Average Depreciated Rate Base	\$ 203,947	\$	638,628	\$ 309,798	\$ 78,245	\$ 1,230,618
	ARM1 Factor = Rate Base Value/Rental Capital						
	Rate Base Value	1,230,618					
	Rental	16,224,553					
	0/	00/					
	%	8%					
	ARM2 Factor						
	Rental less depreciation	13,873,948					
	Rental less depreciation  Rental	16,224,553					
	Iveritai	10,224,000					
	%	86%					
		/ •					

# Summary of Book Depreciation Expense

	G-380	G-381	G-382	G-383	Total
Jan-16	6,532,648	2,742,477	1,208,130	329,602	10,812,857
Feb-16	6,552,841	2,769,452	1,221,756	329,882	10,873,931
Mar-16	6,572,476	2,791,408	1,232,901	330,949	10,927,733
Apr-16	6,599,716	2,808,319	1,255,995	334,782	10,998,813
May-16	6,629,337	2,815,366	1,270,962	336,715	11,052,380
Jun-16	5,442,973	3,232,972	1,622,895	391,190	10,690,030
Jul-16	(530,786)	5,243,409	3,312,993	648,760	8,674,376
Aug-16	5,485,209	3,253,627	1,659,654	392,849	10,791,339
Sep-16	5,516,250	3,266,672	1,673,124	397,017	10,853,062
Oct-16	5,549,694	3,277,287	1,687,030	398,478	10,912,490
Nov-16	5,578,231	3,277,405	1,697,569	401,650	10,954,855
Dec-16	5,611,212	3,293,106	1,709,702	404,210	11,018,231
Total	65,539,802	38,771,500	19,552,711	4,696,084	128,560,097

# DETERMINATION OF WEIGHTED ADDITIONS PLANT ADDITIONS - 101 December 31, 2016

	G-380	G-381	G-382	G-383	TOTAL
					Р
December 2015	2,364,247,491	863,913,249	486,151,056	152,201,355	3,866,513,152
January 2016	2,371,555,414	870,828,506	489,786,015	152,333,001	3,884,502,936
February 2016	2,378,661,645	877,077,169	493,075,539	152,833,592	3,901,647,945
March 2016	2,388,520,290	882,213,133	499,814,252	154,632,525	3,925,180,199
April 2016	2,399,240,263	884,255,110	504,000,793	155,464,847	3,942,961,013
May 2016	2,408,750,291	888,470,610	508,708,929	156,446,237	3,962,376,067
June 2016	2,416,803,711	891,244,220	515,229,023	156,634,909	3,979,911,863
July 2016	2,427,441,850	893,960,684	519,305,654	157,109,597	3,997,817,785
August 2016	2,441,178,820	897,668,815	523,303,933	158,776,453	4,020,928,021
September 2016	2,455,979,232	900,605,282	527,080,935	159,360,957	4,043,026,406
October 2016	2,468,607,981	900,505,379	530,030,402	160,629,318	4,059,773,080
November 2016	2,483,203,409	904,715,472	533,447,773	161,653,328	4,083,019,982
December 2016	2,497,395,350	906,078,109	538,686,488	162,114,289	4,104,274,237
Total	31,501,585,747	11,561,535,737	6,668,620,793	2,040,190,408	51,771,932,685
Less 1/2 First & Last Month	2,430,821,421	884,995,679	512,418,772	157,157,822	3,985,393,694
Total 12 Mos Wtd Average	29,070,764,326	10,676,540,058	6,156,202,020	1,883,032,586	47,786,538,991
Monthly Weighted Average	2,422,563,694	889,711,672	513,016,835	156,919,382	3,982,211,583

REPORT 2 DETERMINATION OF WEIGHTED ADDITIONS
DEPRECIATION AND AMORTIZATION RESERVES
December 31, 2016

	G-380	G-381	G-382	G-383	TOTAL
	A-D	E-I	J-M	N-O	Р
December 2015	(1,945,889,589)	(155,090,651)	(150,449,261)	(61,278,137)	(2,312,707,638)
January 2016	(1,950,777,802)	(155,605,969)	(150,045,701)	(61,607,824)	(2,318,037,297)
February 2016	(1,954,293,659)	(156,607,132)	(150,008,269)	(61,937,778)	(2,322,846,837)
March 2016	(1,959,669,580)	(157,370,173)	(150,096,322)	(61,873,061)	(2,329,009,136)
April 2016	(1,969,751,975)	(157,912,106)	(149,760,371)	(62,211,820)	(2,339,636,273)
May 2016	(1,977,091,754)	(158,772,011)	(149,690,103)	(62,548,587)	(2,348,102,455)
June 2016	(1,980,859,579)	(159,876,616)	(150,060,055)	(62,567,944)	(2,353,364,194)
July 2016	(1,978,466,717)	(163,194,757)	(152,067,731)	(63,216,782)	(2,356,945,987)
August 2016	(1,981,523,175)	(165,330,715)	(152,760,559)	(63,609,631)	(2,363,224,080)
September 2016	(1,984,621,456)	(166,528,378)	(153,168,659)	(63,552,942)	(2,367,871,434)
October 2016	(1,987,800,292)	(168,214,259)	(153,816,059)	(63,951,443)	(2,373,782,052)
November 2016	(1,992,842,906)	(170,672,224)	(154,953,260)	(64,353,144)	(2,382,821,534)
December 2016	(1,996,926,086)	(172,972,597)	(156,063,138)	(64,564,094)	(2,390,525,916)
Total	(25,660,514,570)	(2,108,147,589)	(1,972,939,488)	(817,273,188)	(30,558,874,835)
Less 1/2 First & Last Month	(1,971,407,838)	(164,031,624)	(153,256,200)	(62,921,116)	(2,351,616,777)
Total 12 Mos Wtd Average	(23,689,106,732)	(1,944,115,965)	(1,819,683,288)	(754,352,073)	(28,207,258,057)

REPORT 3 DETERMINATION OF WEIGHTED ADDITIONS
CUSTOMER ADVANCES FOR CONSTRUCTION
December 31, 2016

	G-380	G-381	G-382	G-383	TOTAL
					Р
December 2015	(15,539,984)	(5,678,423)	(3,195,427)	(1,000,406)	(25,414,240)
January 2016	(15,689,592)	(5,761,174)	(3,240,297)	(1,007,795)	(25,698,859)
February 2016	(15,805,357)	(5,827,864)	(3,276,311)	(1,015,525)	(25,925,057)
March 2016	(16,196,852)	(5,982,397)	(3,389,302)	(1,048,582)	(26,617,134)
April 2016	(16,251,518)	(5,989,599)	(3,413,905)	(1,053,058)	(26,708,081)
May 2016	(16,479,397)	(6,078,447)	(3,480,318)	(1,070,323)	(27,108,484)
June 2016	(16,958,829)	(6,253,904)	(3,615,387)	(1,099,115)	(27,927,235)
July 2016	(17,084,583)	(6,291,786)	(3,654,926)	(1,105,753)	(28,137,048)
August 2016	(17,437,620)	(6,412,151)	(3,738,020)	(1,134,158)	(28,721,950)
September 2016	(17,576,397)	(6,445,248)	(3,772,094)	(1,140,478)	(28,934,217)
October 2016	(17,466,576)	(6,371,504)	(3,750,217)	(1,136,529)	(28,724,825)
November 2016	(17,648,447)	(6,429,930)	(3,791,282)	(1,148,891)	(29,018,550)
December 2016	(17,733,116)	(6,433,738)	(3,825,021)	(1,151,116)	(29,142,991)
Total	(217,868,268)	(79,956,166)	(46,142,506)	(14,111,730)	(358,078,671)
Less 1/2 First & Last Month	(16,636,550)	(6,056,081)	(3,510,224)	(1,075,761)	(27,278,615)
Total 12 Mos Wtd Average	(201,231,718)	(73,900,086)	(42,632,283)	(13,035,969)	(330,800,055)
Monthly Weighted Average	(16,769,310)	(6,158,340)	(3,552,690)	(1,086,331)	(27,566,671)