SoCalGas

2016 TCAP Phase II

Workpapers to the Prepared Written Testimony of Sharim Chaudhury

# SoCalGas 2016 TCAP Phase II

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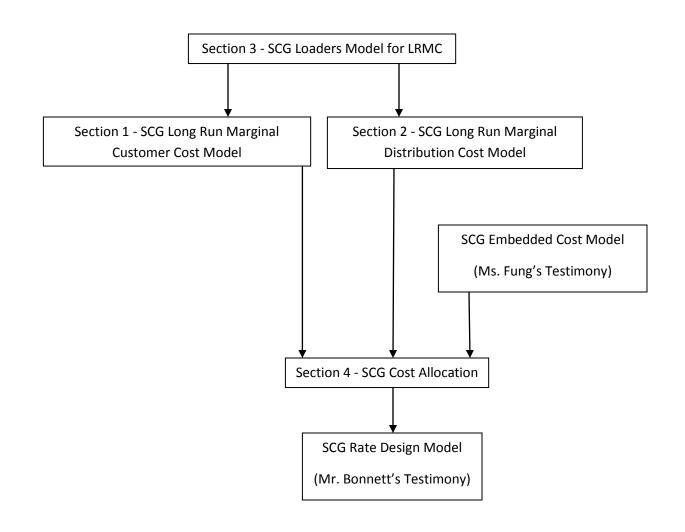
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# 2016 TCAP Phase II

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# Workpapers to the Prepared Written Testimony of Sharim Chaudhury

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# 2016 TCAP Phase II

Section 1

Long Run Marginal Customer Cost Model

Workpapers to the Prepared Written Testimony of Sharim Chaudhury

# SCG 2016 TCAP Phase II 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	\$223.60	\$711.30	\$5,865.16	\$5,084.52	\$22,281.38	
2	Customer Cost \$/Cust/Year NCO Method	\$109.97	\$388.34	\$4,620.40	\$1,963.38	\$18,822.93	
3	Customer Cost \$/Cust/Year NCO Method w/Replacement Cost	\$215.84	\$631.78	\$5,290.08	\$4,834.30	\$21,514.94	

1		

2	Input from O&M Loader Model:		
3	Marginal A&G/Payroll Taxes Loading Factor as a % of O&M expenses	41.79%	SCG LRMC O&M Loaders
4	General Plant Loading Factor as a % or O&M expenses	30.21%	SCG LRMC O&M Loaders
5	Annualized Distribution Customer Related Costs \$000/yr	\$1,252,283	SCG LRMC O&M Loaders
6			
7	2013-17 Factor: Capital	1.0876	SCG LRMC O&M Loaders
8	2013-17 Factor: O&M	1.0762	SCG LRMC O&M Loaders

# SCG 2016 TCAP Phase II 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	\$30,178.82	\$25,258.28	\$128,643.87	\$83,028.54		\$886,337.07	\$1,513,038.54	\$797,252.41	\$539,223.46
2	Customer Cost \$/Cust/Year NCO Method	\$14,580.37	\$36,486.92	\$60,188.28	\$51,972.43		\$402,400.06	\$376,829.08	\$488,768.27	\$297,880.00
3	Customer Cost \$/Cust/Year NCO Method w/Replacement Cost	\$22,121.47	\$41,582.67	\$96,336.47	\$65,573.35		\$606,697.41	\$856,487.74	\$618,996.98	\$399,764.81

1

## 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

6

7 2013-17 Factor: Capital

8 2013-17 Factor: O&M

# SCG 2016 TCAP Phase II LRMC Customer Cost/Rental Method RD Format

		Total Whole				
		sale	DGN	UBS	Total Noncore	SYSTEM TOTAL Sources
	Marginal Customer Unit Cost @ various LRMC Allocation Methods					
1	Customer Cust \$/Cust/Year Rental Method		\$216,430.37	\$0.00		Cust MC
2	Customer Cost \$/Cust/Year NCO Method		\$166,266.45	\$0.00		Cust MC
3	Customer Cost \$/Cust/Year NCO Method w/Replacement Cost		\$187,443.49	\$0.00		Cust MC

1

## 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

6

7 2013-17 Factor: Capital

8 2013-17 Factor: O&M

nal Unit Costs																			
	Core Residential					Non-Residenti	-					Non-Residenti	Core		Noncore Reta	il			
	Single	Multi	Master Meter	,	Residential	Commercial/Ir						Air	ai Natural Gas	Gas	G-30 - Noncor	e C&I		Small FG	Larg
	Family		(up to	(100.001	rtooldoritidi	Very Small -	Small -	3.001 to	50.001 to	Verv Large -		, ui	Hatara Oab	ouo	0.00 11011001	o oui		0111011 200	Luig
	(Detached		100,000	therms per		up to 300	301 to 3,000	50,000	250,000	Over 250,000									
	homes)	Family	therms/year)	year and	Total or Avg.	therms/year	therms/year	therms/year	therms/year	therms/year	Average	Conditioning	Vehicle	Engine	Distribution	Transmission	Total	< 3million	> 3n
2013 Number of Customers	3,622,567	1,679,697	120,655	56	5,422,975	82,065	71,031	50,432	2,409	355	206,292	9	289	709	545	32	577	161	5
Marginal Investment: 2013 \$/Customer																			
Meter & House Reg	\$389.12	\$266.41	\$1,645.50	\$16,562.72	\$379.23	\$617.19	\$1,426.72	\$3,394.90	\$7,760.03	\$9,802.97	\$1,674.21	\$7,860.93	\$45,321.48	\$4,609.46	\$96,009.44	\$230,511.32		\$74,881.13	
Service Lines	\$889.47	\$1,213.40	\$2,009.70	\$31,036.06	\$1,015.04	\$2,154.62	\$2,465.09	\$2,555.96	\$7,160.14	\$6,211.01	\$2,425.07	\$5,873.43	\$17,613.91	\$43,713.78	\$65,527.95	\$118,306.51	\$68,455.01	\$47,055.13	\$59,4
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	\$6,805.86	\$16,340.35	\$7,334.63	\$0.00	\$324
Total	\$1,278.58	\$1,479.81	\$3,655.21	\$47,598.78	\$1,394.27	\$2,771.81	\$3,891.81	\$5,950.85	\$14,920.17	\$16,013.98	\$4,099.28	\$13,734.35	\$62,935.38	\$48,323.24	\$168,343.24	\$365,158.18	\$179,258.46	\$121,936.26	\$906
Weighted RECC factors used to annualize SRM capital costs																			
Meter & House Reg	9.25%	9.18%	9.37%	9.45%	9.25%	9.31%	9.37%	9.38%	9.44%	9.46%	9.37%	9.44%	9.46%	9.39%	9.46%	9.46%	9.46%	9.46%	9.
Service Lines	8.57%	8.57%	8.57%	8.57%	8.57%	8.57%	8.57%	8.57%	8.57%	8.57%	8.57%	8.57%	8.57%	8.57%	8.57%	8.57%	8.57%	8.57%	8
Exclusive Use															9.54%	9.54%	9.54%	9.54%	9
Annualized Marginal Investment: \$/Cust.																			
Meter & House Reg	\$36.00	\$24.45	\$154.11	\$1,565.09	\$35.06	\$57.47	\$133.62	\$318.55	\$732.33	\$927.01	\$156.89	\$741.70	\$4,285.91	\$432.66	\$9,081.95	\$21,804.11	\$9,787.19	\$7,084.44	\$49
Service Lines	\$76.18	\$103.93	\$172.13	\$2,658.27	\$86.94	\$184.54	\$211.14	\$218.92	\$613.27	\$531.98	\$207.71	\$503.06	\$1,508.65	\$3,744.12	\$5,612.53	\$10,133.06	\$5,863.23	\$4,030.31	\$5,
Exclusive Use Facilities	\$0.00 \$112.18	\$0.00 \$128.38	\$0.00 \$326.24	\$0.00 \$4.223.35	\$0.00 \$122.00	\$0.00 \$242.01	\$0.00 \$344.76	\$0.00 \$537.47	\$0.00 \$1.345.60	\$0.00 \$1.458.99	\$0.00 \$364.60	\$0.00 \$1.244.77	\$0.00 \$5.794.55	\$0.00 \$4.176.78	\$649.39 \$15.343.87	\$1,559.14 \$33.496.31	\$699.85 \$16.350.27	\$0.00 \$11.114.75	\$30 \$85
Fotal Annualized Marginal Investment: 2013 \$/Cust.	\$112.18	\$128.38	\$326.24	\$4,223.35	\$122.00	\$242.01	\$344.76	\$537.47	\$1,345.60	\$1,458.99	\$364.60	\$1,244.77	\$5,794.55	\$4,176.78	\$15,343.87	\$33,496.31	\$16,350.27	\$11,114.75	\$85
0&M: \$/Customer																			
Customer Services O&M Cost 2013\$'s \$000/year	\$73,677.86	\$34,162.65	\$2,453.95	\$1.14	\$110,295.59	\$3,400.69	\$3,881.17	\$10,998.83	\$1,316.33	\$218.32	\$19,815.34	\$1.04	\$36.66	\$114.31	\$0.00	\$0.00	\$342.54	\$39.28	\$
2013 Number of Customers	3,622,567	1,679,697	120,655	56	5,422,975	82,065	71,031	50,432	2,409	355	206,292	9	289	709	545	32	577	161	
Customer Services O&M \$/Customer 2013\$	\$20.34	\$20.34	\$20.34	\$20.34	\$20.34	\$41.44	\$54.64	\$218.09	\$546.42	\$614.99	\$96.05	\$115.36	\$126.84	\$161.23	\$0.00	\$0.00	\$593.65	\$243.99	\$2
escalator 2013\$'s to 2017\$'s	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1
Customer Services O&M \$/Customer 2017\$	\$21.89	\$21.89	\$21.89	\$21.89	\$21.89	\$44.60	\$58.81	\$234.72	\$588.08	\$661.87	\$103.38	\$124.15	\$136.50	\$173.52	\$638.91	\$638.91	\$638.91	\$262.59	\$2
Customer Accounts O&M 2013\$'s \$000/yr	\$105.456.22	\$48,897.51	\$3,512.38	\$1.63	\$157.867.73	\$3.505.92	\$2,422.56	\$2,143.16	\$817.57	\$401.03	\$9,290.25	\$21.38	\$308.77	\$232.60	\$0.00	\$0.00	\$2,187.29	\$559.32	\$
2013 Number of Customers	3.622.567	1.679.697	120.655	56	5.422.975	82.065	71.031	50.432	2.409	355	206.292	9	289	709	545	32	577	161	Ψ.
Customer Services O&M \$/Customer 2013\$	\$29.11	\$29.11	\$29.11	\$29.11	\$29.11	\$42.72	\$34.11	\$42.50	\$339.38	\$1,129.65	\$45.03	\$2,375.68	\$1,068.40	\$328.06	\$0.00	\$0.00	\$3,790.79	\$3,474.06	\$3
escalator 2013\$'s to 2017\$'s	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1
Customer Accounts O&M \$/Customer 2017\$	\$31.33	\$31.33	\$31.33	\$31.33	\$31.33	\$45.98	\$36.71	\$45.74	\$365.25	\$1,215.77	\$48.47	\$2,556.78	\$1,149.84	\$353.07	\$4,079.76	\$4,079.76	\$4,079.76	\$3,738.89	\$3,
Meter & House Reg O&M Total Cost	\$4,941,89	\$1,568,81	\$696.05	\$3.25	\$7,210.00	\$108.67	\$217.43	\$367.33	\$40.11	\$7.47	\$741.00	\$0.00	\$0.00	\$0.00			\$1.541.00	\$560.00	s
2013 Number of Customers	3.622.567	1.679.697	120.655	43.25 56	5,422,975	82.065	71.031	\$307.33 50.432	2.409	355	206,292	90.00	289	709	545	32	577	\$300.00 161	φ
Customer Services O&M \$/Customer 2017\$	\$1.36	\$0.93	\$5.77	\$58.07	\$1.33	\$1.32	\$3.06	\$7.28	\$16.65	\$21.03	\$3.59	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$2.670.71	\$3.478.26	\$2
escalator 2013\$'s to 2017\$'s	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1
Meter & House Reg O&M \$/Customer 2017\$	\$1.47	\$1.01	\$6.21	\$62.49	\$1.43	\$1.43	\$3.29	\$7.84	\$17.92	\$22.64	\$3.87	\$0.00	\$0.00	\$0.00	\$2,874.30	\$2,874.30	\$2,874.30	\$3,743.41	\$2
Total Service Line Footage Percent of Total Footage	223,676,731 70,53%	55,161,113 17 39%	11,168,746 3,52%	13,539	290,020,129	11,453,293	7,342,457	6,646,137	586,904	111,511	26,140,303	1,030	47,237	647,411	217,973	27,015	244,987	32,325	2
Allocated SL O&M Costs \$000	70.53% \$27.505	17.39% \$6.783	3.52% \$1,373	0.00% \$2	91.45% \$35.663	3.61% \$1.408	2.32% \$903	2.10% \$817	0.19% \$72	0.04% \$14	8.24% \$3,214	0.00%	0.01% \$6	0.20% \$80	0.07% \$27	0.01% \$3	0.08% \$30	0.01% \$4	C
escalator 2013\$'s to 2017\$'s	\$27,505	\$0,763 1,0762	1 0762	φ2 1.0762	\$35,003 1.0762	1 0762	3903	3017 1.0762	\$72 1.0762	\$14 1.0762	\$3,214 1.0762	1 0762	φο 1.0762	1.0762	1 0762	\$3 1.0762	\$30 1.0762	34 1.0762	1
Allocated SL O&M Costs 2017\$'s	\$29,602	\$7,300	\$1.478	\$2	\$38,382	\$1,516	\$972	\$880	\$78	\$15	\$3,459	\$0	\$6	\$86	\$29	\$4	\$32	\$4	
2013 Number of Customers	3.622.567	1.679.697	120.655	56	5.422.975	82.065	71.031	50.432	2,409	355	206.292	9	289	709	545	32	577	161	
Service Lines O&M \$/Customer 2017\$	\$0.01	\$0.00	\$0.01	\$0.03	\$0.01	\$0.02	\$0.01	\$0.02	\$0.03	\$0.04	\$0.02	\$0.02	\$0.02	\$0.12	\$0.05	\$0.11	\$0.06	\$0.03	:
Customer Service & lefermation Cost (CSI) Costs Accounts		to 007 to 010).																	
Customer Service & Information Cost (CSI) Costs Accounts 2013 Number of Customers	3.622.567	1.679.697	120.655	56	5.422.975	82.065	71.031	50.432	2.409	355	206.292	9	289	709	545	32	577	161	
Customer Services & Information O&M \$/Customer 2013\$	\$3.99	\$3.99	\$3,99	\$3.99	\$3.99	\$42.22	\$42.22	\$42.22	\$42.22	\$42.22	\$42.22	\$0.00	\$7.693.50	\$0.00	\$0.00	\$0.00	\$400.35	\$429.04	\$17
escalator 2013\$'s to 2017\$'s	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1
Customer Accounts O&M \$/Customer 2017\$	\$4.29	\$4.29	\$4.29	\$4.29	\$4.29	\$45.44	\$45.44	\$45.44	\$45.44	\$45.44	\$45.44	\$0.00	\$8,279.97	\$0.00	\$430.87	\$430.87	\$430.87	\$461.75	\$18
(formerly in Cost Allocation tab)																			
Total Direct O&M \$/customer/yr	\$58.99	\$58.52	\$63.73	\$120.04	\$58.95	\$137.46	\$144.26	\$333.75	\$1,016.72	\$1,945.76	\$201.17	\$2,680.94	\$9,566.34	\$526.71	\$8,023.89	\$8,023.95	\$8,023.89	\$8,206.66	\$25
D&M Loaders: \$/Customer																			
Administrative & General as % of O&M	41.79%	41.79%	41.79%	41.79%	41.79%	41.79%	41.79%	41.79%	41.79%	41.79%	41.79%	41.79%	41.79%	41.79%	41.79%	41.79%	41.79%	41.79%	4
Administrative & General \$/customer/yr 2017\$'s	\$24.65	\$24.46	\$26.64	\$50.17	\$24.64	\$57.45	\$60.29	\$139.49	\$424.93	\$813.21	\$84.08	\$1,120.48	\$3,998.16	\$220.13	\$3,353.51	\$3,353.54	\$3,353.51	\$3,429.90	\$10
General Plant as % of O&M	30.21%	30.21%	30.21%	30.21%	30.21%	30.21%	30.21%	30.21%	30.21%	30.21%	30.21%	30.21%	30.21%	30.21%	30.21%	30.21%	30.21%	30.21%	3
General Plant \$/customer/yr 2017\$'s	\$17.82	\$17.68	\$19.26	\$36.27	\$17.81	\$41.53	\$43.59	\$100.84	\$307.18	\$587.87	\$60.78	\$809.99	\$2,890.28	\$159.13	\$2,424.26	\$2,424.27	\$2,424.26	\$2,479.47	\$7
Materials & Supplies Loader:																			
Per Customer Direct+A&G+GP O&M \$/customer/yr	\$101.47	\$100.66	\$109.63	\$206.48	\$101.40	\$236.44	\$248.14	\$574.08	\$1,748.83	\$3,346.84	\$346.03	\$4,611.41	\$16,454.78	\$905.98	\$13,801.66	\$13,801.76	\$13,801.67	\$14,116.03	\$43
2013 Number of Customers	3,622,567	1,679,697	120,655	56	5,422,975	82.065	71.031	50,432	2.409	355	206,292	9	289	709	545	32	577	161	ψŦο
Total Direct+A&G+GP O&M \$000/yr	\$367,571	\$169,085	\$13,227	\$12	\$549,894	\$19,404	\$17,626	\$28,952	\$4,213	\$1,188	\$71,382	\$42	\$4,755	\$642	\$7,522	\$442	\$7,964	\$2,273	s
Percent of Total	57.18%	26.30%	2.06%	0.00%	85.54%	3.02%	2.74%	4.50%	0.66%	0.18%	11.10%	0.01%	0.74%	0.10%	1.17%	0.07%	1.24%	0.35%	(
Allocated M&S Costs (2017\$) \$1,252,282.87	\$716,000	\$329,365	\$25,765	\$23	\$1,071,153	\$37,797	\$34,333	\$56,396	\$8,206	\$2,314	\$139,047	\$81	\$9,263	\$1,251	\$14,652	\$860	\$15,512	\$4,427	\$
2013 Number of Customers	3,622,567	1,679,697	120,655	56	5,422,975	82,065	71,031	50,432	2,409	355	206,292	9	289	709	545	32	577	161	
	\$0.20	\$0.20	\$0.21	\$0.40	\$0.20	\$0.46	\$0.48	\$1.12	\$3.41	\$6.52	\$0.67	\$8.98	\$32.05	\$1.76	\$26.88	\$26.88	\$26.88	\$27.50	\$
M&S Loader \$/customer/yr 2017\$s						1						1			1				
	\$42.67	\$42.34	\$46.11	\$86.84	\$42.65	\$99.44	\$104.36	\$241 44	\$735.52	\$1 407 60	\$145.52	\$1 030 /5	\$6.020.40	\$381.03	\$5 804 65	\$5 804 70	\$5 804 66	\$5 936 87	640
M&S Loader \$/customer/yr 2017\$s otal O&M Loaders \$/customer/yr RMC Rental Customer Cost \$/customer/year	\$42.67 \$213.85	\$42.34 \$229.24	\$46.11 \$436.09	\$86.84 \$4,430.23	\$42.65 \$223.60	\$99.44 \$478.92	\$104.36 \$593.38	\$241.44 \$1,112.66	\$735.52 \$3,097.84	\$1,407.60 \$4,812.35	\$145.53 \$711.30	\$1,939.45	\$6,920.49 \$22,281.38	\$381.03 \$5,084.52	\$5,804.65 \$29,172.41	\$5,804.70 \$47,324.95	\$5,804.66 \$30,178.82	\$5,936.87 \$25,258.28	\$18 \$12

		Noncore Wholesa	ė				TURIORNA	
	FOR	Wholesale				International	Total O&M Cost for All	
	EUN	WHUICSale				mematorial	IOI All	1
		1					1	1
	G-40	LB	SDG&E	SWG	Vernon	DGN	Customers	1
13 Number of Customers	32	1	1	1	1	1	5,631,108	cust 2
	52		1				3,031,100	cuar 2
arginal Investment: 2013 \$/Customer								
Meter & House Reg	\$262,289.12	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		cust 5
Service Lines	\$54,610.45	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		cust 5
Exclusive Use Facilities	\$16,429.22	\$5,071,825.51	\$11,907,864.24	\$3,233,019.45	\$2,529,362.03	\$525,735.12		cust 6
Total	\$333,328.79	\$5,071,825.51	\$11,907,864.24	\$3,233,019.45	\$2,529,362.03	\$525,735.12		
eighted RECC factors used to annualize SRM capital costs								
Meter & House Reg	9.46%	0	0	0	0	0		cust 10
Service Lines	8.57%	8.57%	8.57%	8.57%	8.57%	8.57%		cust 10
Exclusive Use	9.54%	9.54%	9.54%	9.54%	9.54%	9.54%		cust 10
nnualized Marginal Investment: \$/Cust.								
Meter & House Reg	\$24,811.05	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		
Service Lines	\$4,677.43	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		
Exclusive Use Facilities	\$1,567.62	\$483,937.00	\$1,136,209.46	\$308,484.14	\$241,343.45	\$50,163.93		
otal Annualized Marginal Investment: 2013 \$/Cust.	\$31,056.11	\$483,937.00	\$1,136,209.46	\$308,484.14	\$241,343.45	\$50,163.93		
&M: \$/Customer								
Customer Services O&M Cost 2013\$'s \$000/year	\$2.72	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$130,661.86	cust 8
2013 Number of Customers	32	1	1	1	1	1	5,631,108	cust 2
Customer Services O&M \$/Customer 2013\$	\$84.85	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$23.20	
escalator 2013\$'s to 2017\$'s	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	Loader Model
Customer Services O&M \$/Customer 2017\$	\$91.32	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$24.97	
Customer Accounts O&M 2013\$'s \$000/yr	\$127.41	\$14.93	\$10.97	\$26.80	\$7.96	\$5.04	\$170,865.41	cust 8
						\$5.04		
2013 Number of Customers	32 \$3,981.42	1 \$14,930.74	1 \$10,973.04	1	1 \$7,962.87	\$5,036.49	5,631,108	cust 2
Customer Services O&M \$/Customer 2013\$ escalator 2013\$'s to 2017\$'s	\$3,981.42 1.0762	\$14,930.74 1.0762	\$10,973.04	\$26,803.84 1.0762	\$7,962.87	\$5,036.49	\$30.34 1.0762	Loader Model
Customer Accounts O&M \$/Customer 2017\$	\$4,284.93	\$16,068.91	\$11,809.51	\$28,847.09	\$8,569.88	\$5,420.42	\$32.66	Loader Moder
	ψ7,204.33	φ10,000.91	φ11,008.01	920,047.03	ψ0,009.00	<i>ψ</i> 0,720.92	ψ02.00	
Meter & House Reg O&M Total Cost	\$98.00	\$17.00	\$17.00	\$34.00	\$3.00	\$3.00	\$10,347.00	cust 8
2013 Number of Customers	32	1	1	1	1	1	5,631,108	cust 2
Customer Services O&M \$/Customer 2017\$	\$3,062.50	\$17,000.00	\$17,000.00	\$34,000.00	\$3,000.00	\$3,000.00	\$1.84	
escalator 2013\$'s to 2017\$'s	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	Loader Model
Meter & House Reg O&M \$/Customer 2017\$	\$3,295.95	\$18,295.91	\$18,295.91	\$36,591.81	\$3,228.69	\$3,228.69	\$1.98	
Total Service Line Footage	11,876	0	0	0	0	0	317,139,587	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 1.0762	\$0 1.0762	\$0	\$0 1.0762	\$0	\$38,998	cust 8
escalator 2013\$'s to 2017\$'s	1.0762			1.0762		1.0762	1.0762	Loader Model
Allocated SL O&M Costs 2017\$'s	\$2	\$0	\$0	\$0	\$0	\$0	\$41,971	
2013 Number of Customers Service Lines O&M \$/Customer 2017\$	32 \$0.05	1 \$0.00	1 \$0.00	1 \$0.00	1 \$0.00	1 \$0.00	5,631,108 \$0.01	cust 2
Service Lines U&M \$/Customer 2017\$	\$0.05	\$0.00	\$0.00	\$0.00	\$0.00	\$U.UU	\$0.01	1
Customer Service & Information Cost (CSI) Costs Accounts							1	1
2013 Number of Customers	32	1	1	1	1	1	5,631,108	1
Customer Services & Information O&M \$/Customer 2013\$	\$20,891.73	\$185,020.22	\$175,191.51	\$202,711.89	\$149,636.88	\$81,604.81	\$6.28	\$0.00
escalator 2013\$'s to 2017\$'s	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	1.0762	Loader Model
Customer Accounts O&M \$/Customer 2017\$	\$22,484.30	\$199,124.27	\$188,546.33	\$218,164.57	\$161,043.67	\$87,825.53	\$6.76	
(formerly in Cost Allocation tab)								
			-					1
Total Direct O&M \$/customer/yr	\$30,156.55	\$233,489.09	\$218,651.75	\$283,603.48	\$172,842.24	\$96,474.64	\$66.37	4
M Londorn \$/Customer							1	1
<u>&amp;M Loaders: \$/Customer</u> Administrative & General as % of O&M	41.79%	41.79%	41.79%	41.79%	41.79%	41.79%	41.79%	cust 4, a&g
	41.79% \$12,603.66	41.79% \$97,584.66	41.79% \$91,383.52	41.79% \$118,529.51	41.79% \$72,237.86	41.79% \$40,320.70	41.79% \$27.74	cusi 4, a&g
Administrative & General \$/customer/yr 2017\$'s	\$12,6U3.66	\$97,584.66	ə91,383.52	φ118,529.51	\$12,231.86	<b></b> \$40,320.70	\$27.74	1
General Plant as % of O&M	30.21%	30.21%	30.21%	30.21%	30.21%	30.21%	30.21%	cust 4, gen plan
General Plant \$/customer/yr 2017\$'s	\$9.111.19	\$70.544.00	\$66.061.20	\$85.685.05	\$52.220.78	\$29.147.86	\$20.05	saar <del>,</del> gen plan
conordan laint group tornon yr 2017 g S	φσ,τ11.19	φr0,344.00	φ00,001.20	900,000.00	402,220.10	ψ20,147.00	φ20.00	
Materials & Supplies Loader:								
Per Customer Direct+A&G+GP O&M \$/customer/yr	\$51,871.39	\$401,617.74	\$376,096.47	\$487,818.04	\$297,300.88	\$165,943.20		
2013 Number of Customers	32	1	1	1	1	1	5,631,108	cust 2
Total Direct+A&G+GP O&M \$000/yr	\$1,660	\$402	\$376	\$488	\$297	\$166	\$642,880.44	
Percent of Total	0.26%	0.06%	0.06%	0.08%	0.05%	0.03%	100.00%	
Allocated M&S Costs (2017\$) \$1,252,282.87	\$3,233	\$782	\$733	\$950	\$579	\$323	\$1,252,282.87	Loader Model
2013 Number of Customers	32	1	1	1	1	1	5,631,108	cust 2
M&S Loader \$/customer/yr 2017\$s	\$101.04	\$782.32	\$732.61	\$950.23	\$579.12	\$323.24	\$0.22	1
· · · ·		-					<u> </u>	]
otal O&M Loaders \$/customer/yr	\$21,815.89	\$168,910.98	\$158,177.33	\$205,164.79	\$125,037.76	\$69,791.81	\$48.02	-
	\$83,028.54	\$886,337.07		\$797,252.41		\$216.430.37	\$114.39	-
RMC Rental Customer Cost \$/customer/year			\$1,513,038.54		\$539,223.46			

rginal Unit Costs																			
	Core												Core		Noncore Retail				
	Residential	-				Non-Residentia						Non-Residentia							
	Single	Multi	Master Meter		Residential	Commercial/Ir						Air	Natural Gas	Gas	G-30 - Noncore	e C&I		Small EG	Large EG
	Family		(up to	(100,001		Very Small -	Small -	3,001 to	50,001 to	Very Large -									
	(Detached homes)	Family	100,000 therms/year)	therms per year and	Total or Avg.	up to 300 therms/year	301 to 3,000 therms/vear	50,000 therms/vear	250,000 therms/year	Over 250,000 therms/year	Average	Conditioning	Vehicle	Engine	Distribution	Transmission	Total	< 3million	> 3million
	nomes)	Family	ulenns/year)	year ariu	TOTAL OF AVG.	therms/year	therms/year	uleinis/yeai	uleillis/yeai	tileittis/year	Average	Conditioning	venicie	Erigine	Distribution	Transmission	TOLAI	< smillion	> 3111111011
NCO Method: 2013 Number of Customers	3.622.567	1.679.697	120.655	56	5.422.975	82.065	71.031	50.432	2.409	355	206.292	9	289	709	545	32	577	161	59
New Hookups Rate	0.41%	0.60%	0.20%	0.00%	0.47%	1.05%	0.65%	0.57%	0.37%	0.56%	0.79%	0.00%	2.88%	1.69%	0.36%	0.00%	0.34%	14.20%	2.27%
No of New Customer Hookups /year	14,927	10,050	247	0.0078	25,224	865	463	285	9	2	1,624	0.0070	8	12	2	0.0078	2	23	1
	-																		
Marginal Investment: \$/Customer																			
Meter & House Reg	\$389.12	\$266.41	\$1,645.50	\$16,562.72	\$379.23	\$617.19	\$1,426.72	\$3,394.90	\$7,760.03	\$9,802.97	\$1,674.21	\$7,860.93	\$45,321.48	\$4,609.46	\$96,009.44	\$230,511.32	\$103,468.81	\$74,881.13	\$522,512.
Service Lines	\$889.47	\$1,213.40	\$2,009.70	\$31,036.06	\$1,015.04	\$2,154.62	\$2,465.09	\$2,555.96	\$7,160.14	\$6,211.01	\$2,425.07	\$5,873.43	\$17,613.91	\$43,713.78	\$65,527.95	\$118,306.51	\$68,455.01	\$47,055.13	\$59,463.4
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	\$6,805.86	\$16,340.35	\$7,334.63	\$0.00	\$324,741.
Total Marginal Investment \$/customer	\$1,278.58	\$1,479.81	\$3,655.21	\$47,598.78	\$1,394.27	\$2,771.81	\$3,891.81	\$5,950.85	\$14,920.17	\$16,013.98	\$4,099.28	\$13,734.35	\$62,935.38	\$48,323.24	\$168,343.24	\$365,158.18	\$0.00	\$121,936.26	\$906,717.
Weighted PVRR for Meter & House Reg	129.09%	129.14%	129.01%	128.96%	129.09%	129.05%	129.01%	129.00%	128.97%	128.95%	129.01%	128.97%	128.95%	129.00%	128.95%	128.95%	128.95%	128.95%	128.95%
PVCC for Service Lines	129.08%	129.08%	129.08%	129.08%	129.08%	129.08%	129.08%	129.08%	129.08%	129.08%	129.08%	129.08%	129.08%	129.08%	129.08%	129.08%	129.08%	129.08%	129.08%
PVRR:																			
												<b></b>							
Meter & House Reg \$/customer	\$502.31	\$344.03	\$2,122.93	\$21,359.13	\$489.56	\$796.48	\$1,840.67	\$4,379.50	\$10,007.89	\$12,641.38	\$2,159.91	\$10,138.10	\$58,444.00	\$5,946.22	\$123,806.58	\$297,250.76	\$133,425.88	\$96,560.37	\$673,787
Service Lines \$/customer	\$1,148.09	\$1,566.21	\$2,594.06	\$40,060.25	\$1,310.17	\$2,781.10	\$3,181.85	\$3,299.14	\$9,242.05	\$8,016.95	\$3,130.19	\$7,581.21	\$22,735.41	\$56,424.21	\$84,581.17	\$152,705.88	\$88,359.32	\$60,737.11	\$76,753.
PVRR of Hookup Cost \$/customer	\$1,650.40	\$1,910.24	\$4,716.98	\$61,419.38	\$1,799.73	\$3,577.58	\$5,022.52	\$7,678.64	\$19,249.94	\$20,658.33	\$5,290.10	\$17,719.31	\$81,179.41	\$62,370.43	\$208,387.75	\$449,956.64	\$221,785.19	\$157,297.48	\$750,541.
Total PVRR of Hookup Cost for Class \$'s	\$24,635,263	\$19,197,954	\$1,164,902	\$0	\$45,395,841	\$3,094,573	\$2,325,363	\$2,188,413	\$173,178	\$41,317	\$8,590,961	\$0	\$675,132	\$748,445	\$408,530	\$0	\$433,797	\$3,597,286	\$1,006,40
PVRR of Hookup Cost \$/customer	\$6.80	\$11.43	\$9.65	\$0.00	\$8.37	\$37.71	\$32.74	\$43.39	\$71.89	\$116.38	\$41.64	\$0.00	\$2,336.10	\$1,055.63	\$749.60	\$0.00	\$751.81	\$22,343.39	\$17,057.7
O&M Cost w/Loaders \$/Cust.																			
Total Direct O&M	\$58.99	\$58.52	\$63.73	\$120.04	\$58.95	\$137.46	\$144.26	\$333.75	\$1.016.72	\$1.945.76	\$201.17	\$2.680.94	\$9.566.34	\$526.71	\$8.023.89	\$8.023.95	\$8.023.89	\$8.206.66	\$25.026.1
							•												
Total O&M Loaders \$/customer/yr	\$42.67	\$42.34	\$46.11	\$86.84	\$42.65	\$99.44	\$104.36	\$241.44	\$735.52	\$1,407.60	\$145.53	\$1,939.45	\$6,920.49	\$381.03	\$5,804.65	\$5,804.70	\$5,804.66	\$5,936.87	\$18,104.
LRMC NCO Customer Cost \$/customer/year	\$108.47	\$112.29	\$119.50	\$206.88	\$109.97	\$274.61	\$281.36	\$618.59	\$1,824.13	\$3,469.75	\$388.34	\$4,620.40	\$18,822.93	\$1,963.38	\$14,578.14	\$13,828.65	\$14,580.37	\$36,486.92	\$60,188.2
NCO w/ Replacement Cost Adder																			
Marginal Investment: Meter & House Reg \$/Customer	\$389.12	\$266.41	\$1,645.50	\$16,562.72	\$379.23	\$617.19	\$1,426.72	\$3,394.90	\$7,760.03	\$9,802.97	\$1,674.21	\$7,860.93	\$45,321.48	\$4,609.46	\$96,009.44	\$230,511.32	\$103,468.81	\$74,881.13	\$522,512
Service Lines Replacement Cost	\$3,314.12	\$3,530.07	\$5,452.03	\$56,691.87	\$3,429.12	\$6,218.76	\$6,870.37	\$6,715.71	\$16,406.09	\$14,790.58	\$6,698.33	\$13,576.94	\$34,284.81	\$100,241.20	\$113,618.44	\$211,346.64	\$119,038.37	\$80,571.77	\$97,741.
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	\$6,805.86	\$16,340.35	\$7,334.63	\$0.00	\$324,741
Total	\$1,278.58	\$1,479.81	\$3,655.21	\$47,598.78	\$1,394.27	\$2,771.81	\$3,891.81	\$5,950.85	\$14,920.17	\$16,013.98	\$4,099.28	\$13,734.35	\$62,935.38	\$48,323.24	\$168,343.24	\$365,158.18	\$0.00	\$121,936.26	\$906,717
Weighted PVRR for Meter & House Reg	129.09%	129.14%	129.01%	128.96%	129.09%	129.05%	129.01%	129.00%	128.97%	128.95%	129.01%	128.97%	128.95%	129.00%	128.95%	128.95%	128.95%	128.95%	128.95
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)	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%	129%
PVCC for Exclusive Use Facilities (ivieters)															129%	129%	129%	129%	129%
Weighted Replacement Factor for Meter & House Reg	2.80%	2.71%	2.93%	3.02%	2.79%	2.86%	2.93%	2.95%	3.01%	3.03%	2.93%	3.00%	3.03%	2.95%	3.03%	3.03%	3.03%	3.03%	3.03%
Replacement Factor for Service Lines	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%	2.1%
Replacement Factor for Exclusive Use Facilities															3.13%	3.13%	3.13%	3.13%	3.139
Meter & House Reg, Replacement	\$14.04	\$9.33	\$62.10	\$645.14	\$13.66	\$22.81	\$53.85	\$128.99	\$300.89	\$382.82	\$63.31	\$304.59	\$1.770.06	\$175.34	\$3,752,94	\$9.011.93	\$4.044.60	\$2.929.10	\$20.438.
0. 1			•••••																\$2,628.3
Service Lines, Replacement	\$89.12	\$94.93	\$146.61	\$1,524.50	\$92.21	\$167.23	\$184.75	\$180.59	\$441.18	\$397.73	\$180.12	\$365.10	\$921.95	\$2,695.58	\$3,055.31	\$5,683.31	\$3,201.05	\$2,166.65	
Exclusive Use Facilities, Replace												1			\$274.15	\$658.20	\$295.45	\$0.00	\$13,080.
Replacement Adder \$/Customer	\$103.16	\$104.25	\$208.71	\$2,169.64	\$105.87	\$190.04	\$238.60	\$309.58	\$742.07	\$780.55	\$243.44	\$669.69	\$2,692.01	\$2,870.92	\$7,082.39	\$15,353.44	\$7,541.10	\$5,095.75	\$36,148.
NCO w/o Repl Cost \$/Cust/vr	\$108.47	\$112.29	\$119.50	\$206.88	\$109.97	\$274.61	\$281.36	\$618.59	\$1.824.13	\$3,469,75	\$388.34	\$4.620.40	\$18.822.93	\$1,963,38	\$14.578.14	\$13.828.65	\$14.580.37	\$36.486.92	\$60.188.

inal Unit Costs								_
		Noncore Wholesa	le				Total O&M Cost	
	EOR	Wholesale				International	for All	
	G-40	LB	SDG&E	SWG	Vernon	DGN	Customers	
	0.10		OBOUL	0110	V S M S M	5011		4
NCO Method:								
2013 Number of Customers	32	1	1	1	1	1	5,631,108	cust 2
New Hookups Rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
No of New Customer Hookups /year	0	0	0	0	0	0	26,894	
Marginal Investment: \$/Customer								
Meter & House Reg	\$262,289.12	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		cust 5
Service Lines	\$54,610.45	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		cust 5
Exclusive Use Facilities	\$16,429,22	\$5.071.825.51	\$11.907.864.24	\$3.233.019.45	\$2.529.362.03	\$525.735.12		cust 6, cust 7
Total Marginal Investment \$/customer	\$333,328.79	\$5,071,825.51	\$11,907,864.24	\$3,233,019.45	\$2,529,362.03	\$525,735.12	+	
	,		,,		. ,		1	
Weighted PVRR for Meter & House Reg	128.95%						1	cust 10
PVCC for Service Lines	129.08%	129.08%	129.08%	129.08%	129.08%	129.08%	1	2013 RECC
							1	
PVRR:							1	
Meter & House Reg \$/customer	\$338,228.41	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		1
Service Lines \$/customer	\$70,489.25	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	<u> </u>	4
PVRR of Hookup Cost \$/customer	\$408,717.65	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	1	
Total PVRR of Hookup Cost for Class \$'s	\$0	\$0	\$0	\$0	\$0	\$0	───	4
PVRR of Hookup Cost \$/customer	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	+	1
O&M Cost w/Loaders \$/Cust.							1	
Total Direct O&M	\$30,156.55	\$233,489.09	\$218,651.75	\$283,603.48	\$172,842.24	\$96,474.64		1
Total O&M Loaders \$/customer/yr	\$21,815.89	\$233,469.09 \$168,910.98	\$158,177.33	\$205,164.79	\$172,642.24 \$125,037.76	\$96,474.64 \$69,791.81		1
i otai Oaivi Loadeis \$/customei/yi	¢21,010.89	@100,910.98	φ100,177.33	φ205,104.79	φ120,037.7b	409,/91.01	1	
LRMC NCO Customer Cost \$/customer/year	\$51,972.43	\$402,400.06	\$376,829.08	\$488,768.27	\$297,880.00	\$166,266.45		·
NCO w/ Replacement Cost Adder								
Marginal Investment: Meter & House Reg \$/Customer	\$262,289.12	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		cust 5
Service Lines Replacement Cost	\$99,843.07	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	1	cust 5
Exclusive Use Facilities	\$16,429.22	\$5,071,825.51	\$11,907,864.24	\$3,233,019.45	\$2,529,362.03	\$525,735.12	1	cust 6, cust 7
Total	\$333,328.79	\$5,071,825.51	\$11,907,864.24	\$3,233,019.45	\$2,529,362.03	\$525,735.12	+	ouor o, ouor /
	,	,	,		. ,		1	
Weighted PVRR for Meter & House Reg	128.95%						1	cust 10
PVCC for Service Lines	129%							2013 RECC
PVCC for Exclusive Use Facilities (Meters)	129%	129%	129%	129%	129%	129%	1	
Weighted Depletoment Fester for Mater 9, Human Day							1	1
Weighted Replacement Factor for Meter & House Reg	2.029/							augh 10
	3.03%							cust 10
Replacement Factor for Service Lines	2.1%	2 129/	2 120/	2 129/	2 129/	2 1 29/		
Replacement Factor for Exclusive Use Facilities		3.13%	3.13%	3.13%	3.13%	3.13%		cust 10 cust 10
Replacement Factor for Exclusive Use Facilities	2.1% 3.13%	3.13%	3.13%	3.13%	3.13%	3.13%		
Replacement Factor for Exclusive Use Facilities Meter & House Reg, Replacement	2.1% 3.13% \$10,254.26	3.13%	3.13%	3.13%	3.13%	3.13%		
Replacement Factor for Exclusive Use Facilities Meter & House Reg, Replacement Service Lines, Replacement	2.1% 3.13% \$10,254.26 \$2,684.87							
Replacement Factor for Exclusive Use Facilities Meter & House Reg, Replacement Service Lines, Replacement Exclusive Use Facilities, Replace	2.1% 3.13% \$10,254.26 \$2,684.87 \$661.78	\$204,297.34	\$479,658.66	\$130,228.71	\$101,884.80	\$21,177.05		
Replacement Factor for Exclusive Use Facilities Meter & House Reg, Replacement Service Lines, Replacement	2.1% 3.13% \$10,254.26 \$2,684.87							
Replacement Factor for Exclusive Use Facilities Meter & House Reg, Replacement Service Lines, Replacement Exclusive Use Facilities, Replace	2.1% 3.13% \$10,254.26 \$2,684.87 \$661.78	\$204,297.34	\$479,658.66	\$130,228.71	\$101,884.80	\$21,177.05		

							C	Core						
		Re	esidential			Non-Residential								
	Single	Multi	Master I	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
2013 Number of Customers	3,622,567	1,679,697	120,655	56	5,422,975	82,065	71,031	50,432	2,409	355	206,292	9	289	709

						Nonco	re						
						Non-Resid	lential						Total
		G-30		Small	Large	EOR		Whole	esale		Internat	tional	Over All
	Distribution	Transmission	Total	EG	EG	G-40	LB	SDG&E	SWG	Vernon	DGN	Rosarito	Customers
2013 Number of Customers	545	32	577	161	59	32	1	1	1	1	1	0	5,631,108

# 1) Residential Segmentation

1a) Segmentation of Residential Total Customer Counts into Bands

			Residential		
	Single	Multi	Master	Meter	
	Family	Family	Small	Large	Total
2013 Number of Customers	3,622,567	1,679,697	120,655	56	5,422,975
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	Multi	Master	Meter	
	Family	Family	Small	Large	Total
Per Cust. Meter, Reg. & MSA Investment	\$389.12	\$266.41	\$1,645.50	\$16,562.72	
2013 Number of Customers	3,622,567	1,679,697	120,655	56	5,422,975
Total Meter, Reg. & MSA Investment	\$1,409,605,725	\$447,482,336	\$198,538,072	\$927,513	\$2,056,553,646
Percent of Total Meter, Reg. & MSA Investment	69%	22%	10%	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

			<b>G-</b> 1	0		
	Very Small	Small	Medium	Large	Very Large	Total
2013 Number of Customers	82,065	71,031	50,432	2,409	355	206,292
Percent of Total	40%	34%	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	\$617.19	\$1,426.72	\$3,394.90	\$7,760.03	\$9,802.97	
2013 Number of Customers	82,065	71,031	50,432	2,409	355	206,292
Total Meter, Reg & MSA Investment	\$50,649,744	\$101,341,442	\$171,211,505	\$18,693,917	\$3,480,056	\$345,376,663
Percent of Total Meter, Reg & MSA Investment	15%	29%	50%	5%	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
2013 Number of Customers	545	32	577
Percent of Total	94%	6%	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	\$96,009.44	\$230,511.32	
2013 Number of Customers		545	32	577
Total Cost	2013 \$s	\$52,325,143	\$7,376,362	\$59,701,505
Percent of Total Cost		88%	12%	100%

note: used to segment Meters, Regulators & MSAs O&M Costs

values from 'Investment Meters, REGs', cust 5 tab

#### SCG 2016 TCAP Phase II 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.	2013 \$s	\$357.79	\$244.96	\$1,513.01	\$15,229.09	\$348.69	\$567.49	\$1,311.84	\$3,121.54	\$7,135.19	\$9,013.64	\$1,539.41	\$7,227.96	\$41,672.19	\$4,238.31
Meter, Reg.	2017 \$s	\$389.12	\$266.41	\$1,645.50	\$16,562.72	\$379.23	\$617.19	\$1,426.72	\$3,394.90	\$7,760.03	\$9,802.97	\$1,674.21	\$7,860.93	\$45,321.48	\$4,609.46
Total		\$389.12	\$266.41	\$1,645.50	\$16,562.72	\$379.23	\$617.19	\$1,426.72	\$3,394.90	\$7,760.03	\$9,802.97	\$1,674.21	\$7,860.93	\$45,321.48	\$4,609.46

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						
				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
Service Lines	2013 \$s	\$817.85	\$1,115.70	\$1,847.88	\$28,537.04	\$933.31	\$1,981.13	\$2,266.60	\$2,350.15	\$6,583.60	\$5,710.90	\$2,229.80	\$5,400.50	\$16,195.64	\$40,193.95
Service Lines	2017 \$s	889.47	1,213.40	2,009.70	31,036.06	1,015.04	2,154.62	2,465.09	2,555.96	7,160.14	6,211.01	2,425.07	5,873.43	17,613.91	43,713.78
Total		889.47	1,213.40	2,009.70	31,036.06	1,015.04	2,154.62	2,465.09	2,555.96	7,160.14	6,211.01	2,425.07	5,873.43	17,613.91	43,713.78

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	Meter	Residential			G	-10			Gas Air	Natrual Gas	Gas
Investment Per Cust	omer:	Family	Family	Small	Large	Average	Very Small	Small	Medium	Large	Very Large	Average	Conditioning	Vehicle	Engine
Service Lines Replace	emei 2013 \$s	3,047.27	3,245.83	5,013.03	52,127.05	3,153.01	5,718.03	6,317.17	6,174.96	15,085.07	13,599.65	6,158.98	12,483.72	31,524.20	92,169.78
Service Lines	2017 \$s	3,314.12	3,530.07	5,452.03	56,691.87	3,429.12	6,218.76	6,870.37	6,715.71	16,406.09	14,790.58	6,698.33	13,576.94	34,284.81	100,241.20
Total		3,314.12	3,530.07	5,452.03	56,691.87	3,429.12	6,218.76	6,870.37	6,715.71	16,406.09	14,790.58	6,698.33	13,576.94	34,284.81	100,241.20

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.

#### SCG 2016 TCAP Phase II LRMC Customer Cost Average Per Customer Investment in I

							Noncore							
							Non-Residenti	al						Total
					<3 Million									
			G-30		SM. COGEN	>3 Million EG	EOR		Wh	olesale		Internat	ional	Over All
Investment Per C	ustomer:	Distribution	Transmission	Average	G-50	G-50	G-40	LB	SDG&E	SWG	Vernon	DGN	Rosarito	Customers
Meter, Reg.	2013 \$s	\$88,278.76	\$211,950.56	\$95,137.51	\$68,851.70	\$480,439.86	\$241,169.60	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Meter, Reg.	2017 \$s	\$96,009.44	\$230,511.32	\$103,468.81	\$74,881.13	\$522,512.56	\$262,289.12	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Total		\$96,009.44	\$230,511.32	\$103,468.81	\$74,881.13	\$522,512.56	\$262,289.12	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	

Average Per Customer Investment in

Service Lines by Customer Class

							Noncore							
							Non-Resident	ial						Total
			G-30		SM. COGEN	EG	EOR		Wh	nolesale		Intern	ational	Over All
Investment Per Cu	ustomer:	Distribution	Transmission	Average	G-50	G-50	G-40	LB	SDG&E	SWG	Vernon	DGN	Rosarito	Customers
Service Lines	2013 \$s	\$60,251.64	\$108,780.48	\$62,943.01	\$43,266.26	\$54,675.43	\$50,213.22	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Service Lines	2017 \$s	65,527.95	118,306.51	68,455.01	47,055.13	59,463.43	54,610.45	0.00	0.00	0.00	0.00	0.00	0.00	
Total		65,527.95	118,306.51	68,455.01	47,055.13	59,463.43	54,610.45	0.00	0.00	0.00	0.00	0.00	0.00	

#### Service Lines Replacement Costs

							Noncore							
							Non-Residenti	al						Total
			G-30		SM. COGEN	EG	EOR		Wh	olesale		Interna	ational	Over All
Investment Per C	ustomer:	Distribution	Transmission	Average	G-50	G-50	G-40	LB	SDG&E	SWG	Vernon	DGN	Rosarito	Customers
Service Lines Repl	acemei 2013 \$s	104,469.88	194,329.02	109,453.41	74,084.14	89,871.70	91,803.71	0.00	0.00	0.00	0.00	0.00	0.00	
Service Lines	2017 \$s	113,618.44	211,346.64	119,038.37	80,571.77	97,741.87	99,843.07	0.00	0.00	0.00	0.00	0.00	0.00	
Total		113,618.44	211,346.64	119,038.37	80,571.77	97,741.87	99,843.07	0.00	0.00	0.00	0.00	0.00	0.00	

#### Meter Cost Detail

		Meter		avg labor			
Code	Element	Size	Above Std	\$/meter	avg \$/meter	avg \$/regulator	
S10	SGL	1	0	\$146.51	\$75.57	\$18.31	ľ
M10	MULT	1	0	\$109.88	\$75.57	\$4.58	
S20	SGL	2	0	\$201.52	\$141.69	\$16.31	
M20	MULT	2	0	\$171.29	\$141.69	\$4.08	
30	AG	3	0	\$188.67	\$142.86	\$18.31	
	CMB	3		\$293.02	\$530.48	\$113.98	
31	LBS	3	1	\$183.14	\$384.71	\$275.00	
S40	SZ	4	0	\$178.21	\$648.17	\$215.60	
S50	SZ	5	0	\$178.21	\$648.17	\$215.60	
	CMB	4		\$178.21	\$818.90	\$246.90	
	CMB	5		\$178.21	\$818.90	\$246.90	
41	@LBS	4	1	\$178.21	\$2,327.46	\$260.17	
51	@LBS	5	1	\$178.21	\$2,327.46	\$260.17	
S60	STD	6	0	\$1,270.50	\$2,101.37	\$215.60	
S70	STD	7	0	\$1,270.50	\$2,101.37	\$215.60	
61	LBS	6	1	\$1,270.50	\$3,810.20	\$255.46	
71	LBS	7	1	\$1,270.50	\$3,810.20	\$255.46	
S80	STD	8	0	\$1,270.50	\$2,143.01	\$257.66	
S90	STD	9	0	\$1,270.50	\$2,143.01	\$257.66	
81	LBS	8	1	\$1,270.50	\$3,851.84	\$636.94	
91	LBS	9	1	\$1,270.50	\$3,851.84	\$636.94	
99	TURBINE METERS	10		\$60,092.00	\$380,193.00	\$3,100.00	
100	ROTARY METERS	10		\$1,270.50	\$4,493.89	\$3,927.24	
110	ULTRASONIC METERS	12		\$123,995	\$901,370	\$0.00	

#### Calculation of Weighted Average Meter & Regulator CAPEX/ Customer

		Meter		Sample	avg labor							Average Meter & Regulator CAPEX/
Code	Rate	Size	Above Std	Size	\$/meter	avg \$/meter	avg \$/regulator	tot lab	tot met	tot reg	tot cost	Customer
S10	SF	1	0	48,499	\$146.51	\$75.57	\$18.31	\$7,105,504	\$3,665,069	\$888,036	\$11,658,610	\$240.39
30	SF	3	0	9,907	\$188.67	\$142.86	\$18.31	\$1,869,187	\$1,415,314	\$181,401	\$3,465,902	\$349.84
31	SF	3	1	33	\$183.14	\$384.71	\$275.00	\$6,043	\$12,695	\$9,075	\$27,814	\$842.85
S40	SF	4	0	3,525	\$178.21	\$648.17	\$215.60	\$628,201	\$2,284,799	\$759,990	\$3,672,990	\$1,041.98
41	SF	4	1	51	\$178.21	\$2,327.46	\$260.17	\$9,089	\$118,700	\$13,268	\$141,058	\$2,765.84
S50	SF	5	0	17	\$178.21	\$648.17	\$215.60	\$3,030	\$11,019	\$3,665	\$17,714	\$1,041.98
S60	SF	6	0	790	\$1,270.50	\$2,101.37	\$215.60	\$1,003,696	\$1,660,082	\$170,324	\$2,834,102	\$3,587.47
61	SF	6	1	31	\$1,270.50	\$3,810.20	\$255.46	\$39,386	\$118,116	\$7,919	\$165,421	\$5,336.16
S70	SF	7	0	3	\$1,270.50	\$2,101.37	\$215.60	\$3,812	\$6,304	\$647	\$10,762	\$3,587.47
S80	SF	8	0	91	\$1,270.50	\$2,143.01	\$257.66	\$115,616	\$195,014	\$23,447	\$334,076	\$3,671.17
81	SF	8	1	22	\$1,270.50	\$3,851.84	\$636.94	\$27,951	\$84,740	\$14,013	\$126,704	\$5,759.28
S90	SF	9	0	3	\$1,270.50	\$2,143.01	\$257.66	\$3,812	\$6,429	\$773	\$11,014	\$3,671.17
91	SF	9	1	5	\$1,270.50	\$3,851.84	\$636.94	\$6,353	\$19,259	\$3,185	\$28,796	\$5,759.28
100	SF	10	1	4	\$1,270.50	\$4,493.89	\$3,927.24	\$5,082	\$17,976	\$15,709	\$38,767	\$9,691.63
100	tot SF	10		62,981	ψ1,270.50	ψτ,τ55.05	ψ0,021.2 <del>4</del>	\$10,826,760	\$9,615,518	\$2,091,452	\$22,533,730	\$357.79
	101 01			02,901				\$10,020,700	\$9,015,510	ψ2,091,432	ψ22,000,700	<i>4</i> 551.15
S10	MF	1	0	51,825	\$146.51	\$75.57	\$18.31	\$7,592,791	\$3,916,415	\$948,937	\$12,458,142	\$240.39
30	MF	3	0	1,380	\$188.67	\$142.86	\$18.31	\$260,369	\$197,147	\$25,268	\$482,784	\$349.84
31	MF	3	1	3	\$183.14	\$384.71	\$275.00	\$549	\$1,154	\$825	\$2,529	\$842.85
S40	MF	4	0	48	\$178.21	\$648.17	\$215.60	\$8,554	\$31,112	\$10,349	\$50,015	\$1,041.98
41	MF	4	1	1	\$178.21	\$2,327.46	\$260.17	\$178	\$2,327	\$260	\$2,766	\$2,765.84
S60	MF	6	0	6	\$1,270.50	\$2,101.37	\$215.60	\$7,623	\$12,608	\$1,294	\$21,525	\$3,587.47
61	MF	6	1	4	\$1,270.50	\$3,810.20	\$255.46	\$5,082	\$15,241	\$1,022	\$21,345	\$5,336.16
S80	MF	8	0	4	\$1,270.50	\$2,143.01	\$257.66	\$1,271	\$2,143	\$258	\$3,671	\$3,671.17
81	MF	8	1	1	\$1,270.50	\$3,851.84	\$636.94	\$1,271	\$3,852	\$637	\$5,759	\$5,759.28
01	tot MF	0		53,269	\$1,270.30	\$5,051.04	<i>ф</i> 030.94	\$7,877,688	\$4,182,000	\$988,849	\$13,048,536	\$244.96
				,				.,,,		. ,	. , ,	· · · · ·
S10	MM Band 1	1	0	502	\$146.51	\$75.57	\$18.31	\$73,547	\$37,936	\$9,192	\$120,675	\$240.39
30	MM Band 1	3	0	187	\$188.67	\$142.86	\$18.31	\$35,282	\$26,715	\$3,424	\$65,421	\$349.84
31	MM Band 1	3	1	7	\$183.14	\$384.71	\$275.00	\$1,282	\$2,693	\$1,925	\$5,900	\$842.85
S40	MM Band 1	4	0	305	\$178.21	\$648.17	\$215.60	\$54,355	\$197,692	\$65,758	\$317,805	\$1,041.98
41	MM Band 1	4	1	10	\$178.21	\$2,327.46	\$260.17	\$1,782	\$23,275	\$2,602	\$27,658	\$2,765.84
S50	MM Band 1	5	0	7	\$178.21	\$648.17	\$215.60	\$1,247	\$4,537	\$1,509	\$7,294	\$1,041.98
S60	MM Band 1	6	0	174	\$1,270.50	\$2,101.37	\$215.60	\$221,067	\$365,638	\$37,514	\$624,220	\$3,587.47
61	MM Band 1	6	1	21	\$1,270.50	\$3,810.20	\$255.46	\$26,681	\$80,014	\$5,365	\$112,059	\$5,336.16
S70	MM Band 1	7	0	4	\$1,270.50	\$2,101.37	\$215.60	\$5,082	\$8,405	\$862	\$14,350	\$3,587.47
71	MM Band 1	7	1	2	\$1,270.50	\$3,810.20	\$255.46	\$2,541	\$7,620	\$511	\$10,672	\$5,336.16
S80	MM Band 1	8	0	58	\$1,270.50	\$2,143.01	\$257.66	\$73,689	\$124,295	\$14,944	\$212,928	\$3,671.17
81	MM Band 1	8	1	26	\$1,270.50	\$3,851.84	\$636.94	\$33,033	\$100,148	\$16,560	\$149,741	\$5,759.28
S90	MM Band 1	9	0	8	\$1,270.50	\$2,143.01	\$257.66	\$10,164	\$17,144	\$2,061	\$29,369	\$3,671.17
91	MM Band 1	9	1	21	\$1,270.50	\$3,851.84	\$636.94	\$26,681	\$80,889	\$13,376	\$120,945	\$5,759.28
100	MM Band 1	10	1	24	\$1,270.50	\$4,493.89	\$3,927.24	\$30,492	\$107,853	\$94,254	\$232,599	\$9,691.63
100	tot MM 1	10		1,356	ψ1,270.30	\$4,493.09	ψ <b>3</b> , <b>3</b> 27.24	\$596,925	\$1,184,855	\$269,857	\$2,051,637	\$1,513.01
				,				. ,		. ,		. ,
61	MM Band 2	6	1	3	\$1,270.50	\$3,810.20	\$255.46	\$3,812	\$11,431	\$766	\$16,008	\$5,336.16
71	MM Band 2	7	1	1	\$1,270.50	\$3,810.20	\$255.46	\$1,271	\$3,810	\$255	\$5,336	\$5,336.16
81	MM Band 2	8	1	9	\$1,270.50	\$3,851.84	\$636.94	\$11,435	\$34,667	\$5,732	\$51,834	\$5,759.28
91	MM Band 2	9	1	18	\$1,270.50	\$3,851.84	\$636.94	\$22,869	\$69,333	\$11,465	\$103,667	\$5,759.28
99	MM Band 2	10	1	1	\$60,092.00	\$380,193.00	\$3,100.00	\$60,092	\$380,193	\$3,100	\$443,385	\$443,385.00
100	MM Band 2	10	1	24	\$1,270.50	\$4,493.89	\$3,927.24	\$30,492	\$107,853	\$94,254	\$232,599	\$9,691.63
	tot MM 2			56				\$129,970	\$607,287	\$115,573	\$852,829	\$15,229.09

		Meter		Sample	avg labor							Average Meter & Regulator CAPEX/
Code	Rate	Size	Above Std	Size	\$/meter	avg \$/meter	avg \$/regulator	tot lab	tot met	tot reg	tot cost	Customer
S10	G10 Band 1	1	0	2,199	\$146.51	\$75.57	\$18.31	\$322,172	\$166,178	\$40,265	\$528,615	\$240.39
30	G10 Band 1	3	0	391	\$188.67	\$142.86	\$18.31	\$73,771	\$55,858	\$7,159	\$136,789	\$349.84
31	G10 Band 1	3	1	12	\$183.14	\$384.71	\$275.00	\$2,198	\$4,617	\$3,300	\$10,114	\$842.85
S40	G10 Band 1	4	0	249	\$178.21	\$648.17	\$215.60	\$44,375	\$161,394	\$53,684	\$259,454	\$1,041.98
41	G10 Band 1	4	1	28	\$178.21	\$2,327.46	\$260.17	\$4,990	\$65,169	\$7,285	\$77,443	\$2,765.84
S50	G10 Band 1	5	0	3	\$178.21	\$648.17	\$215.60	\$535	\$1,945	\$647	\$3,126	\$1,041.98
51	G10 Band 1	5	1	1	\$178.21	\$2,327.46	\$260.17	\$178	\$2,327	\$260	\$2,766	\$2,765.84
S60	G10 Band 1	6	0	88	\$1,270.50	\$2,101.37	\$215.60	\$111,804	\$184,921	\$18,973	\$315,697	\$3,587.47
61	G10 Band 1	6	1	31	\$1,270.50	\$3,810.20	\$255.46	\$39,386	\$118,116	\$7,919	\$165,421	\$5,336.16
S80	G10 Band 1	8	0	25	\$1,270.50	\$2,143.01	\$257.66	\$31,763	\$53,575	\$6,441	\$91,779	\$3,671.17
81	G10 Band 1	8	1	11	\$1,270.50	\$3,851.84	\$636.94	\$13,976	\$42,370	\$7,006	\$63,352	\$5,759.28
S90	G10 Band 1	9	0	1	\$1,270.50	\$2,143.01	\$257.66	\$1,271	\$2,143	\$258	\$3,671	\$3,671.17
91	G10 Band 1	9	1	4	\$1,270.50	\$3,851.84	\$636.94	\$5,082	\$15,407	\$2,548	\$23,037	\$5,759.28
100	G10 Band 1	10	1	5	\$1,270.50	\$4,493.89	\$3,927.24	\$6,353	\$22,469	\$19,636	\$48,458	\$9,691.63
	tot Band 1			3,048				\$657,851	\$896,490	\$175,381	\$1,729,723	\$567.49
S10	G10 Band 2	1	0	720	\$146.51	\$75.57	\$18.31	\$105,486	\$54,410	\$13,183	\$173,080	\$240.39
30	G10 Band 2	3	0	575	\$188.67	\$142.86	\$18.31	\$108,487	\$82,145	\$10,528	\$201,160	\$349.84
31	G10 Band 2	3	1	36	\$183.14	\$384.71	\$275.00	\$6,593	\$13,850	\$9,900	\$30,342	\$842.85
S40	G10 Band 2	4	0	613	\$178.21	\$648.17	\$215.60	\$109,245	\$397,328	\$132,163	\$638,736	\$1,041.98
41	G10 Band 2	4	1	49	\$178.21	\$2,327.46	\$260.17	\$8,732	\$114,046	\$12,748	\$135,526	\$2,765.84
S50	G10 Band 2	5	0	15	\$178.21	\$648.17	\$215.60	\$2,673	\$9,723	\$3,234	\$15,630	\$1,041.98
S60	G10 Band 2	6	0	264	\$1,270.50	\$2,101.37	\$215.60	\$335,412	\$554,762	\$56,918	\$947,092	\$3,587.47
61	G10 Band 2	6	1	66	\$1,270.50	\$3,810.20	\$255.46	\$83,853	\$251,473	\$16,860	\$352,187	\$5,336.16
S70	G10 Band 2	7	0	6	\$1,270.50	\$2,101.37	\$215.60	\$7,623	\$12,608	\$1,294	\$21,525	\$3,587.47
71		7	1	3								
	G10 Band 2	8	0	3 44	\$1,270.50	\$3,810.20	\$255.46	\$3,812	\$11,431	\$766	\$16,008	\$5,336.16
S80	G10 Band 2		0		\$1,270.50	\$2,143.01	\$257.66	\$55,902	\$94,292	\$11,337	\$161,531	\$3,671.17
81	G10 Band 2	8	1	66	\$1,270.50	\$3,851.84	\$636.94	\$83,853	\$254,221	\$42,038	\$380,112	\$5,759.28
S90	G10 Band 2	9	0	7	\$1,270.50	\$2,143.01	\$257.66	\$8,894	\$15,001	\$1,804	\$25,698	\$3,671.17
91	G10 Band 2	9	1	15	\$1,270.50	\$3,851.84	\$636.94	\$19,058	\$57,778	\$9,554	\$86,389	\$5,759.28
100	G10 Band 2	10	1	8	\$1,270.50	\$4,493.89	\$3,927.24	\$10,164	\$35,951	\$31,418	\$77,533	\$9,691.63
	tot Band 2			2,487				\$949,786	\$1,959,018	\$353,746	\$3,262,550	\$1,311.84
S10	G10 Band 3	1	0	34	\$146.51	\$75.57	\$18.31	\$4,981	\$2,569	\$623	\$8,173	\$240.39
30	G10 Band 3	3	0	168	\$188.67	\$142.86	\$18.31	\$31,697	\$24,000	\$3,076	\$58,774	\$349.84
31	G10 Band 3	3	1	62	\$183.14	\$384.71	\$275.00	\$11,354	\$23,852	\$17,050	\$52,256	\$842.85
S40	G10 Band 3	4	0	666	\$178.21	\$648.17	\$215.60	\$118,690	\$431,681	\$143,590	\$693,961	\$1,041.98
41	G10 Band 3	4	1	69	\$178.21	\$2,327.46	\$260.17	\$12,297	\$160,595	\$17,951	\$190,843	\$2,765.84
S50	G10 Band 3	5	0	21	\$178.21	\$648.17	\$215.60	\$3,742	\$13,612	\$4,528	\$21,882	\$1,041.98
S60	G10 Band 3	6	0	602	\$1,270.50	\$2,101.37	\$215.60	\$764,842	\$1,265,025	\$129,791	\$2,159,658	\$3,587.47
61	G10 Band 3	6	1	118	\$1,270.50	\$3,810.20	\$255.46	\$149,919	\$449,604	\$30,144	\$629,667	\$5,336.16
S70	G10 Band 3	7	0	14	\$1,270.50	\$2,101.37	\$215.60	\$17,787	\$29,419	\$3,018	\$50,225	\$3,587.47
71	G10 Band 3	7	1	3	\$1,270.50	\$3,810.20	\$255.46	\$3,812	\$11,431	\$766	\$16,008	\$5,336.16
S80	G10 Band 3	8	0	233	\$1,270.50	\$2,143.01	\$257.66	\$296,027	\$499,321	\$60,034	\$855,382	\$3,671.17
81	G10 Band 3	8	1	213	\$1,270.50	\$3,851.84	\$636.94	\$270,617	\$820,442	\$135,668	\$1,226,726	\$5,759.28
S90	G10 Band 3	9	0	43	\$1,270.50	\$2,143.01	\$257.66	\$54,632	\$92,149	\$11,079	\$157,860	\$3,671.17
91	G10 Band 3	9	1	133	\$1,270.50	\$3,851.84	\$636.94	\$168,977	\$512,295	\$84,713	\$765,984	\$5,759.28
100	G10 Band 3	10	1	82	\$1,270.50	\$4,493.89	\$3,927.24	\$104,181	\$368,499	\$322,033	\$794,714	\$9,691.63
	tot Band 3			2,461		• ,		\$2,013,554	\$4,704,494	\$964,065	\$7,682,113	\$3,121.54
31	G10 Band 4	3	1	1	\$183.14	\$384.71	\$275.00	\$183	\$385	\$275	\$843	\$842.85
41	G10 Band 4	4	1	3	\$178.21	\$2,327.46	\$260.17	\$535	\$6,982	\$780	\$8,298	\$2,765.84
61	G10 Band 4	6	1	8	\$1,270.50	\$3,810.20	\$255.46	\$10,164	\$30,482	\$2,044	\$42,689	\$5,336.16
S80	G10 Band 4	8	0	4	\$1,270.50	\$2,143.01	\$257.66	\$5,082	\$8,572	\$1,031	\$14,685	\$3,671.17
81	G10 Band 4	8	1	4 16	\$1,270.50	\$3,851.84	\$636.94	\$20,328	\$61,629	\$10,191	\$92,148	\$5,759.28
S90	G10 Band 4	9	0	3	\$1,270.50	\$2,143.01	\$257.66	\$3,812	\$6,429	\$773	\$11,014	\$3,671.17
91	G10 Band 4	9	1	31	\$1,270.50	\$3,851.84	\$636.94	\$39,386	\$119,407	\$19,745	\$178,538	\$5,759.28
			0									
100	G10 Band 4 tot Band 4	10	0	48 114	\$1,270.50	\$4,493.89	\$3,927.24	\$60,984 \$140,473	\$215,707 \$449,593	\$188,507 \$223,346	\$465,198 \$813,412	\$9,691.63 \$7,135.19
				114				J140.4/J	D449 D93	ふくくう うせわ	ad1341/	37.155.19

61         62         61         62         61         62         61         62         61         62         61         62         61         62         61         62         62         61         62         63         61         62         63<	Code	Rate	Meter Size	Above Std	Sample Size	avg labor \$/meter	avg \$/meter	avg \$/regulator	tot lab	tot met	tot reg	tot cost	Average Meter & Regulator CAPEX/ Customer
OND         OND Band S         10         1         24         51,700,9         54,463         312724         330,462         31771         57,700         522,556         180,154         122,256         180,154         122,256         180,154         122,256         180,154         122,256         180,154         122,256         180,154         122,256         180,154         122,256         180,154         122,256         180,154         122,157	81	G10 Band 5	8	1	1	\$1,270.50	\$3,851.84	\$636.94	\$1,271	\$3,852	\$637	\$5,759	\$5,759.28
Differed S         28	91	G10 Band 5	9	1	4	\$1,270.50	\$3,851.84	\$636.94	\$5,082	\$15,407	\$2,548	\$23,037	\$5,759.28
55         CAC         6         1         1         51270.90         52350.20         52350.40         51271         53.010         5255         55.356         55.356         55.356         55.356         55.356         55.356         55.356         55.357         55.357         55.356         55.357         55.357         55.356         55.356         55.356         55.356         55.356         55.356         55.357         55.377         55.377         55.377         55.377         55.375         55	100	G10 Band 5	10	1	24	\$1,270.50	\$4,493.89	\$3,927.24	\$30,492	\$107,853	\$94,254	\$232,599	\$9,691.63
BB         CAC         B         ID         11,270,50         12,271,50         12,270,50         12,271,50         12,270,50         12,271,50         12,270,50         12,270,50         12,271,50         12,270,50         12,271,50         12,270,50         12,271,50 <th< td=""><td></td><td>tot Band 5</td><td></td><td></td><td>29</td><td></td><td></td><td></td><td>\$36,845</td><td>\$127,113</td><td>\$97,438</td><td>\$261,396</td><td>\$9,013.64</td></th<>		tot Band 5			29				\$36,845	\$127,113	\$97,438	\$261,396	\$9,013.64
H         QuC         B         I         3         377.76         38.787.49         38.787.4         38.787.4         38.787.4         38.777.8         38.777.8         38.777.8         38.777.8         38.777.8         38.777.8         38.777.8         38.777.8         38.777.8         38.777.8         38.777.8         38.777.8         38.777.8         38.777.8         38.777.8         38.777	61	GAC	6	1	1	\$1,270.50	\$3,810.20	\$255.46	\$1,271	\$3,810	\$255	\$5,336	\$5,336.16
940C         8         91         9         91         940C         1         4         91         91         940C         91         9         92,443.95         93,927.4         93,165         91,157         93,177         93,777         92,777         93,777         92,777         92,777         93,777         92,777         92,777         93,777         92,777         92,777         93,777         93,777         93,777         93,777         93,777         93,777         93,777         93,777         93,777         93,777         93,777         93,777         93,777         93,777         93,777         93,777         93,777         93,773         93,77	S80	GAC	8	0	1	\$1,270.50	\$2,143.01	\$257.66	\$1,271	\$2,143	\$258	\$3,671	\$3,671.17
96 GAC         9         -         311-55         S55,44         315,13         S55,02         37,227,85           S10         NOV         1         0         13         S146,61         S75,57         S16,31         S10,05         S962         S203         S31,25         S20,33         S31,25         S20,33         S31,25         S20,33         S31,25         S20,33         S31,25         S20,33         S31,25         S20,33         S31,22         S31,30         S31,22         S33,30         S31,22         S33,31,20         S33,30         S31,22         S33,31,20         S33,30         S31,27         S31,27         S31,27         S33,22         S33,31,20         S33,30         S31,27         S31,27         S31,27         S31,27 <td>81</td> <td>GAC</td> <td>8</td> <td>1</td> <td>3</td> <td>\$1,270.50</td> <td>\$3,851.84</td> <td>\$636.94</td> <td></td> <td>\$11,556</td> <td>\$1,911</td> <td>\$17,278</td> <td>\$5,759.28</td>	81	GAC	8	1	3	\$1,270.50	\$3,851.84	\$636.94		\$11,556	\$1,911	\$17,278	\$5,759.28
Sho         NGV         1         0         13         5146.51         575.7         516.31         5100.5         5902         5238         53.125         524.23           00         NGV         3         0         2         5188         7         5706         337         5706         337         5706         3349.44           01         NGV         4         1         0         5177         5766         337         510.36         5349.45           01         NGV         4         1         0         5177.16         532.724         3255.46         522.22         577.655         55.767.65         517.27.55         55.554.6           01         NGV         7         1         5         517.70.50         53.31.62.0         33.46.2.0         32.62.64         54.6.279         51.4.2.01         51.22.72.2         55.554.6         55.554.6           01         0         1         27         57.77.55         51.6.31         51.27.7         55.6.4.6         55.379.2         51.23.59.2         55.379.2         51.23.59.2         55.379.2         51.23.59.2         55.379.2         51.23.59.2         55.379.2         51.23.59.2         55.379.6         51.22.72.2         55.356.6 <td>100</td> <td>GAC</td> <td>10</td> <td>1</td> <td>4</td> <td>\$1,270.50</td> <td>\$4,493.89</td> <td>\$3,927.24</td> <td>\$5,082</td> <td>\$17,976</td> <td>\$15,709</td> <td>\$38,767</td> <td>\$9,691.63</td>	100	GAC	10	1	4	\$1,270.50	\$4,493.89	\$3,927.24	\$5,082	\$17,976	\$15,709	\$38,767	\$9,691.63
B0         NCV         B         C         S186.27         S18.27         S12.27         S2.26         S2.77         S2.86         S7.70         S7.00         S3.92.2         S3.93.90         S2.725.8.4           10         NCV         0         1         2.0         S3.91.00.2         S2.64.6         S2.92.2         S3.66.9         S3.97.0         S3.92.1         S3.55.8.6         S3.97.0         S3.95.8.6         S3.97.0         S3.95.8.6         S3.97.0         S3.97.0 <td< td=""><td></td><td>tot GAC</td><td></td><td></td><td>9</td><td></td><td></td><td></td><td>\$11,435</td><td>\$35,484</td><td>\$18,133</td><td>\$65,052</td><td>\$7,227.96</td></td<>		tot GAC			9				\$11,435	\$35,484	\$18,133	\$65,052	\$7,227.96
90         NOV         3         0         2         8186.67         9142.86         91.31         9277         92.86         537         97.00         93.404.44           10         NOV         4         1         12         \$173.21         \$22.37.46         \$250.07         \$21.39         \$27.780         \$31.32         \$33.31.00         \$27.765.84           11         10         1         12         \$17.72.1         \$23.27.46         \$250.07         \$33.31         \$17.32         \$13.31         \$17.22         \$13.31.31         \$17.27.85         \$17.72.85         \$17.72.85         \$17.72.85         \$17.72.85         \$17.72.85         \$17.72.85         \$17.72.85         \$17.72.85         \$17.72.75         \$17.85.75         \$14.370         \$14.877         \$14.870         \$17.57.57         \$12.31         \$37.77         \$24.95         \$37.75         \$17.85.75         \$12.31         \$37.97         \$24.95         \$37.75         \$17.85.75         \$17.85.75         \$12.31         \$37.97         \$24.95         \$31.13         \$25.95.97         \$12.31         \$37.97         \$24.95         \$31.13         \$37.75         \$12.31         \$37.97         \$24.95         \$31.13         \$37.97         \$24.95         \$31.13         \$37.97         \$24.95<	S10	NGV	1	0	13	\$146.51	\$75.57	\$18.31	\$1,905	\$982	\$238	\$3,125	\$240.39
H         NoV         H         I <thi< th="">         I         I         I</thi<>	30	NGV	3	0									
bit         NOV         6         1         5         STR21         S2,327.46         S280.17         S981         S1.637         S1.301         S1.328         S2,755.46           NGV         7         1         5         S1.270.60         S3.810.20         S226.46         S20.22         S7.857.61         S1.277.8         S5.356.66           NGV         8         1         27.00         S3.810.20         S226.46         S4.823         S1.801.01         S1.277.8         S5.816.85         S5.757.8         S1.277.8         S5.816.85         S5.81.81         S5.82.81         S5.957.84         S50.899         S1.3.078         S1.3.078         S1.91.951         S5.91.85         S5.91.85         S50.899         S1.3.078         S1.3.078         S1.91.951         S5.91.85         S50.899         S1.3.078         S1.3.078         S1.91.957         S1.92.957	31	NGV	3	1	23	\$183.14	\$384.71	\$275.00	\$4,212	\$8,848	\$6,325	\$19,385	\$842.85
eff         NOV         6         1         23         51,270.50         33,810.20         \$256,36         527,235         55,376         51,27,72         \$56,316         51,27,72         \$55,356         55,356           81         NGV         8         1         38         \$12,750         \$3,811.41         \$50,356.46         \$80,353         \$16,370         \$12,272         \$52,356.46         \$57,572.46         \$44,355.00         \$57,572.46         \$44,355.00         \$57,572.46         \$44,355.00         \$57,572.46         \$44,355.00         \$57,572.46         \$44,355.00         \$57,677.46         \$44,355.00         \$50,471         \$57,677.46         \$44,355.00         \$50,471         \$57,677.46         \$44,355.00         \$50,471         \$57,677.46         \$44,355.00         \$50,471         \$57,677.46         \$44,355.00         \$50,671         \$52,420         \$50,477         \$50,471         \$51,470         \$50,477         \$50,477         \$50,477         \$50,477         \$50,477         \$50,477         \$50,477         \$50,471         \$51,476         \$50,501         \$51,692         \$50,517         \$51,483         \$52,470         \$50,477         \$50,483         \$50,477         \$50,483         \$50,477         \$50,483         \$50,477         \$50,483         \$50,477         \$50,483<	41	NGV	4	1	12	\$178.21	\$2,327.46	\$260.17	\$2,139	\$27,930	\$3,122	\$33,190	\$2,765.84
Print         NOV         7         1         5         51/27/20         S3.810/20         S2.85.46         S3.827         S1.80/051         S1.277         S2.86.81         S5.387.67           91         NSV         9         1         21         \$1,270.50         S3.851.44         S63.694         S62.681         S80.883         S13.276         S7.574.55         S4.43.385.00           91         NSV         10         1         21         \$1,270.50         S3.851.44         S63.694         S62.681         S80.823         S2.700         S7.574.55         S4.43.385.00           NOV         10         4.40         \$1,270.50         S4.483.89         S3.927.24         S80.443         S20.6719         \$180.653         S4.46.71         S4.46.71 <td>51</td> <td>NGV</td> <td>5</td> <td>1</td> <td>5</td> <td>\$178.21</td> <td>\$2,327.46</td> <td>\$260.17</td> <td>\$891</td> <td>\$11,637</td> <td>\$1,301</td> <td>\$13,829</td> <td>\$2,765.84</td>	51	NGV	5	1	5	\$178.21	\$2,327.46	\$260.17	\$891	\$11,637	\$1,301	\$13,829	\$2,765.84
eff         NOV         8         1         38         51/270-50         S3.851.44         S636.94         S4.62.79         S1.46,370         S2.42.04         S210.045         S5.759.28           MOV         10         1         177         S60,022.00         S380,133.00         S3.100.04         S5.100.254         S52.700         S7.637.264         S50.645.3376         S7.00.254         S50.662.00         S7.637.264         S50.642.251         S52.700         S7.637.264         S50.61.83         S50.622.00         S7.637.264         S50.61.83         S50.622.00         S7.637.264         S50.61.83         S50.622.00         S7.637.264         S50.61.83         S50.622.00         S7.637.264         S50.61.83         S50.627         S7.637.264         S50.61.83         S50.67.83         S50.67.83         S50.67.83         S50.67.83         S50.67.83         S50.67.83         S50	61	NGV	6	1	23	\$1,270.50	\$3,810.20	\$255.46	\$29,222	\$87,635	\$5,876	\$122,732	\$5,336.16
91 Mov         Nov         9         1         211         \$1,705.00         \$3,87.84.4         \$57.63.1         \$50.881         \$13.376         \$120.345         \$5,759.2         \$120.345         \$5,759.2         \$120.345         \$5,759.2         \$120.345         \$5,759.2         \$120.345         \$5,759.2         \$120.345         \$5,759.2         \$120.345         \$5,759.2         \$120.345         \$5,759.2         \$120.345         \$5,759.2         \$120.345         \$5,759.2         \$120.345         \$146,51         \$5,759.2         \$120.345         \$146,51         \$5,759.2         \$120.345         \$146,51         \$5,759.2         \$120.345         \$146,51         \$5,759.2         \$120.345         \$146,51         \$5,759.2         \$120.345         \$16,01         \$5,017         \$24,02         \$11         \$5,047         \$340.85         \$1,021.45         \$5,047         \$340.85         \$1,021.45         \$5,047         \$340.85         \$3,027         \$3,028         \$1,021         \$5,047         \$340.85         \$3,027         \$3,028         \$3,160         \$5,037         \$5,037         \$3,047         \$340.85         \$3,0376         \$5,047         \$3,047         \$3,047         \$340.85         \$3,0376         \$3,047         \$3,047         \$3,047         \$3,047         \$3,047         \$3,047	71	NGV	7	1	5	\$1,270.50	\$3,810.20	\$255.46	\$6,353	\$19,051	\$1,277	\$26,681	\$5,336.16
99         NOV         10         1         17         580.002.00         530.0130.00         53.002.64         54.03.25         582.00         57.057.94         544.385.00           tx NOV         1         4         51.027.05         54.08.16         57.057.24         584.08.15         57.057.27         582.00.084         57.057.27         582.00.084         57.057.27         582.01.08         58.242.01         58.24	81	NGV	8	1	38	\$1,270.50	\$3,851.84	\$636.94	\$48,279	\$146,370	\$24,204	\$218,853	\$5,759.28
Nov         10         1         46         \$1,270.50         \$4,493.89         \$3,227.24         \$280,473         \$220,719         \$100.683         \$44,87.19         \$41,072.19           1         1         0         1         5140.51         \$77.57         \$18.31         \$147.7         \$76         \$18         \$5.42.79         \$41,072.19           30         GEN         3         0         17         \$146.51         \$75.57         \$18.31         \$3.207         \$2.429         \$3.11         \$5.47.79         \$44.98.49           30         GEN         3         1         6         \$156.14         \$24.027         \$2.09         \$3.11         \$5.47.7         \$349.84           540         GEN         4         0         54         \$77.21         \$2.67.64         \$3.50.07         \$5.00         \$5.984         \$3.33.6         \$3.01.98         \$3.27.65.44         \$3.200.17         \$1.604         \$5.01.94         \$2.42.83         \$3.84.83         \$2.62.97         \$3.31.68         \$3.77.41         \$4.44.84         \$3.57.74         \$3.200.17         \$1.604         \$5.01.97         \$3.27.65.44         \$3.200.17         \$1.604         \$5.20.91         \$3.53.86         \$3.2.76.54         \$3.2.70.54         \$3.2.70.54	91	NGV	9	1	21	\$1,270.50	\$3,851.84	\$636.94	\$26,681	\$80,889	\$13,376	\$120,945	\$5,759.28
tot NGV         205         51.200.064         \$7.05.827         \$289.108         \$8.542.799         \$41,872.19           S10         GEN         1         0         1         \$140.51         \$77.57         \$18.31         \$3.207         \$2.429         \$311         \$5.427.799         \$41,872.19           S10         GEN         3         0         17         \$188.67         \$12.265         \$18.31         \$3.207         \$2.429         \$311         \$5.427.799         \$44.87         \$349.84           S40         GEN         3         0         6         \$18.81.7         \$27.560         \$3.0624         \$35.001         \$11,642         \$56.967         \$14.488           S40         GEN         5         0         83.1782.1         \$2.237.46         \$200.17         \$1.640         \$20.947         \$2.241         \$2.47.85.4           S40         GEN         6         1.101         \$1.77.05.0         \$3.101.20         \$28.548         \$1.426         \$3.85.802         \$3.89.802         \$5.38.47.7           S40         GEN         6         1.120.10         \$3.217.05.0         \$2.101.37         \$21.50.0         \$1.77.542         \$2.80.57.7         \$2.83.89.2         \$3.89.89.2         \$5.38.47.7	99	NGV	10	1	17	\$60,092.00	\$380,193.00	\$3,100.00	\$1,021,564	\$6,463,281	\$52,700	\$7,537,545	\$443,385.00
GEN         1         0         1         St46.51         S75.57         St8.31         S147         S76         S18         S240         S240.39           30         GEN         3         1         6         St8.14         S347         S127500         S1.099         S2.208         S1.11         S5.977         S442.85           S40         GEN         4         0         54         S176.21         S49.471         S2.760         S1.099         S2.208         S1.650         S5.057         S442.85           S41         GEN         4         1         23         S1778.21         S49.471         S2.160         S1.469         S5.158         S1.725         S3.338         S1.041.85         S1.725         S3.338         S1.041.86         S2.041.7         S2.041.8         S2.041.7         S2.041.7	100		10	1		\$1,270.50	\$4,493.89	\$3,927.24					
30         GEN         3         0         17         \$18,87         \$14,28         \$13,14         \$3,2479         \$3,11         \$5,847         \$346,84           31         GEN         3         1         6         \$13,14         \$32,470         \$2,2499         \$3,114         \$5,847         \$346,84           S40         GEN         4         0         54         \$178,21         \$2,427,40         \$2,00,17         \$4,009         \$53,532         \$5,844         \$56,367         \$1,42,8           S50         GEN         5         0         8         \$178,21         \$2,227,46         \$2,00,17         \$1,604         \$2,00,77         \$2,3,80         \$2,3,836         \$5,3,814         \$2,758,44           S60         GEN         6         1         01         \$1,270,50         \$2,101,37         \$21,60         \$1,428         \$34,810         \$2,360,770         \$3,774         \$44,846         \$3,51,12         \$3,53,616           S70         GEN         7         1         9         \$1,270,50         \$2,11,37         \$2,256,46         \$11,455         \$34,222         \$3,60,70         \$2,410         \$3,671,17         \$3,671,47           S80         GEN         8         0		tot NGV			205				\$1,200,064	\$7,053,627	\$289,108	\$8,542,799	\$41,672.19
30         GEN         3         0         17         \$18,87         \$14,26         \$13,14         \$3,2479         \$3,11         \$5,947         \$346,84           31         GEN         4         0         544         \$178,21         \$275,00         \$1,069         \$2,306         \$1,650         \$5,677         \$342,455           540         GEN         4         1         23         \$178,21         \$2,327,46         \$2,00,17         \$4,069         \$53,532         \$5,864         \$53,814         \$2,755,44           550         GEN         5         0         8         \$178,21         \$2,227,46         \$2,00,17         \$1,604         \$20,017         \$2,340         \$2,755,44         \$3,813,02         \$2,83,74         \$44,846         \$3,557,47           6         6         0         12,44         \$1,270,50         \$2,101,37         \$22,364         \$14,270         \$3,81,20         \$2,83,74         \$44,846         \$3,567,47           570         GEN         7         1         9         \$1,270,50         \$2,141,301         \$2,327,46         \$34,222         \$2,32,48         \$3,40,21         \$2,346,43         \$3,671,17         \$3,567,47           580         GEN         8	S10	GEN	1	0	1	\$146.51	\$75.57	\$18.31	\$147	\$76	\$18	\$240	\$240.39
S40         GEN         4         0         54         S72.1         S64.817         S21.800         S92.42         S35.001         S11.642         S52.87         S14.01.98           S50         GEN         5         0         8         S178.21         S64.817         S22.875.64         S50.984         S53.864         S53.865         S17.85         S53.865         S17.85         S53.865         S53.867         S53.867.86         S53.867         S53.867.87         S53.867.87         S53.867.87         S53.867.87         S53.867.87         S53.867.87         S53.867.87         S53.867.86         S12.78.88         S43.87.77         S1.867.87         S1.867.86         S12.78.88         S44.710         S1.869.87.87         S53.867.87         S53.867.87         S53.867.87         S53.87.87         S53.87.87         S53.87.87.87.87         S53.87.87.87         S53.87.87         S53.87.87.87         S53.87.87         S53.	30	GEN	3	0	17	\$188.67	\$142.86	\$18.31	\$3,207	\$2,429	\$311	\$5,947	\$349.84
H         GEN         4         1         2.3         STR21         S2.37.46         S20.07.7         S4.099         S3.352         S5.94         S8.01.41         S2.765.48           S50         GEN         5         0         8         S178.21         S2.337.46         S20.047         S1.604         S2.09.47         S2.411         S24.803         S2.765.44           S60         GEN         6         0         124         S1.270.50         S2.101.37         S215.60         S1.674.4         S20.947         S2.411         S24.803         S2.765.4         S3.852         S5.38.16         S5.38.16         S5.38.16         S5.774         S5.800         S2.5800         S2.5800         S5.00         S5.00         S5.38.12         S3.38.67.47           S70         GEN         7         1         9         S1.270.50         S2.110.37         S2.766         S11.455         S3.4.222         S2.299         S40.025         S5.38.16         S3.851.44         S66.64         S12.78.50         S2.11.43         S3.67.47         S5.00         S2.170.50         S2.170	31	GEN	3	1	6	\$183.14	\$384.71	\$275.00	\$1,099	\$2,308	\$1,650	\$5,057	\$842.85
S50         GEN         5         0         8         9178-21         \$5464.17         \$215.60         \$1.426         \$516.56         \$1.725         \$3.336         \$1.041.38           S60         GEN         6         0         124         \$1270.50         \$2.101.37         \$215.60         \$167.542         \$20.947         \$2.41         \$24.484         \$35.577.452           S70         GEN         6         1         101         \$1.270.50         \$2.101.37         \$215.60         \$3.69.430         \$25.902         \$538.927         \$538.957           S70         GEN         7         1         9         \$1.270.50         \$2.101.37         \$215.60         \$3.84.22         \$2.29         \$44.025         \$5.38.747           S80         GEN         8         1         120         \$2.170.50         \$2.14.01         \$257.66         \$17.278         \$2.291.49         \$3.60.11         \$49.025         \$5.38.71.17           S81         GEN         9         1         52         \$5.61.2         \$5.89.64         \$10.24.60         \$462.21         \$7.64.32         \$691.113         \$5.759.28           S91         GEN         9         1         52.270.50         \$2.3.81.81.4         \$58.69.4 </td <td>S40</td> <td>GEN</td> <td>4</td> <td>0</td> <td>54</td> <td>\$178.21</td> <td>\$648.17</td> <td>\$215.60</td> <td>\$9,624</td> <td>\$35,001</td> <td>\$11,642</td> <td>\$56,267</td> <td>\$1,041.98</td>	S40	GEN	4	0	54	\$178.21	\$648.17	\$215.60	\$9,624	\$35,001	\$11,642	\$56,267	\$1,041.98
41         GEN         5         1         9         \$178.21         \$2.327.46         \$2.09.17         \$1.604         \$2.09.47         \$2.241         \$2.483         \$2.2765.44           61         GEN         6         1         101         \$1.270.50         \$2.017.57         \$2.327.65.44         \$384.830         \$225.802         \$23.89.92         \$53.89.92         \$53.89.92         \$53.89.92         \$53.89.92         \$53.89.92         \$53.89.77           71         GEN         7         1         9         \$1.270.50         \$2.017.01         \$255.46         \$11.435         \$34.222         \$2.299         \$48.025         \$53.38.16           81         GEN         8         0         136         \$1.270.50         \$2.143.01         \$257.66         \$12.740         \$46.221         \$76.432         \$69.113         \$57.92.8           800         GEN         9         0         1.7 <t>\$1.270.50         \$2.143.01         \$257.66         \$21.999         \$36.431         \$4.480         \$36.771.7         \$2.999.442         \$57.92.8           800         GEN         9         0         1.23         \$1.270.50         \$2.143.01         \$22.766         \$23.121         \$23.99.42         \$30.326         \$</t>	41	GEN	4	1	23	\$178.21	\$2,327.46	\$260.17	\$4,099	\$53,532	\$5,984	\$63,614	\$2,765.84
S60         GEN         6         0         124         \$1,270.50         \$2,215.00         \$51,57.42         \$200.570         \$26,734         \$444,846         \$5,336,162           GEN         6         101         \$1,270.50         \$2,101.37         \$21,560         \$38,830         \$25,502         \$533,8162         \$523,816           S70         GEN         7         1         9         \$1,270.50         \$2,11.37         \$22,15.60         \$8,894         \$14,110         \$1,098         \$26,112         \$3,387,17           GEN         8         0         136         \$1,270.50         \$2,143.01         \$22,57.66         \$11,435         \$3,42,92         \$2,35,041         \$4,99,279         \$3,67,117           S10         GEN         9         0         17         \$1,270.50         \$2,143.01         \$22,766         \$1,270.50         \$3,451.84         \$3,62,494         \$3,62,41         \$3,380         \$62,410         \$3,67,17           S10         GEN         9         1         52         \$1,770.50         \$2,143.01         \$22,766         \$2,109         \$3,64,13         \$3,67,17           S10         GEN         9         1         \$2,295,48         \$566,50         \$2,076.65         \$2,109.	S50	GEN	5	0	8	\$178.21	\$648.17	\$215.60	\$1,426	\$5,185	\$1,725	\$8,336	\$1,041.98
6f         6f         1         101         \$1,270.50         \$3,310.20         \$25,64         \$12,8.21         \$3,84,800         \$26,802         \$53,86.6         \$53,36.6           71         GEN         7         0         9         \$1,270.50         \$2,101.37         \$25,560         \$8,894         \$14,710         \$1,509         \$22,112         \$3,587.10           800         GEN         8         0         136         \$1,270.50         \$3,810.20         \$255,46         \$11,435         \$231,449         \$350,41         \$499,279         \$3,871.17           810         GEN         8         0         17         \$1,270.50         \$3,814.4         \$65,646         \$512,460         \$46,221         \$7,64.32         \$690,11         \$3,571.17           810         GEN         9         0         17         \$1,270.50         \$3,814.2         \$52,646         \$21,599         \$36,431         \$4,330         \$62,410         \$3,571.17           810         GEN         9         1         52         \$1,270.50         \$3,814.2         \$29,622         \$103,399         \$303,326         \$22,907         \$9,691.63           910         G30 Tran         5         1         1         \$1,270.50 <td>41</td> <td>GEN</td> <td>5</td> <td>1</td> <td>9</td> <td>\$178.21</td> <td>\$2,327.46</td> <td>\$260.17</td> <td>\$1,604</td> <td>\$20,947</td> <td>\$2,341</td> <td>\$24,893</td> <td>\$2,765.84</td>	41	GEN	5	1	9	\$178.21	\$2,327.46	\$260.17	\$1,604	\$20,947	\$2,341	\$24,893	\$2,765.84
S70         GEN         7         0         7         1         9         \$1,270.50         \$2,101.37         \$22,5160         \$8,884         \$1,4710         \$1,699         \$22,112         \$3,687.47           GEN         7         1         9         \$1,270.50         \$2,143.01         \$255.46         \$11,455         \$34,292         \$2,299         \$48,025         \$53,361.61           S80         GEN         8         1         120         \$1,270.50         \$2,143.01         \$257.66         \$21,599         \$36,431         \$4,380         \$66,71.17           91         GEN         9         1         52         \$1,270.50         \$2,143.01         \$257.66         \$21,599         \$36,431         \$4,380         \$62,71.07         \$59,936         \$1,270.50         \$51,143.01         \$227.66         \$200.296         \$33,121         \$229,96,482         \$5,759.28           100         GEN         9         1         52         \$1,270.50         \$2,101.37         \$27.16         \$2,27         \$103         \$2,163.31         \$1,299,6,483         \$4,238.31           101         GEN         707         \$1,270.50         \$3,810.20         \$2,257.66         \$2,176.5         \$3,587         \$3,587.47         \$3	S60	GEN	6	0	124	\$1,270.50	\$2,101.37	\$215.60	\$157,542	\$260,570	\$26,734	\$444,846	\$3,587.47
71         GEN         7         1         9         \$1,270.50         \$3,810.20         \$255.46         \$11,435         \$34,292         \$2,299         \$48,025         \$5,336.16           6EN         8         0         120         \$1,270.50         \$2,143.01         \$257.66         \$172,788         \$291,440         \$35.041         \$499.279         \$3,71,77           890         GEN         9         0         17         \$1,270.50         \$2,143.01         \$257.66         \$21,599         \$36,431         \$4,380         \$62,410         \$3,5759.28           910         GEN         9         1         52         \$1,270.50         \$3,814.45         \$66,064         \$20,0296         \$33,121         \$299.648         \$5,759.28           910         GEN         9         1         123         \$1,770.50         \$3,814.45         \$260.47         \$178         \$2,327         \$260         \$2,766         \$2,765.84           630 Tran         5         1         1         \$1,720.50         \$2,810.17         \$178         \$2,327         \$260         \$2,765         \$4,338.11           711         G30 Tran         6         0         1         \$1,720.50         \$2,810.10         \$2,327	61	GEN	6	1	101	\$1,270.50	\$3,810.20	\$255.46	\$128,321	\$384,830	\$25,802	\$538,952	\$5,336.16
S80         GEN         8         0         136         \$1,270.50         \$2,143.01         \$267.66         \$172.788         \$201,499         \$36,041         \$490.279         \$3,671.7           81         GEN         8         1         120         \$1,270.50         \$3,851.84         \$563.643         \$52,460         \$462,221         \$76,432         \$569.113         \$5,759.28           91         GEN         9         0         17         \$1,270.50         \$3,851.84         \$265.94         \$560.66         \$200.296         \$33,121         \$299.482         \$5,759.28           910         GEN         1         1         \$2,770.50         \$3,81.84         \$266.94         \$500.66         \$200.296         \$33,121         \$299.482         \$5,759.28           910         GEN         1         1         \$2,770.50         \$2,171.37         \$295.06         \$1,907.636         \$319.317         \$2,296.483         \$4,238.31           911         G30 Tran         6         0         1         \$1,270.50         \$2,810.27         \$2,101         \$2,16         \$3,587.47           71         G30 Tran         7         1         \$1,270.50         \$2,810.20         \$2,810.20         \$3,810.20         \$2,81	S70	GEN	7	0	7	\$1,270.50	\$2,101.37	\$215.60	\$8,894	\$14,710	\$1,509	\$25,112	\$3,587.47
B1         GEN         8         1         120         \$1,270.50         \$3,81.84         \$56,694         \$152,460         \$4,62,221         \$76,432         \$60,1113         \$57,59.28           S90         GEN         9         0         177         \$1,270.50         \$2,143.01         \$257.66         \$21,599         \$36,431         \$4,380         \$50,110         \$3,571.17           GEN         9         1         52         \$1,270.50         \$3,851.84         \$636.94         \$50,666         \$220,250         \$31,3121         \$229,483         \$43.383           100         GEN         10         1         23         \$1,270.50         \$4,493.89         \$3,927.24         \$29,222         \$103,359         \$30,326         \$22,907         \$3,681.63           100         5         1         1         \$1,270.50         \$2,327.46         \$26,017         \$178         \$2,327         \$260         \$2,766         \$2,765.64         \$5,759.28           51         G30 Tran         7         1         1         \$1,270.50         \$3,810.20         \$255.46         \$1,271         \$3,810         \$255         \$5,336         \$5,759.28         \$3,97.24         \$3,01         \$257.65         \$5,759.28         \$3,579.28<	71	GEN	7	1	9	\$1,270.50	\$3,810.20	\$255.46	\$11,435	\$34,292	\$2,299	\$48,025	\$5,336.16
S90         GEN         9         0         17         \$127050         \$21,4301         \$227.66         \$21,599         \$36,431         \$4,380         \$62,410         \$3,671.17           91         GEN         9         1         52         \$1,270.50         \$3,851.84         \$636.94         \$60,666         \$200.296         \$33,121         \$299.482         \$5,759.28           10         1         2.3         \$1,270.50         \$3,4433.84         \$636.94         \$60,666         \$200.296         \$33,121         \$299.482         \$5,759.28           10         1         2.3         \$1,270.50         \$2,327.46         \$209.226         \$1007.636         \$319.37         \$2,996.483         \$4,238.31           51         G30 Tran         6         0         1         \$1,270.50         \$2,101.37         \$2,111         \$2,101         \$216         \$3,587.47           530         G30 Tran         8         1         1         \$1,270.50         \$2,864.4         \$3,812         \$1,570.56         \$1,911         \$1,277.8         \$5,759.28           630 Tran         8         1         1         \$1,270.50         \$3,81.84         \$636.94         \$3,812         \$1,51.56         \$1,911         \$1,778 <td>S80</td> <td>GEN</td> <td>8</td> <td>0</td> <td>136</td> <td>\$1,270.50</td> <td>\$2,143.01</td> <td>\$257.66</td> <td>\$172,788</td> <td>\$291,449</td> <td>\$35,041</td> <td>\$499,279</td> <td>\$3,671.17</td>	S80	GEN	8	0	136	\$1,270.50	\$2,143.01	\$257.66	\$172,788	\$291,449	\$35,041	\$499,279	\$3,671.17
91         GEN         9         1         52         \$1,270.50         \$3,451.84         \$66.06         \$200,226         \$33,121         \$29,462         \$5,759.28           100         10         1         23         \$1,270.50         \$3,493.99         \$3,927.24         \$29,222         \$103,359         \$90.326         \$222,907         \$3,691.63           100         10         1         23         \$1,270.50         \$3,493.99         \$2,927.22         \$103,359         \$90.326         \$222,907         \$3,691.63           100         G30 Tran         5         1         1         \$178,21         \$2,237.46         \$260.17         \$178         \$2,327         \$260         \$2,766         \$2,765.84           560         G30 Tran         6         0         1         \$1,270.50         \$3,810.20         \$225.546         \$1,271         \$3,810         \$225.5         \$5,336         \$5,759.28         \$5,336.16           91         G30 Tran         9         1         3         \$1,270.50         \$3,818.44         \$686.94         \$1,271         \$3,810         \$225.5         \$5,336         \$5,759.28         \$5,759.28           91         G30 Tran         9         1         3         \$1,27				1	120	\$1,270.50	\$3,851.84		\$152,460	\$462,221		\$691,113	\$5,759.28
000         EEN         10         1         23         \$1,270.50         \$4,433.89         \$3,927.24         \$29.222         \$103,359         \$90,326         \$222,907         \$9,634           100         td GEN         70         \$760,530         \$1,907,636         \$319,317         \$2,996,483         \$4,238.31           51         G30 Tran         5         1         1         \$178,21         \$2,327,46         \$260,17         \$178         \$2,327         \$260         \$2,766         \$2,765,84           560         G30 Tran         6         0         1         \$1,270,50         \$2,101,37         \$215,60         \$1,271         \$3,810         \$255         \$5,536         \$5,759         \$5,759,28           630 Tran         8         1         1         \$1,270,50         \$3,861,84         \$636,94         \$1,271         \$3,850         \$6,670,775         \$4,43,385.00         \$6,670,775         \$4,43,385.00         \$6,670,775         \$4,43,385.00         \$6,670,775         \$4,43,385.00         \$6,750,285         \$4,65,60         \$6,670,775         \$4,43,385.00         \$6,701,775         \$4,43,385.00         \$6,701,775         \$4,43,385.00         \$6,771,480         \$59,92.22         \$6,691,675         \$54,433,385.00         \$6,781,775 <td< td=""><td></td><td></td><td></td><td>0</td><td></td><td>\$1,270.50</td><td>\$2,143.01</td><td></td><td></td><td>\$36,431</td><td>\$4,380</td><td>\$62,410</td><td></td></td<>				0		\$1,270.50	\$2,143.01			\$36,431	\$4,380	\$62,410	
Int GEN         707         Strep 530         \$1,907,636         \$319,317         \$2,996,483         \$4,238.31           51         G30 Tran         5         1         \$178,21         \$2,327,46         \$260.17         \$178         \$2,327         \$260         \$2,766         \$2,765.84           560         G30 Tran         6         0         1         \$1,270.50         \$2,101.37         \$215.60         \$1,271         \$3,810         \$2255         \$5,336         \$5,336         \$5,336.16           630 Tran         7         1         1         \$1,270.50         \$3,810.20         \$25.46         \$1,271         \$3,852         \$637         \$5,759.28         \$5,759.28         \$5,759.28         \$1,911         \$17,276         \$5,759.28         \$91         G30 Tran         9         1<3				1									
51         G30 Tran         5         1         1         \$178.21         \$2,327.46         \$260.17         \$178         \$2,327         \$260         \$2,766         \$2,765.84           \$60         G30 Tran         6         0         1         \$1,70.50         \$2,101.37         \$215.60         \$1,271         \$2,101         \$216         \$3,857         \$3,857         \$3,857         \$3,857         \$3,857         \$3,857         \$3,857         \$3,857         \$3,857         \$3,857         \$3,857         \$3,857         \$3,857         \$3,857         \$3,857         \$3,857         \$3,857         \$3,857         \$3,851         \$4         \$630,94         \$1,271         \$3,810         \$255         \$5,536         \$5,759         \$5,759.28         \$5,759.28         \$5,759.28         \$30         \$5,710,285         \$4,6500         \$6,650,775         \$443,385.00         \$6,650,775         \$443,385.00         \$5,702,895         \$46,500         \$6,666,775         \$443,385.00         \$5,702,895         \$46,500         \$6,650,775         \$443,385.00         \$5,702,895         \$46,500         \$6,6650,775         \$443,385.00         \$5,702,895         \$46,930         \$5,782,48         \$21,950.56         \$1010         \$10         \$1         \$10         \$1,812,71.50         \$3,81,271 </td <td>100</td> <td></td> <td>10</td> <td>1</td> <td></td> <td>\$1,270.50</td> <td>\$4,493.89</td> <td>\$3,927.24</td> <td></td> <td></td> <td></td> <td></td> <td></td>	100		10	1		\$1,270.50	\$4,493.89	\$3,927.24					
S60         G30 Tran         6         0         1         \$1,270.50         \$2,101.37         \$2,101         \$2,101         \$2,16         \$3,587         \$3,587.47           71         G30 Tran         7         1         1         \$1,270.50         \$3,810.20         \$255.46         \$1,271         \$3,810         \$255         \$5,336         \$5,336.55,336.6           630 Tran         8         1         1         \$1,270.50         \$3,851.84         \$636.94         \$1,271         \$3,852         \$637         \$5,759         \$5,759.28           91         G30 Tran         10         1         15         \$60,092.00         \$38,193.00         \$3,100.00         \$901,380         \$5,702.895         \$46,500         \$5,660,775         \$44,335.00           630 Tran         10         1         10         \$1,270.50         \$4,493.89         \$3,927.2         \$96,916         \$9,991.63           10         1         \$1,270.50         \$4,493.89         \$3,927.24         \$12,705         \$44,393         \$39,272         \$96,916         \$9,916.3           10         1         \$1,270.50         \$4,493.89         \$275,50         \$183         \$382.75         \$843         \$842.85         \$275,71,480         \$89,051 <td></td> <td></td> <td></td> <td></td> <td>101</td> <td></td> <td></td> <td></td> <td>\$100,000</td> <td>\$1,001,000</td> <td><i><b>4010</b>,011</i></td> <td>\$2,000,100</td> <td><i>\\\\\\\\\\\\\</i></td>					101				\$100,000	\$1,001,000	<i><b>4010</b>,011</i>	\$2,000,100	<i>\\\\\\\\\\\\\</i>
71       G30 Tran       7       1       1       \$1,270.50       \$3,810.20       \$255.46       \$1,271       \$3,810       \$255       \$5,336       \$5,336.16         81       G30 Tran       8       1       1       \$1,270.50       \$3,851.84       \$636.94       \$1,271       \$3,852       \$637       \$5,759       \$5,759.28         91       G30 Tran       9       1       3       \$1,270.50       \$3,851.84       \$636.94       \$3,812       \$11,556       \$1,911       \$17,278       \$5,759.28         93       G30 Tran       10       1       15       \$60,092.00       \$3,801.00.00       \$301.300.00       \$901,380       \$5,770.285       \$46,500       \$6,650,775       \$44,3385.00         100       1       10       \$1,270.50       \$4,493.89       \$3,927.24       \$12,705       \$44,939       \$39,272       \$96,916       \$9,691.63         10       1       \$18,710.50       \$3,810.20       \$257.70       \$143,385.00       \$30.0100       \$30.0103       \$385       \$275       \$843       \$842.85         540       G30 Dist       3       1       1       \$178.21       \$648.17       \$215.60       \$178       \$6468       \$216       \$1,042       \$1,04					1								
81       G30 Tran       8       1       1       \$1,270.50       \$3,851.84       \$636.94       \$1,271       \$3,852       \$637       \$5,759       \$5,759.28         91       G30 Tran       9       1       3       \$1,270.50       \$3,851.84       \$636.94       \$3,812       \$11,556       \$1,911       \$17,278       \$5,759.28         99       G30 Tran       10       1       15       \$60,920.00       \$380,193.00       \$3,100.00       \$901,380       \$5,702,895       \$46,500       \$6,60,775       \$443,385.00         100       G30 Tran       10       1       10       \$1,270.50       \$3,851.84       \$636.94       \$3,812       \$1,270.50       \$44,3385.00         100       G30 Tran       10       1       10       \$1,270.50       \$3,897.24       \$12,705       \$44,393.9       \$39,272       \$96,916       \$9,691.63       \$9,691.63       \$9,691.63       \$9,691.63       \$1,270.50       \$3,810.20       \$2,75.00       \$183       \$385       \$2,75       \$843.3       \$842.85       \$643       \$3,277       \$2,6,681       \$5,361.61       \$5,361.61       \$5,361.61       \$5,361.61       \$5,361.61       \$5,361.61       \$5,361.61       \$5,361.61       \$5,381.02.0       \$2,255.46       \$6													
91       G30 Tran       9       1       3       \$1,270.50       \$3,851.84       \$636.94       \$3,812       \$11,556       \$1,911       \$17,278       \$5,759.28         99       G30 Tran       10       1       15       \$60,092.00       \$380,193.00       \$3,100.00       \$901,380       \$5,702,895       \$46,500       \$6,650,775       \$443,385.00         100       10       1       10       \$1,270.50       \$4,493.89       \$3,927.24       \$12,705       \$44,939       \$39,272       \$96,916       \$9,691.63         100       10       1       10       \$1,270.50       \$4,493.89       \$3,927.24       \$12,705       \$44,939       \$39,272       \$96,916       \$9,691.63         100       10       1       10       \$1,270.50       \$4,493.89       \$3,927.24       \$12,705       \$44,939       \$39,272       \$96,916       \$9,691.63         31       G30 Dist       3       1       1       \$187.275       \$448.171       \$275.00       \$183       \$385.5       \$275       \$843       \$842.85         S40       G30 Dist       4       0       1       \$1,770.50       \$3,810.20       \$255.46       \$6,733       \$19,051       \$1,277.7       \$26,681       \$				1									
99         G30 Tran         10         1         15         \$60,092.00         \$380,193.00         \$3,100.00         \$901,380         \$5,702,895         \$46,500         \$6,650,775         \$443,385.00           100         G30 Tran         10         1         10         \$1,270.50         \$4,493.89         \$3,927.24         \$12,705         \$44,939         \$39,272         \$96,916         \$9,691.63           100         G30 Dist         3         1         10         \$1,270.50         \$4,493.89         \$3,927.24         \$12,705         \$44,939         \$39,272         \$96,916         \$9,691.63           100         G30 Dist         3         1         1         \$183.14         \$384.71         \$275.00         \$183         \$385         \$275         \$843         \$842.85           S40         G30 Dist         4         0         1         \$178,21         \$648,17         \$215.60         \$178         \$648         \$216         \$1,042         \$1,041.98           61         G30 Dist         6         1         5         \$1,270.50         \$3,810.20         \$255.46         \$6,533         \$19,051         \$1,277         \$26,681         \$5,336.16           71         G30 Dist         7         <													
G30 Tran         10         1         10         \$1,270.50         \$4,493.89         \$3,927.24         \$12,705         \$44,939         \$39,272         \$96,916         \$9,691.63           tot G30 Tran         32         52         52         \$6,782,418         \$211,950.56           31         G30 Dist         3         1         1         \$183.14         \$384.71         \$275.00         \$183         \$385         \$275         \$843         \$842.85           \$40         G30 Dist         4         0         1         \$178.21         \$6448.17         \$215.60         \$178         \$648         \$216         \$1,042         \$1,041.98           61         G30 Dist         6         1         5         \$1,270.50         \$3,810.20         \$255.46         \$6,353         \$19,051         \$1,277         \$26,681         \$5,336.16           71         G30 Dist         7         1         1         \$1,270.50         \$3,810.20         \$255.46         \$1,071         \$3,810         \$255.5         \$5,336         \$5,336.16           630 Dist         9         0         2         \$1,270.50         \$3,810.20         \$25,51         \$5,336         \$5,336.16           890         G30 Dist	91			1						· · · · · · · · · · · · · · · · · · ·		\$17,278	
tot G30 Tran         32         \$921,886         \$5,771,480         \$89,051         \$6,782,418         \$211,950.56           31         G30 Dist         3         1         1         \$183.14         \$384.71         \$275.00         \$183         \$385         \$275         \$843         \$842.85           \$40         G30 Dist         4         0         1         \$178.21         \$648.17         \$215.60         \$178         \$648         \$216         \$1,042         \$1,041.98           61         G30 Dist         6         1         5         \$1,270.50         \$3,810.20         \$255.46         \$6,353         \$19,051         \$1,277         \$26,681         \$5,336.16           71         G30 Dist         7         1         1         \$1,270.50         \$3,810.20         \$255.46         \$1,271         \$3,810         \$255         \$5,336         \$5,336.16           81         G30 Dist         7         1         1         \$1,270.50         \$3,851.84         \$636.94         \$50,820         \$154,074         \$25,477         \$230,371         \$5,759.28           \$90         2         \$1,270.50         \$2,143.01         \$257.66         \$2,541         \$4,286         \$515         \$7,342         \$3				1									
31       G30 Dist       3       1       1       \$183.14       \$384.71       \$275.00       \$183       \$385       \$275       \$843       \$842.85         \$40       G30 Dist       4       0       1       \$178.21       \$648.17       \$215.60       \$178       \$648       \$216       \$1,042       \$1,041.98         61       G30 Dist       6       1       5       \$1,270.50       \$3,810.20       \$255.46       \$6,353       \$19,051       \$1,277       \$26,681       \$5,336.16         71       G30 Dist       7       1       1       \$1,270.50       \$3,810.20       \$255.46       \$1,271       \$3,810       \$255.5       \$5,336       \$5,336.16         81       G30 Dist       7       1       1       \$1,270.50       \$3,851.84       \$6636.94       \$50,820       \$154,074       \$25,477       \$230,371       \$5,759.28         890       G30 Dist       9       0       2       \$1,270.50       \$2,143.01       \$25.66       \$47,8,020       \$5,759.28         91       G30 Dist       9       0       2       \$1,270.50       \$3,851.84       \$636.94       \$10,45,452       \$319,703       \$52,866       \$47,8,020       \$5,759.28	100		10	1		\$1,270.50	\$4,493.89	\$3,927.24					
S40       G30 Dist       4       0       1       \$178.21       \$648.17       \$215.60       \$178       \$648       \$216       \$1,042       \$1,041.98         61       G30 Dist       6       1       5       \$1,270.50       \$3,810.20       \$255.46       \$6,353       \$19,051       \$1,277       \$26,681       \$5,336.16         71       G30 Dist       7       1       1       \$1,270.50       \$3,810.20       \$255.46       \$1,271       \$3,810       \$255       \$5,336       \$5,336.16         81       G30 Dist       8       1       40       \$1,270.50       \$3,810.20       \$255.46       \$1,271       \$3,810       \$255       \$5,336       \$5,336.16         81       G30 Dist       8       1       40       \$1,270.50       \$3,851.84       \$663.94       \$105,422       \$147.074       \$25,477       \$230,371       \$5,759.28         \$90       G30 Dist       9       0       2       \$1,270.50       \$2,143.01       \$25,66       \$2,541       \$4,286       \$515       \$7,342       \$3,671.47         91       G30 Dist       9       1       83       \$6,092.00       \$3,80,193.00       \$6,092,200       \$38,019,300       \$310,000       \$44,338									\$02 H,000	<i>\$6,111,100</i>	\$00,00 ·	\$0,102,110	+211,000.00
61G30 Dist615\$1,270.50\$3,810.20\$255.46\$6,353\$19,051\$1,277\$26,681\$5,336.1671G30 Dist711\$1,270.50\$3,810.20\$255.46\$1,271\$3,810\$255\$5,336\$5,336.1681G30 Dist8140\$1,270.50\$3,851.84\$636.94\$50,820\$154,074\$25,477\$230,371\$5,759.28S90G30 Dist902\$1,270.50\$2,143.01\$257.66\$2,541\$4,286\$515\$7,342\$3,671.1791G30 Dist9183\$1,270.50\$3,851.84\$636.94\$105,452\$319,703\$52,866\$478,020\$5,759.2899G30 Dist9183\$1,270.50\$3,851.84\$636.94\$105,452\$319,703\$52,866\$478,020\$5,759.2899G30 Dist101100\$60,092.00\$38,0193.00\$3,100.00\$6,0092.00\$38,0193.00\$310,000\$44,338,500\$443,385.00100G30 Dist101312\$1,270.50\$4,493.89\$3,927.24\$396,396\$1,402,094\$1,225,298\$3,023,789\$9,691.63													
71       G30 Dist       7       1       1       \$1,270.50       \$3,810.20       \$255.46       \$1,271       \$3,810       \$255       \$5,336       \$5,336.16         81       G30 Dist       8       1       40       \$1,270.50       \$3,851.84       \$636.94       \$50,820       \$154,074       \$25,477       \$230,371       \$5,759.28         S90       G30 Dist       9       0       2       \$1,270.50       \$2,143.01       \$257.66       \$2,541       \$4,286       \$515       \$7,342       \$3,671.17         91       G30 Dist       9       1       83       \$1,270.50       \$3,851.84       \$636.94       \$105,452       \$319,703       \$52,866       \$478,020       \$5,759.28         99       G30 Dist       9       1       83       \$1,270.50       \$3,851.84       \$663.94       \$105,452       \$319,703       \$52,866       \$478,020       \$5,759.28         99       G30 Dist       10       1       100       \$60,092.00       \$33,010.00       \$6,009,200       \$38,019,300       \$310,000       \$44,338,500       \$443,385.00         100       G30 Dist       10       1       312       \$1,270.50       \$4,493.89       \$3,927.24       \$396,396       \$1,402,094<				0									
81       G30 Dist       8       1       40       \$1,270.50       \$3,851.84       \$636.94       \$50,820       \$154,074       \$25,477       \$230,371       \$5,759.28         S90       G30 Dist       9       0       2       \$1,270.50       \$2,143.01       \$257.66       \$2,541       \$4,286       \$515       \$7,342       \$3,671.17         91       G30 Dist       9       1       83       \$1,270.50       \$3,851.84       \$636.94       \$105,452       \$319,703       \$52,866       \$478,020       \$5,759.28         99       G30 Dist       10       1       100       \$60,092.00       \$38,0193.00       \$6,009.200       \$38,0193.00       \$310,000       \$6,009.200       \$38,0193.00       \$443,385.00       \$443,385.00       \$443,385.00       \$443,385.00       \$443,385.00       \$443,385.00       \$1,025,298       \$3,023,789       \$9,091.63       \$1,025,298       \$3,023,789       \$9,091.63       \$1,025,298       \$3,023,789       \$9,091.63       \$1,025,298       \$3,023,789       \$9,091.63       \$1,025,298       \$3,023,789       \$9,091.63       \$1,025,298       \$3,023,789       \$9,091.63       \$1,025,298       \$3,023,789       \$9,091.63       \$1,025,298       \$3,023,789       \$9,091.63       \$1,025,298       \$3,023,789 <t< td=""><td></td><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>				1									
S90         G30 Dist         9         0         2         \$1,270.50         \$2,143.01         \$257.66         \$2,541         \$4,286         \$515         \$7,342         \$3,671.17           91         G30 Dist         9         1         83         \$1,270.50         \$3,851.84         \$636.94         \$105,452         \$319,703         \$52,866         \$478,020         \$5,759.28           99         G30 Dist         10         1         100         \$60,092.00         \$33,00.00         \$6,009,200         \$38,019,300         \$44,338,500         \$443,385.00           100         G30 Dist         10         1         312         \$1,270.50         \$4,493.89         \$3,927.24         \$396,396         \$1,402,094         \$1,225,298         \$3,023,789         \$9,691.63				1									
91       G30 Dist       9       1       83       \$1,270.50       \$3,851.84       \$636.94       \$105,452       \$319,703       \$52,866       \$478,020       \$5,759.28         99       G30 Dist       10       1       100       \$60,092.00       \$330,193.00       \$6,009.200       \$38,019,300       \$310,000       \$44,338,500       \$443,385.00         100       G30 Dist       10       1       312       \$1,270.50       \$4,493.89       \$3,927.24       \$396,396       \$1,402,094       \$1,225,298       \$3,023,789       \$9,691.63				1									
99       G30 Dist       10       1       100       \$60,092.00       \$38,019.300       \$6,009.200       \$38,019.300       \$310,000       \$44,338,500       \$443,385.00         100       G30 Dist       10       1       312       \$1,270.50       \$4,493.89       \$3,927.24       \$396,396       \$1,402,094       \$1,225,298       \$3,023,789       \$9,691.63				0									
International Conduction         Interna				1									
				1									
	100	tot G30 Dist	10	1	312 545	ֆ1,∠70.50	<b>\$4,493.89</b>	<b>⊅</b> 3,9∠1.24	\$396,396	\$1,402,094 \$39,923,350	\$1,225,298 \$1,616,180	\$3,023,789 \$48,111,924	\$9,691.63 \$88,278.76

Code	Rate	Meter Size	Above Std	Sample Size	avg labor \$/meter	avg \$/meter	avg \$/regulator	tot lab	tot met	tot reg	tot cost	Average Meter & Regulator CAPEX/ Customer
51	G50	5	1	3	\$178.21	\$2,327.46	\$260.17	\$535	\$6,982	\$780	\$8,298	\$2,765.84
61	G50	6	1	38	\$1,270.50	\$3,810.20	\$255.46	\$48,279	\$144,788	\$9,708	\$202,774	\$5,336.16
71	G50	7	1	1	\$1,270.50	\$3,810.20	\$255.46	\$1,271	\$3,810	\$255	\$5,336	\$5,336.16
81	G50	8	1	38	\$1,270.50	\$3,851.84	\$636.94	\$48,279	\$146,370	\$24,204	\$218,853	\$5,759.28
91	G50	9	1	32	\$1,270.50	\$3,851.84	\$636.94	\$40,656	\$123,259	\$20,382	\$184,297	\$5,759.28
99	G50	10	1	66	\$60,092.00	\$380,193.00	\$3,100.00	\$3,966,072	\$25,092,738	\$204,600	\$29,263,410	\$443,385.00
100	G50	10	1	33	\$1,270.50	\$4,493.89	\$3,927.24	\$41,927	\$148,298	\$129,599	\$319,824	\$9,691.63
110	G50	12	1	9	\$123,995.00	\$901,370.00	\$0.00	\$1,115,955	\$8,112,330	\$0	\$9,228,285	\$1,025,365.00
	tot G50			220				\$5,262,973	\$33,778,575	\$389,528	\$39,431,076	\$179,232.16
71	G40	7	1	1	\$1,270.50	\$3,810.20	\$255.46	\$1,271	\$3,810	\$255	\$5,336	\$5,336.16
81	G40	8	1	2	\$1,270.50	\$3,851.84	\$636.94	\$2,541	\$7,704	\$1,274	\$11,519	\$5,759.28
91	G40	9	1	3	\$1,270.50	\$3,851.84	\$636.94	\$3,812	\$11,556	\$1,911	\$17,278	\$5,759.28
99	G40	10	1	15	\$60,092.00	\$380,193.00	\$3,100.00	\$901,380	\$5,702,895	\$46,500	\$6,650,775	\$443,385.00
100	G40	10	1	7	\$1,270.50	\$4,493.89	\$3,927.24	\$8,894	\$31,457	\$27,491	\$67,841	\$9,691.63
	tot G40			28				\$917,897	\$5,757,422	\$77,431	\$6,752,749	\$241,169.60

	Pipe Diameter		New Business	Replacement
Code	Inches	Pipe Type	\$/ft	\$/ft
0.5P	0.5	P	\$15.45	\$61.16
1P	1	Р	\$29.72	\$88.83
2P	2	Р	\$31.10	\$79.98
3P	3	Р	\$38.75	\$102.73
4P	4	Р	\$46.76	\$131.83
6P	6	Р	\$54.53	\$141.60
3P	8	Р	\$62.30	\$161.27
0.5	0.5	S	\$88.01	\$120.74
0.75	0.75	S	\$117.05	\$176.35
1S	1	S	\$127.41	\$228.95
1.25	1.25	S	\$137.76	\$228.23
2S	2	S	\$148.12	\$272.39
3S	3	S	\$170.70	\$296.56
4S	4	S	\$193.29	\$320.75
6S	6	S	\$215.87	\$344.92
8S	8	S	\$226.82	\$369.10
10S	10	S	\$237.77	\$393.27
12S	12	S	\$248.72	\$417.44
16S	16	S	\$259.67	\$441.62
20S	20	S	\$270.62	\$465.79

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

Code	Rate	Pipe Diameter Inches	Pipe frac	Ріре Туре	# New Customers last 5 years	Avg Length feet	New Business \$/ft	Replacement \$/ft	Service Line CAPEX \$/customer	Replacement Service Line CAPEX \$/customer	Service Line CAPEX \$'s	Replacement Service Line CAPEX \$'s
0.5P	SF	0	12	Р	34,195	44.7	\$15.45	\$61.16	\$691	\$2,734	\$23,619,241	\$93,498,519
0.75	SF	0	34	S	32	90.4	\$117.05	\$176.35	\$10,582	\$15,943	\$338,619	\$510,175
1P	SF	1	0	Р	2,791	74.9	\$29.72	\$88.83	\$2,227	\$6,654	\$6,214,806	\$18,572,560
1S	SF	1	0	S	3	74.0	\$127.41	\$228.95	\$9,428	\$16,942	\$28,284	\$50,826
2P	SF	2	0	Р	17	171.1	\$31.10	\$79.98	\$5,321	\$13,685	\$90,465	\$232,653
	Tot SF				37,038				\$818	\$3,047	\$30,291,415	\$112,864,733
0.5P	MF	0	12	Р	2,700	31.4	\$15.45	\$61.16	\$485	\$1,918	\$1,308,259	\$5,178,842
0.75	MF	0	34	S	51	10.6	\$117.05	\$176.35	\$1,239	\$1,867	\$63,205	\$95,226
1P	MF	1	0	Р	2,904	42.3	\$29.72	\$88.83	\$1,258	\$3,758	\$3,652,066	\$10,913,971
1S	MF	1	0	S	98	25.9	\$127.41	\$228.95	\$3,297	\$5,925	\$323,105	\$580,622
1.25	MF	1	25	S	5	10.2	\$137.76	\$228.23	\$1,405	\$2,328	\$7,026	\$11,640
2P	MF	2	0	Р	154	84.1	\$31.10	\$79.98	\$2,616	\$6,727	\$402,848	\$1,036,019
2S	MF	2	0	S	129	44.5	\$148.12	\$272.39	\$6,587	\$12,114	\$849,761	\$1,562,733
3P	MF	2	0	Р	1	20.0	\$38.75	\$102.73	\$775	\$2,055	\$775	\$2,055
3S	MF	2	0	S	2	399.0	\$170.70	\$296.56	\$68,111	\$118,329	\$136,222	\$236,659
	Tot MF				6,044				\$1,116	\$3,245.83	\$6,743,267	\$19,617,767
				_			•					
0.5P	MM Band 1	0	12	Р	58	51.7	\$15.45	\$61.16	\$798	\$3,160	\$46,300	\$183,282
0.75	MM Band 1	0	34	S	57	4.1	\$117.05	\$176.35	\$476	\$718	\$27,154	\$40,911
1P	MM Band 1	1	0	Р	455	68.5	\$29.72	\$88.83	\$2,036	\$6,084	\$926,270	\$2,768,100
1S	MM Band 1	1	0	S	103	5.6	\$127.41	\$228.95	\$712	\$1,280	\$73,382	\$131,869
1.25	MM Band 1	1	25	S	5	1.8	\$137.76	\$228.23	\$248	\$411	\$1,240	\$2,054
2P	MM Band 1	2	0	Р	49	71.7	\$31.10	\$79.98	\$2,231	\$5,737	\$109,311	\$281,119
2S	MM Band 1	2	0	S	33	42.4	\$148.12	\$272.39	\$6,284	\$11,556	\$207,365	\$381,350
3P	MM Band 1	3	0	Р	1	96.0	\$38.75	\$102.73	\$3,720	\$9,862	\$3,720	\$9,862
3S	MM Band 1	3	0	S	2	44.5	\$170.70	\$296.56	\$7,596	\$13,197	\$15,193	\$26,394
	Tot MM 1				763				\$1,848	\$5,013	\$1,409,935	\$3,824,942
0 FD	MADecilo	0	10	5		000.0		<b>0</b> 01 10	<b>*•</b> • • • •	\$40 F77	<b>\$</b> 0,400	<b>\$40 577</b>
0.5P	MM Band 2	0	12	Р	1	222.0	\$15.45	\$61.16	\$3,430	\$13,577	\$3,430	\$13,577
0.75	MM Band 2	0	34	S	2	7.0	\$117.05	\$176.35	\$819	\$1,234	\$1,639	\$2,469
1P	MM Band 2	1	0	Р	1	19.0	\$29.72	\$88.83	\$565	\$1,688	\$565	\$1,688
1S	MM Band 2	1	0	S	2	114.0	\$127.41	\$228.95	\$14,524	\$26,100	\$29,048	\$52,200
1.25	MM Band 2	1	25	S	3	96.3	\$137.76	\$228.23	\$13,271	\$21,985	\$39,812	\$65,956
2P	MM Band 2	2	0	Р	4	736.8	\$31.10	\$79.98	\$22,912	\$58,923	\$91,647	\$235,691
2S	MM Band 2	2	0	S	15	162.1	\$148.12	\$272.39	\$24,006	\$44,147	\$360,085	\$662,205
3S	MM Band 2	3	0	S	8	246.9	\$170.70	\$296.56	\$42,143	\$73,216	\$337,147	\$585,727
4S	MM Band 2	4	0	S	2	616.0	\$193.29	\$320.75	\$119,066	\$197,581	\$238,132	\$395,161
6S	MM Band 2	6	0	S	1	53.0	\$215.87	\$344.92	\$11,441	\$18,281	\$11,441	\$18,281
	Tot MM 2				39				\$28,537	\$52,127	\$1,112,944	\$2,032,955
0.50		0	10		100	50.0	¢45 45	<b>PC4 40</b>	£040	\$3.00F	£110.400	¢467 505
0.5P	G10 Band 1	0	12	P	129	59.3	\$15.45 \$117.05	\$61.16 \$176.25	\$916 \$487	\$3,625	\$118,122	\$467,595 \$107,210
0.75	G10 Band 1	0	34	S	146	4.2	\$117.05	\$176.35	\$487	\$734	\$71,159	\$107,210
1P	G10 Band 1	1	0	P	419	99.6	\$29.72	\$88.83	\$2,960	\$8,846	\$1,240,206	\$3,706,278
1S	G10 Band 1	1	0	S	143	2.0	\$127.41	\$228.95	\$257	\$461	\$36,693	\$65,938
1.25	G10 Band 1	1	25	S	7	1.4	\$137.76	\$228.23	\$197	\$326	\$1,378	\$2,283
2P	G10 Band 1	2	0	Р	43	183.7	\$31.10	\$79.98	\$5,712	\$14,689	\$245,605	\$631,630
2S	G10 Band 1	2	0	S	7	27.3	\$148.12	\$272.39	\$4,042	\$7,433	\$28,291	\$52,028
3P	G10 Band 1	3	0	Р	1	681.0	\$38.75	\$102.73	\$26,389	\$69,959	\$26,389	\$69,959
4P	G10 Band 1	4	0	Р	1	155.0	\$46.76	\$131.83	\$7,248	\$20,433	\$7,248	\$20,433
	tot Band 1				896				\$1,981	\$5,718	\$1,775,090	\$5,123,353
0.5P	G10 Band 2	0	12	Р	114	64.9	\$15.45	\$61.16	\$1,002	\$3,966	\$114,214	\$452,125

										Replacement		
		Pipe			# New		New		Service Line	Service Line		Replacement
		Diameter				Avg Length	Business	Replacement	CAPEX	CAPEX	Service Line	Service Line
Code	Rate	Inches	Pipe frac	Pipe Type	last 5 years	feet	\$/ft	\$/ft	\$/customer	\$/customer	CAPEX \$'s	CAPEX \$'s
0.75	G10 Band 2	0	34	S	253	4.5	\$117.05	\$176.35	\$524	\$789	\$132,489	\$199,613
1P	G10 Band 2	1	0	Р	659	98.5	\$29.72	\$88.83	\$2,928	\$8,750	\$1,929,549	\$5,766,338
1S	G10 Band 2	1	0	S	201	6.4	\$127.41	\$228.95	\$821	\$1,475	\$164,995	\$296,498
1.25	G10 Band 2	1	25	S	3	2.7	\$137.76	\$228.23	\$367	\$609	\$1,102	\$1,826
2P	G10 Band 2	2	0	Р	85	232.0	\$31.10	\$79.98	\$7,216	\$18,558	\$613,383	\$1,577,459
2S	G10 Band 2	2	0	S	27	13.6	\$148.12	\$272.39	\$2,008	\$3,693	\$54,213	\$99,700
3P	G10 Band 2	3	0	Р	1	880.0	\$38.75	\$102.73	\$34,100	\$90,402	\$34,100	\$90,402
	tot Band 2				1,343				\$2,267	\$6,317	\$3,044,047	\$8,483,960
0.5P	G10 Band 3	0	12	Р	47	54.6	\$15.45	\$61.16	\$843	\$3,339	\$39,642	\$156,926
0.75	G10 Band 3	0	34	S	334	5.4	\$117.05	\$176.35	\$635	\$956	\$211,968	\$319,358
1P	G10 Band 3	1	0	Р	693	93.3	\$29.72	\$88.83	\$2,773	\$8,287	\$1,921,804	\$5,743,193
1S	G10 Band 3	1	0	S	386	3.7	\$127.41	\$228.95	\$470	\$844	\$181,321	\$325,835
1.25	G10 Band 3	1	25	S	15	5.0	\$137.76	\$228.23	\$689	\$1,141	\$10,332	\$17,117
2P	G10 Band 3	2	0	Р	253	180.1	\$31.10	\$79.98	\$5,602	\$14,407	\$1,417,343	\$3,645,030
2S	G10 Band 3	2	0	S	62	30.8	\$148.12	\$272.39	\$4,558	\$8,383	\$282,609	\$519,726
3P	G10 Band 3	3	0	P	5	232.5	\$38.75	\$102.73	\$9,009	\$23,885	\$45,047	\$119,423
3S	G10 Band 3	3	0	S	1	223.0	\$170.70	\$296.56	\$38,067	\$66,134	\$38,067	\$66,134
4P	G10 Band 3	4	0	P	2	607.5	\$46.76	\$131.83	\$28,408	\$80,084	\$56,817	\$160,168
4S	G10 Band 3	4	0	P	2	65.5	\$193.29	\$320.75	\$12,660	\$21,009	\$25,321	\$42,018
	tot Band 3		<u> </u>		1,800	00.0	\$100.20	<i><b>QOLO</b>.10</i>	\$2,350	\$6,175	\$4,230,271	\$11,114,927
					1,000				<i><b>+</b></i> _, <b></b>	<i><b>4</b>0,0</i>	¢ 1,200,21 1	¢,,o <u>_</u>
0.75	G10 Band 4	0	34	S	2	24.0	\$117.05	\$176.35	\$2,809	\$4,232	\$5,618	\$8,465
1P	G10 Band 4	1	0	P	19	89.3	\$29.72	\$88.83	\$2,655	\$7,934	\$50,441	\$150,739
1S	G10 Band 4	1	0	S	7	3.7	\$127.41	\$228.95	\$473	\$850	\$3,312	\$5,952
2P	G10 Band 4	2	0	P	46	122.9	\$31.10	\$79.98	\$3,822	\$9,828	\$175,798	\$452,107
2F 2S	G10 Band 4	2	0	S	40 12	93.3	\$148.12	\$272.39	\$3,822 \$13,824	\$25,423	\$165,893	\$305,081
3P	G10 Band 4	3	0	P	1	130.0	\$38.75	\$102.73	\$5,037	\$13,355	\$5.037	\$13,355
38	G10 Band 4	3	0	S	1	655.0	\$30.73 \$170.70	\$296.56	\$3,037 \$111,811	\$194,250	\$111,811	\$194,250
4P	G10 Band 4 G10 Band 4	4	0	P	7	328.5	\$46.76		\$15,362	\$43,305		\$303,133
46	tot Band 4	4	0	F	95	320.5	\$40.70	\$131.83	\$6,584	\$15,085	\$107,531 \$625,442	\$1,433,082
	tot Banu 4				33				φ <b>0</b> ,304	φ1 <b>3,00</b> 3	<i>4023,442</i>	\$1,433,00Z
1P	G10 Band 5	1	0	Р	1	13.0	\$29.72	\$88.83	\$386	\$1,155	\$386	\$1,155
2P	G10 Band 5 G10 Band 5	2	0	P	9	234.4	\$29.72 \$31.10	\$68.83 \$79.98	\$380 \$7,291	\$18,750	\$65,617	\$168,750
	G10 Band 5 G10 Band 5	2	0		9 4		•					
2S 3P		2	0	S P		47.8	\$148.12	\$272.39	\$7,073	\$13,007	\$28,291	\$52,027
	G10 Band 5				3 1	123.3	\$38.75	\$102.73	\$4,779	\$12,670	\$14,337	\$38,010
3S	G10 Band 5	3	0	S	-	5.0	\$170.70	\$296.56	\$854	\$1,483	\$854	\$1,483
4P	G10 Band 5	4	0	Р	2	65.5	\$46.76	\$131.83	\$3,063	\$8,635	\$6,126	\$17,269
6S	G10 Band 5	6	0	S	1	20.0	\$215.87	\$344.92	\$4,317	\$6,898	\$4,317	\$6,898
	tot Band 5				21				\$5,711	\$13,600	\$119,929	\$285,593
10	010		0	-		10.0	<b>*</b> ~~ <b>7</b> ~	<b>\$</b> 00.00	<b>*</b> ~~ <b>-</b>	****	<b>#007</b>	<b>#</b> 000
1P	GAC	1	0	P	1	10.0	\$29.72	\$88.83	\$297	\$888	\$297	\$888
1S	GAC	1	0	S	1	34.0	\$127.41	\$228.95	\$4,332	\$7,784	\$4,332	\$7,784
2P	GAC	2	0	Р	1	441.0	\$31.10	\$79.98	\$13,714	\$35,270	\$13,714	\$35,270
2S	GAC	2	0	S	1	22.0	\$148.12	\$272.39	\$3,259	\$5,993	\$3,259	\$5,993
	tot GAC				4				\$5,400	\$12,484	\$21,602	\$49,935

										Replacement		
		Pipe Diameter			# New	Avg Length	New Business	Replacement	Service Line CAPEX	Service Line CAPEX	Service Line	Replacement Service Line
Code	Rate	Inches	Pipe frac	Pipe Type	last 5 years	feet	\$/ft	\$/ft	\$/customer	\$/customer	CAPEX \$'s	CAPEX \$'s
					luci e jeule		<b>4</b> /1 <b>1</b>	4/14	4/00/010/10/	4,00000000	••••	•/ • =/ • •
0.5P	NGV	0	12	Р	2	61.5	\$15.45	\$61.16	\$950	\$3,761	\$1,900	\$7,522
0.75	NGV	0	34	S	5	87.6	\$117.05	\$176.35	\$10,253	\$15,448	\$51,267	\$77,241
1P	NGV	1	0	Р	6	112.0	\$29.72	\$88.83	\$3,329	\$9,949	\$19,974	\$59,691
1S	NGV	1	0	S	5	119.0	\$127.41	\$228.95	\$15,161	\$27,245	\$75,806	\$136,224
1.25	NGV	1	25	S	1	330.0	\$137.76	\$228.23	\$45,461	\$75,315	\$45,461	\$75,315
2P	NGV	2	0	Р	27	187.8	\$31.10	\$79.98	\$5,840	\$15,018	\$157,670	\$405,486
2S	NGV	2	0	S	5	71.8	\$148.12	\$272.39	\$10,635	\$19,558	\$53,175	\$97,790
3P	NGV	3	0	Р	2	760.5	\$38.75	\$102.73	\$29,469	\$78,126	\$58,939	\$156,251
3S	NGV	3	0	S	3	617.3	\$170.70	\$296.56	\$105,381	\$183,078	\$316,142	\$549,235
4P	NGV	4	0	Р	1	740.0	\$46.76	\$131.83	\$34,605	\$97,551	\$34,605	\$97,551
4S	NGV	4	0	S	3	33.7	\$193.29	\$320.75	\$6,508	\$10,800	\$19,524	\$32,399
6S	NGV	6	0	S	4	234.0	\$215.87	\$344.92	\$50,514	\$80,711	\$202,058	\$322,843
	tot NGV				64				\$16,196	\$31,524	\$1,036,521	\$2,017,549
0.5P	GEN	0	12	Р	20	161.7	\$15.45	\$61.16	\$2,498	\$9,889	\$49,962	\$197,778
0.75	GEN	0	34	S	163	228.9	\$117.05	\$176.35	\$26,792	\$40,366	\$4,367,145	\$6,579,684
1P	GEN	1	0	Р	177	357.5	\$29.72	\$88.83	\$10,626	\$31,754	\$1,880,719	\$5,620,412
1S	GEN	1	0	S	17	820.7	\$127.41	\$228.95	\$104,563	\$187,900	\$1,777,564	\$3,194,300
1S	GEN	1	25	S	5	1,551.8	\$127.41	\$228.95	\$197,707	\$355,282	\$988,536	\$1,776,408
2P	GEN	2	0	Р	161	1,786.3	\$31.10	\$79.98	\$55,550	\$142,859	\$8,943,503	\$23,000,313
2S	GEN	2	0	S	27	453.6	\$148.12	\$272.39	\$67,191	\$123,566	\$1,814,163	\$3,336,293
3P	GEN	3	0	Р	20	3,051.9	\$38.75	\$102.73	\$118,261	\$313,519	\$2,365,218	\$6,270,383
3S	GEN	3	0	S	4	259.5	\$170.70	\$296.56	\$44,298	\$76,959	\$177,191	\$307,834
4P	GEN	4	0	Р	9	4,533.3	\$46.76	\$131.83	\$211,992	\$597,609	\$1,907,925	\$5,378,482
4S	GEN tot GEN	4	0	S	1 604	27.0	\$193.29	\$320.75	\$5,219 \$40,194	\$8,660 \$92,170	\$5,219 \$24,277,145	\$8,660 \$55,670,548
	IOI GEN				604				<b>\$40,194</b>	\$92,170	\$24,277,145	\$55,670,546
0.5P	G30 Dist	0	12	Р	7	155.6	\$15.45	\$61.16	\$2,403	\$9,514	\$16,824	\$66,598
0.55	G30 Dist	0	34	S	23	78.0	\$15.45 \$117.05	\$176.35	\$2,403 \$9,134	\$9,514 \$13,762	\$210,092	\$316,531
1P	G30 Dist	1	0	P	7	331.1	\$29.72	\$88.83	\$9,843	\$29,414	\$68,898	\$205,898
1S	G30 Dist	1	0	S	15	41.6	\$127.41	\$228.95	\$5,296	\$9,517	\$79,443	\$142,761
1.25	G30 Dist	1	25	S	19	104.4	\$137.76	\$228.23	\$14,385	\$23,832	\$273,317	\$452,800
2P	G30 Dist	2	0	P	46	263.0	\$31.10	\$79.98	\$8,179	\$21,032 \$21,034	\$376,228	\$967,557
2S	G30 Dist	2	0	S	112	203.0	\$148.12	\$272.39	\$32,868	\$60,444	\$3,681,171	\$6,769,772
20 3P	G30 Dist	3	0	P	46	365.8	\$38.75	\$102.73	\$14,175	\$37,578	\$652,037	\$1,728,603
3S	G30 Dist	3	0	S	68	342.9	\$170.70	\$296.56	\$58,529	\$101,683	\$3,979,987	\$6,914,455
4P	G30 Dist	4	0	P	10	500.6	\$46.76	\$131.83	\$23,410	\$65,992	\$234,095	\$659,919
4S	G30 Dist	4	0	S	73	803.4	\$193.29	\$320.75	\$155,292	\$257,695	\$11,336,315	\$18,811,759
6P	G30 Dist	6	0	P	1	1,173.0	\$54.53	\$141.60	\$63,965	\$166,096	\$63,965	\$166,096
6S	G30 Dist	6	0	S	25	837.0	\$215.87	\$344.92	\$180,678	\$288,683	\$4,516,938	\$7,217,064
8S	G30 Dist	8	0	S	5	1,841.6	\$226.82	\$369.10	\$417,717	\$679,737	\$2,088,585	\$3,398,684
10S	G30 Dist	10	0	S	1	73.0	\$237.77	\$393.27	\$17,357	\$28,709	\$17,357	\$28,709
	tot G30 Dist				458				\$60,252	\$104,470	\$27,595,251	\$47,847,206
2P	G30 Tran	2	0	Р	3	1,363.0	\$31.10	\$79.98	\$42,387	\$109,008	\$127,161	\$327,025
2S	G30 Tran	2	0	S	8	919.5	\$148.12	\$272.39	\$136,195	\$250,467	\$1,089,563	\$2,003,736
3S	G30 Tran	3	0	S	1	520.0	\$170.70	\$296.56	\$88,766	\$154,214	\$88,766	\$154,214
4S	G30 Tran	4	0	S	2	96.0	\$193.29	\$320.75	\$18,556	\$30,792	\$37,111	\$61,584
6S	G30 Tran	6	0	S	3	1,062.0	\$215.87	\$344.92	\$229,258	\$366,303	\$687,773	\$1,098,909
8S	G30 Tran	8	0	S	1	42.0	\$226.82	\$369.10	\$9,527	\$15,502	\$9,527	\$15,502
10S	G30 Tran	10	0	S	1	467.0	\$237.77	\$393.27	\$111,040	\$183,658	\$111,040	\$183,658
16S	G30 Tran	16	0	S	1	95.0	\$259.67	\$441.62	\$24,669	\$41,954	\$24,669	\$41,954
	tot G30 Tran				20				\$108,780	\$194,329	\$2,175,610	\$3,886,580

		Pipe			# New		New		Service Line	Replacement Service Line		Replacement
	_	Diameter				Avg Length		Replacement	CAPEX	CAPEX	Service Line	Service Line
Code	Rate	Inches	Pipe frac	Pipe Type	last 5 years	feet	\$/ft	\$/ft	\$/customer	\$/customer	CAPEX \$'s	CAPEX \$'s
				_			• · ·	•	• • •	•	•	•
0.75	Sml G50	0	34	S	1	1.0	\$117.05	\$176.35	\$117	\$176	\$117	\$176
1P	Sml G50	1	0	Р	4	116.3	\$29.72	\$88.83	\$3,455	\$10,326	\$13,821	\$41,304
1S	Sml G50	1	0	S	1	68.0	\$127.41	\$228.95	\$8,664	\$15,568	\$8,664	\$15,568
1.25	Sml G50	1	25	S	1	415.0	\$137.76	\$228.23	\$57,171	\$94,715	\$57,171	\$94,715
2P	Sml G50	2	0	Р	2	318.5	\$31.10	\$79.98	\$9,905	\$25,473	\$19,810	\$50,945
2S	Sml G50	2	0	S	6	152.0	\$148.12	\$272.39	\$22,514	\$41,404	\$135,084	\$248,424
3P	Sml G50	3	0	Р	1	562.0	\$38.75	\$102.73	\$21,777	\$57,734	\$21,777	\$57,734
3S	Sml G50	3	0	S	1	61.0	\$170.70	\$296.56	\$10,413	\$18,090	\$10,413	\$18,090
4S	Sml G50	4	0	S	7	524.6	\$193.29	\$320.75	\$101,393	\$168,255	\$709,754	\$1,177,783
6S	Sml G50	6	0	S	4	59.0	\$215.87	\$344.92	\$12,737	\$20,350	\$50,946	\$81,401
8S	Sml G50	8	0	S	3	461.0	\$226.82	\$369.10	\$104,565	\$170,156	\$313,696	\$510,467
	tot Sml G50				31				\$43,266	\$74,084	\$1,341,254	\$2,296,608
1.25	G50 EG	1	25	S	1	6.0	\$137.76	\$228.23	\$827	\$1,369	\$827	\$1,369
2S	G50 EG	2	0	S	1	1.0	\$148.12	\$272.39	\$148	\$272	\$148	\$272
3S	G50 EG	3	0	S	1	61.0	\$170.70	\$296.56	\$10,413	\$18,090	\$10,413	\$18,090
4S	G50 EG	4	0	S	3	662.0	\$193.29	\$320.75	\$127,957	\$212,335	\$383,871	\$637,005
6S	G50 EG	6	0	S	4	144.8	\$215.87	\$344.92	\$31,248	\$49,927	\$124,991	\$199,708
8S	G50 EG	8	0	S	2	268.0	\$226.82	\$369.10	\$60,789	\$98,919	\$121,577	\$197,838
10S	G50 EG	10	0	S	1	290.0	\$237.77	\$393.27	\$68,954	\$114,049	\$68,954	\$114,049
	tot G50 EG				13				\$54,675	\$89,872	\$710,781	\$1,168,332
2S	G40	2	0	S	4	72.0	\$148.12	\$272.39	\$10,665	\$19,612	\$42,658	\$78,450
3S	G40	3	0	S	3	169.0	\$170.70	\$296.56	\$28,849	\$50,119	\$86,547	\$150,358
4P	G40	4	0	Р	1	2,378.0	\$46.76	\$131.83	\$111,202	\$313,481	\$111,202	\$313,481
4S	G40	4	0	S	5	597.0	\$193.29	\$320.75	\$115,393	\$191,487	\$576,967	\$957,433
6S	G40	6	0	S	2	8.5	\$215.87	\$344.92	\$1,835	\$2,932	\$3,670	\$5,864
8S	G40	8	0	S	1	20.0	\$226.82	\$369.10	\$4,536	\$7,382	\$4,536	\$7,382
16S	G40	16	0	S	1	108.0	\$259.67	\$441.62	\$28,044	\$47,695	\$28,044	\$47,695
	tot G40				17		,	+ · · · ·	\$50,213	\$91,804	\$853,625	\$1,560,663
					••				<i></i>	÷•·;••·	<i>\$000,020</i>	2.,000,000

#### SCG 2016 TCAP Phase II 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	DGN	Source
# of Meters												
ROTARY 11M & LARGER: (*)				2	8	0	1	0	6	0	0	
TURBINE MSA'S (*)				8	17	1	0	1	6	0	1	
ORIFICE METERS (ultra sonic)				0	8	0	4	9	0	2	0	
Total # meters				10	33	1	5	10	12	2	1	-
Investment in Meters: ROTARY 11M & LARGER: (*) TURBINE MSA'S (*) ORIFICE METERS (ultra sonic) Total Investment \$'s allocation of Total NonCore C&I to Distributio	Exclusive Use Meter Cost \$/meter \$12,047 \$483,403 \$1,162,849 2013 \$s n & Transmission	- \$21,116 \$3,389,412 \$0 \$3,410,529 88%	\$2,977 \$477,811 \$0 \$480,788 12%	\$24,093 \$3,867,224 \$0 \$3,891,317	\$96,372 \$8,217,850 \$9,302,791 \$17,617,014	\$0 \$483,403 \$0 \$483,403	\$12,047 \$0 \$4,651,396 \$4,663,442	\$0 \$483,403 \$10,465,640 \$10,949,043	\$72,279 \$2,900,418 \$0 \$2,972,697	\$0 \$0 \$2,325,698 \$2,325,698	\$0 \$483,403 \$0 \$483,403	_
Total Investment \$'s	2013 \$s	\$3,709,193	\$522,891.07	\$4,232,084	\$19,159,757	\$525,735	\$5,071,826	\$11,907,864	\$3,233,019	\$2,529,362	\$525,735	<b>T</b>
2013 Number of Customers Exclusive Use Cost Per Customer	2013 \$s	545 \$6,805.86	32 \$16,340.35	577 <b>\$7,334.63</b>	59 \$324,741.64	32 \$16,429.22	\$5,071,825.51	1 \$11,907,864.24	\$3,233,019.45	\$2,529,362.03	1 \$525,735.12	Tab 'cust 2"

Note : This is part of Exclusive Use Facilities Costs

		TURBINE	ROTARY	ULTRASONIC
Exclusive Use Meter Cost \$/meter	2013 \$s	METERS 4"-12"	METERS 4" - 6"	METERS 4" - 16"
Avg. Meter Cost		\$17,118	\$4,433	\$119,284
Avg. Labor Cost		\$60,092	\$1,648	\$123,995
Avg. Contract Cost		\$170,500	\$0	\$247,500
Materials		\$212,793	\$1,280	\$653,870
Regulator Cost		\$3,100	\$3,100	\$0
GEMS Device Cost		\$19,800	\$1,585	\$18,200
TOTAL		\$483,403	\$12,047	\$1,162,849

#### SCG 2016 TCAP Phase II LRMC Customer Cost

Allocation of Customer-Related Distribution O&M 0

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								Core							
				Residential							Non-Resider	ntial			
		Single	Multi	Maste	r Meter	Residential			G-	10			Gas Air	Natrual Gas	Gas
		Family	Family	Small	Large	Total	Very Small	Small	Medium	Large	Very Large	Total	Conditioning	Vehicle	Engir
2013 Number of Customers		3,622,567	1,679,697	120,655	56	5,422,975	82,065	71,031	50,432	2,409	355	206,292	9	289	709
Customer Services O&M Cos	sts														
Total Cost	2013 M\$s	\$73,678	\$34,163	\$2,454	\$1	\$110,296	\$3,401	\$3,881	\$10,999	\$1,316	\$218	\$19,815	\$1	\$37	\$114
Cost Per Customer:	2013 \$s	20.34	20.34	20.34	20.34	20.34	41.44	54.64	218.09	546.42	614.99	96.05	115.36	126.84	161.2
1	2017 \$s	21.89	21.89	21.89	21.89	21.89	44.60	58.81	234.72	588.08	661.87	103.38	124.15	136.50	173.5
Customer Accounts O&M Cosi	ls														
Customer Accounts O&M Cost Total Cost:	ts 2013 M\$s	\$105,456	\$48,898	\$3,512	\$2	\$157,868	\$3,506	\$2,423	\$2,143	\$818	\$401	\$9,290	\$21	\$309	\$23
		\$105,456 29.11	\$48,898 29.11	\$3,512 29.11	\$2 29.11	\$157,868 29.11	\$3,506 42.72	\$2,423 34.11	\$2,143 42.50	\$818 339.38	\$401 1,129.65	\$9,290 45.03	\$21 2,375.68	\$309 1,068.40	\$233 328.0

9 segmentation by number of customers 66.80% 30.97% 2.22% 0.001%

#### Meters, Reg & MSAs O&M Costs

10	Total Cost	2013 M\$s	\$4,942	\$1,569	\$696	\$3	\$7,210	\$109	\$217	\$367	\$40	\$7	\$741	\$0	\$0	\$0
11	Cost Per Customer:	2013 \$s	1.36	0.93	5.77	58.07	1.33	1.32	3.06	7.28	16.65	21.03	3.59			
12		2017 \$s	1.47	1.01	6.21	62.49	1.43	1.43	3.29	7.84	17.92	22.64	3.87	22.64	22.64	22.64

	Service Lines O&M Costs															
13	Total Costs	2013 \$s	\$38,998													
14		2017 \$s	\$41,971													
15	Total Service Line Footage		223,676,731	55,161,113	11,168,746	13,539	290,020,129	11,453,293	7,342,457	6,646,137	586,904	111,511	26,140,303	1,030	47,237	647,411
16	Percent of Total Footage		70.53%	17.39%	3.52%	0.00%	91.45%	3.61%	2.32%	2.10%	0.19%	0.04%	8.24%	0.00%	0.01%	0.20%
17	Allocated SL O&M Costs	2017 \$s	\$29,602	\$7,300	\$1,478	\$2	\$38,382	\$1,516	\$972	\$880	\$78	\$15	\$3,459	\$0	\$6	\$86
18	Cost Per Customer	2017 \$s	\$0.01	\$0.00	\$0.01	\$0.03	\$0.01	\$0.02	\$0.01	\$0.02	\$0.03	\$0.04	\$0.02	\$0.02	\$0.02	\$0.12

	Calculation of Customer Serv	vice & Information C	ost (CSI) Costs A	ccounts (FERC A	ccounts 907 to 91	0):					Calculation of Customer Service & Information Cost (CSI) Costs Accounts (FERC Accounts 907 to 910);												
5	Total Cost:	2013 M\$s	\$14,455	\$6,703	\$481	\$0	\$21,640	\$3,465	\$2,999	\$2,129	\$102	\$15	\$8,710	\$0	\$2,223	\$0							
3	Cost Per Customer:	2013 \$s	3.99	3.99	3.99	3.99	3.99	42.22	42.22	42.22	42.22	42.22	42.22	0.00	7,693.50	0.00							
4		2017 \$s	4.29	4.29	4.29	4.29	4.29	45.44	45.44	45.44	45.44	45.44	45.44	0.00	8,279.97	0.00							

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

Calculation of Customer Service & Informatio	on Cost (CSI) Costs A	Accounts (FERC Acc	ounts 907 to 91	0):										
					PBR Exclusion	Other	2013 Costs in Transport							
139 Calculation of Customer Service & Informatio	n Coste (CSI Coste):			2013 Costs	Items	Adjustments	Rates			Exclusions		2013		
140 907 Cus Svc-Supervision + Pavroll Taxes	11 00313 (031 00313).	NON-DSM CUST. IN	NEO.	\$638	\$0	SO	\$638	FERC Form 2		Self Generation	(acct 908)	\$14.328.729	-	
41 908 Cus Svc-Cust Assist Exp (PBR Ex DAP, DSI	M&Self-Gen)	NON-DSM CUST. IN		\$199,628	(\$167,610)	\$0	\$32,018	FERC Form 2		Energy Efficiend		\$57,429,006		
42 909 Cus Svc-Info & Instruction Exp	widden-den)	NON-DSM CUST. IN		\$935	\$0	\$0	\$935	FERC Form 2			ergy Efficiency (ac			
43 910 Cus Svc-Misc CSI Exp		NON-DSM CUST. IN		\$1,775	\$0	\$0	\$1.775	FERC Form 2		LOW INCOME LI	ergy Enterency (ac	\$167,610,345	-	
44				\$202,976	(\$167,610)	\$0	\$35,366	TERO FORM 2				\$107,010,343		
47				\$202,570	(\$107,010)	ψυ	\$33,300							
48 CS&I O&M. 2013 \$000's							\$35,366	-						
149							\$00,000	=						
+5														
													Total Retail	
			Residential	CCI	G-AC	G-GEN	NGV	Total Core	NCCI	EG Tier 1	EG Tier 2	EOR	NonCore	Long Beach
Calculation of CSI Cost Allocator:														
Energy Markets Costs:														
Major Markets Staff FTE by Class (mgmnt est	imate)			0.4	0.0	0.0	0.0	0	1.1	0.4	5.2	3.4	10.1	0.9
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%
Energy Markets	\$1,833		\$0	\$51	\$0	\$0	\$0	\$51	\$134	\$44	\$662	\$430	\$1,271	\$119
Large C&I:		_												
# Large C&I Customers			0	206,292	0	0	0	206,292	577	0	0	0	577	0
% Large C&I only			0.0%	99.7%	0.0%	0.0%	0.0%	99.7%	0.3%	0.0%	0.0%	0.0%	0.3%	0.0%
Large C&I	\$5,158		\$0	\$5,144	\$0	\$0	\$0	\$5,144	\$14	\$0	\$0	\$0	\$14	\$0
0 NGV	\$1,430		\$0	\$0	\$0	\$0	\$1,430	\$1,430	\$0	\$0	\$0	\$0	\$0	\$0
1 Residential	\$10,148		\$10,148	\$0	\$0	\$0	\$0	\$10,148	\$0	\$0	\$0	\$0	\$0	\$0
2 Small Business														
3 # G10, G-AC, G-GE Customers only			0	206,292	0	0	0	206,292	0	0	0	0	0	0
4 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%
5 Small Business	\$408		\$0	\$408	\$0	\$0	\$0	\$408	\$0	\$0	\$0	\$0	\$0	\$0
6 Econ Development														
7 # Large C&I Customers			0	206,292	0	0	0	206,292	577	0	0	0	577	0
8 % Large C&I only			0.0%	99.7%	0.0%	0.0%	0.0%	99.7%	0.3%	0.0%	0.0%	0.0%	0.3%	0.0%
9 Econ Development	(\$2)		\$0	(\$2)	\$0	\$0	\$0	(\$2)	(\$0)	\$0	\$0	\$0	(\$0)	\$0
0 Other Residential	\$3,769		\$3,769	\$0	\$0	\$0	\$0	\$3,769	\$0	\$0	\$0	\$0	\$0	\$0
1 Total	\$22,744		\$13,917	\$5,602	\$0	\$0	\$1,430	\$20,948	\$149	\$44	\$662	\$430	\$1,285	\$119
2 Allocator %			61.2%	24.6%	0.0%	0.0%	6.3%	92.1%	0.7%	0.2%	2.9%	1.9%	5.7%	0.5%

#### SCG 2016 TCAP Phase II LRMC Customer Cost

Allocation of Customer-Related Distribution O&M 0

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								Noncore					
							Nor	n-Residential					Total
			G-30		Small EG	EG	EOR		Who	lesale		Intl	Over All
		Distribution	Transmission	Total		G-50	G-40	LB	SDG&E	SWG	Vernon	DGN	Customers
2013 Number of Customers		545	32	577	161	59	32	1	1	1	1	1	5,631,108
	5	010						•	•		•		•
		010							•				
Customer Services O&M Costs Total Cost	2013 M\$s			\$343	\$39	\$14	\$3	\$0	\$0	\$0	\$0	\$0	\$130,662
Customer Services O&M Costs Total Cost	2013 M\$s 2013 \$s			\$343 593.65	243.99	243.99	84.85	0.00	0.00	\$0 0.00	0.00	0.00	\$130,662
Customer Services O&M Costs Total Cost Cost Per Customer:	2013 M\$s			\$343			+-			\$0 0.00 0.00			\$130,662

Customer Accounts (	D&M Costs
---------------------	-----------

5	Total Cost:	2013 M\$s		\$2,187	\$559	\$205	\$127	\$15	\$11	\$27	\$8	\$5	\$170,865
6	Cost Per Customer:	2013 \$s		3,790.79	3,474.06	3,474.06	3,981.42	14,930.74	10,973.04	26,803.84	7,962.87	5,036.49	
7		2017 \$s		4,079.76	3,738.89	3,738.89	4,284.93	16,068.91	11,809.51	28,847.09	8,569.88	5,420.42	
8													

9 segmentation by number of customers

EG O&M cost	\$764	1
73%	27%	note: split EG costs by # of customers

#### Meters, Reg & MSAs O&M Costs

	motoro, nog a monto o am oc													
10	Total Cost	2013 M\$s			\$1,541	\$560	\$123	\$98	\$17	\$17	\$34	\$3	\$3	\$10,347
11	Cost Per Customer:	2013 \$s			2,670.71	3,478.26	2,084.75	3,062.50	17,000.00	17,000.00	34,000.00	3,000.00	3,000.00	
12		2017 \$s	2,874.30	2,874.30	2,874.30	3,743.41	2,243.67	3,295.95	18,295.91	18,295.91	36,591.81	3,228.69	3,228.69	

Service	Lines	O&M	Costs	
---------	-------	-----	-------	--

13	Total Costs	2013 \$s												
14		2017 \$s												
15	Total Service Line Footage		217,973	27,015	244,987	32,325	26,613	11,876	0	0	0	0	0	317,139,587
16	Percent of Total Footage		0.07%	0.01%	0.08%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
17	Allocated SL O&M Costs	2017 \$s	\$29	\$4	\$32	\$4	\$4	\$2	\$0	\$0	\$0	\$0	\$0	\$41,971
18	Cost Per Customer	2017 \$s	\$0.05	\$0.11	\$0.06	\$0.03	\$0.06	\$0.05	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.01

	Calculation of Customer Service	& Information C										
5	Total Cost:	2013 M\$s	\$231	\$69	\$1,030	\$669	\$185	\$175	\$203	\$150	\$82	\$35,366
3	Cost Per Customer:	2013 \$s	400.35	429.04	17,450.65	20,891.73	185,020.22	175,191.51	202,711.89	149,636.88	81,604.81	6.28
4		2017 \$s	430.87	461.75	18,780.91	22,484.30	199,124.27	188,546.33	218,164.57	161,043.67	87,825.53	

#### Calculation of Customer Service & Information C

 
 139
 Calculation of Customer Service & Information C

 140
 907 Cus Svc-Supervision + Payroll Taxes

 141
 908 Cus Svc-Cust Assist Exp (PBR Ex DAP, DSM &:
 142 909 Cus Svc-Info & Instruction Exp 143 910 Cus Svc-Misc CSI Exp 144 147 148 CS&I O&M, 2013 \$000's

				Total Whole				SYSTEM	
	SDG&E	South West Gas	Vernon	lotal Whole sale	DGN	UBS	Total Noncore	TOTAL	Sources
Calculation of CSI Cost Allocator:									
Energy Markets Costs:									
Major Markets Staff FTE by Class (mgmnt estimation	0.9	1.0	0.8	3.6	0.4	0.0	14.1	14.5	
Energy Markets	6.1%	7.1%	5.3%	25.0%	2.9%	0.0%	97.2%	100.0%	
Energy Markets	\$113	\$130	\$96	\$458	\$52	\$0	\$1,781	\$1,833	
Large C&I:									
# Large C&I Customers	0	0	0	0	0	0	577	206,869	2013 Customer Count
8 % Large C&I only	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	100.0%	
Large C&I	\$0	\$0	\$0	\$0	\$0	\$0	\$14	\$5,158	
0 NGV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,430	
1 Residential	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10,148	
2 Small Business									
3 # G10, G-AC, G-GE Customers only	0	0	0	0	0	0	0	206,292	2013 Customer Count from SCG Cust Cost model "cust 2
4 Small Business	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
5 Small Business	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$408	
6 Econ Development									
7 # Large C&I Customers	0	0	0	0	0	0	577	206,869	2013 Customer Count from SCG Cust Cost model "cust 2
8 % Large C&I only	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	100.0%	_
9 Econ Development	\$0	\$0	\$0	\$0	\$0	\$0	(\$0)	(\$2)	
Other Residential	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,769	_
21 Total	\$113	\$130	\$96	\$458	\$52	\$0	\$1,796	\$22,744	
2 Allocator %	0.5%	0.6%	0.4%	2.0%	0.2%	0.0%	7.9%	100.0%	
						102.0%	6		_

#### SCG 2016 TCAP Phase II LRMC Customer Cost Weighted Average RECC and Replacement Factors

# Weighted Average Meter and House Regulator RECC and Replacement Factors

Line									
1.			AVERAGE	AVERAGE	AVERAGE	AVERAGE	WEIGHTED	WEIGHTED	WEIGHTED
2.	CUSTOMER CLASS	RATE	LABOR COST	METER COST	REGULATOR COST	TOTAL COST	REPLACEMENT	<u>RECC</u>	<u>PVRR</u>
					Dollars		Percent	Percent	
3.	SINGLE FAMILY	GR	171.91	152.67	33.21	357.79	2.80%	9.25%	129.09%
4.	MULTIPLE FAMILY	GR	147.89	78.51	18.56	244.96	2.71%	9.18%	129.14%
5.	MASTER METERED BAND 1	GM,GS	440.21	873.79	199.01	1513.01	2.93%	9.37%	129.01%
6.	MASTER METERED BAND 2	GM,GS	2320.89	10844.41	2063.80	15229.09	3.02%	9.45%	128.96%
7.	RESIDENTIAL WEIGHTED AVERAGE		170.67	146.45	32.51	349.62	2.79%	9.25%	129.09%
8.	SMALL CORE BAND 1	G-10	215.83	294.12	57.54	567.49	2.86%	9.31%	129.05%
9.	SMALL CORE BAND 2	G-10	381.90	787.70	142.24	1311.84	2.93%	9.37%	129.01%
10.	SMALL CORE BAND 3	G-10	818.19	1911.62	391.74	3121.54	2.95%	9.38%	129.00%
11.	SMALL CORE BAND 4	G-10	1232.22	3943.80	1959.18	7135.19	3.01%	9.44%	128.97%
12.	SMALL CORE BAND 5	G-10	1270.50	4383.19	3359.94	9013.64	3.03%	9.46%	128.95%
13.	G10 AVERAGE		430.93	901.17	194.53	1,526.63	2.93%	9.37%	129.01%
14.	GAS COOLING	GAC	1270.50	3942.70	2014.76	7227.96	3.00%	9.44%	128.97%
15.	Natural Gas Vehicles	NGV	5853.97	34407.94	1410.28	41672.19	3.03%	9.46%	128.95%
16.	GAS ENGINES	GENG	1088.44	2698.21	451.65	4238.31	2.95%	9.39%	129.00%
17.	NONCORE COMM/IND TRANSMISSION	G-30	28808.94	180358.76	2782.85	211950.56	3.03%	9.46%	128.95%
18.	NONCORE COMM/IND DISTRIBUTION	G-30	12059.44	73253.85	2965.47	88278.76	3.03%	9.46%	128.95%
19.	NONCORE COMM/IND TOTAL	G-30	12,988.35	79,193.81	2,955.34	95137.51	3.03%	9.46%	128.95%
20.	COGENERATION	G-50	23922.60	153538.98	1770.58	179232.16	3.03%	9.46%	128.95%
21.	EOR	G-40	32782.02	205622.20	2765.38	241169.60	3.03%	9.46%	128.95%
22.	SYSTEM AVERAGE		182.36	187.06	38.91	408.32	2.82%	9.27%	129.08%
22.	INVERSE OF BOOK LIFE		2.44%	3.13%	3.13%				
23.	RECC		0.040/	9.54%	0 5 40/				
23.	REUU		8.94%	9.04%	9.54%				
23.	PVRR		129.29%	128.90%	128.90%				

SCG 2016 TCAP Phase II 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 TOTAL COST Dollars	WEIGHTED <u>REPLACEMENT</u> Percent	WEIGHTED <u>RECC</u>
3.	NONCORE COMM/IND TRANSMISSION	G-30	522,891	522,891	3.13%	9.54%
4.	NONCORE COMM/IND DISTRIBUTION	G-30	3,709,193	3,709,193	3.13%	9.54%
5.	NONCORE COMM/IND TOTAL	G-30	4,232,084	4,232,084	3.13%	9.54%
6.	COGENERATION	G-50	19,159,757	19,159,757	3.13%	9.54%
7.	EOR	G-40	525,735	525,735	3.13%	9.54%
8.	LONG BEACH		5,071,826	5,071,826	3.13%	9.54%
9.	SAN DIEGO GAS & ELECTRIC		11,907,864	11,907,864	3.13%	9.54%
10.	SOUTHWEST GAS		3,233,019	3,233,019	3.13%	9.54%
11.	VERNON		2,529,362	2,529,362	3.13%	9.54%
12.	DGN	· ·	525,735	525,735	3.13%	9.54%
13.	SYSTEM TOTAL		51,417,466	51,417,466	3.13%	9.54%
14.	INVERSE OF BOOK LIFE		3.13%			
15.	RECC factors		9.54%			

# SOUTHERN CALIFORNIA GAS

## 2013 Economic Assumptions Update LEVELIZED ANNUAL CAPITAL COST AND RECC FACTORS

utility socal				R ===>		tions Up		EVELI. Tax Rate		NNUAL 35.00%			Rate ===>			<b>RS</b> n Rate ===:	•	1.236%	
5500			100	otate		HOITIZO	Nonniza	Depreciation Method		LACC Components (in percent)						0			
FERC Account	Account Name	Book Life	Tax Life	Tax Life	Percent Salvage	Federal Taxes ?	State Taxes ?	Federa	<u> </u>	State		Depr	Capital	Taxes	Taxes	LACC	RECC Factors	PVCC Factors	Sum of Rev Req
		LIIC	LIIC	LIIC	Galvage	10/03 :	10/63 :		arrax	oluto	- un	Бері	Capital	Taxes	10/63	LACC			
GAS UI	NDERGROUND STORAGE	9	10	11	12	13	14		15		16	19	20	21	22	23	25	26	27
G-352	Wells	29	15	22	-45%	TRUE	FALSE	db/sl	150%	db/sl	200%	5.00	3.98	1.61	0.62	11.21	9.55	124.72	216.67
G-353	Lines	45	15	22	-40%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.11	4.50	1.91	0.77	10.29	8.42	124.22	263.83
G-354	Compressor Station Equipment	45	15	22	-5%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.33	4.97	2.10	0.89	10.30	8.42	124.28	320.86
G-356	Purification Equipment	37	15	22	-20%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.24	4.59	1.95	0.79	10.57	8.80	124.15	268.05
GAS TRANSMISSION PLANT																			
G-365.1	Land	0	0	0	0%	FALSE	FALSE	none	0%	none	0%	0.00	8.03	3.75	1.24	13.01	n/a	162.04	1336.72
G-365.2	Land Rights	0	40	40	0%	FALSE	FALSE	none	0%	sl	0%	0.00	8.03	2.09	1.24	11.35	n/a	141.41	1267.96
G-366	Structures & Improvements	51	39	45	-20%	TRUE	FALSE	sl	0%	db/sl	0%	2.35	5.71	2.66	0.87	11.60	9.40	141.67	367.64
G-367	Mains	57	15	22	-30%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.28	4.89	2.06	0.88	10.11	8.13	124.38	317.36
G-368	Compressor Station Equipment	43	15	22	-10%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.56	4.86	2.06	0.86	10.35	8.50	124.23	304.74
G-369	Measuring & Regulating Equipment	40	15	22	-15%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.88	4.73	2.01	0.83	10.44	8.63	124.17	285.73
G-371	Other Equipment	20	15	22	-5%	TRUE	FALSE	db/sl	150%	db/sl	200%	5.25	4.57	2.05	0.71	12.59	11.14	123.33	215.59
	STRIBUTION PLANT					1													
G-374.1	Land	0	0	0	0%	FALSE	FALSE	none	0%	db/sl	0%	0.00	8.03	3.75	1.24	13.01	n/a	162.04	1336.72
G-374.2	Land Rights	0	40	40	0%	FALSE	FALSE	none	0%	db/sl	0%	0.00	8.03	2.09	1.24	11.35	n/a	141.41	1267.96
G-375	Structures & Improvements	31	39	45	0%	TRUE	FALSE	sl	0%	db/sl	150%	3.23	5.66	2.69	0.82	12.40	10.50	140.37	313.11
G-376	Mains	55	20	35	-55%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.82	4.78	2.14	0.79	10.53	8.49	129.30	268.88
G-378	Measuring & Regulating Equipment	31	20	35	-85%	TRUE	FALSE	db/sl	150%	db/sl	200%	5.97	3.60	1.48	0.47	11.52	9.76	130.42	190.73
G-380	Services	51	20	35	-95%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.82	4.19	1.91	0.65	10.57	8.57	129.08	185.08
G-381	Meters	32	20	35 25	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.13	5.04	2.30	0.83	11.30	9.54	128.90	280.94
G-382 G-383	Meter & Regulator Installations House Regulators	41 32	20 20	35 35	-10% 0%	TRUE TRUE	FALSE FALSE	db/sl db/sl	150% 150%	db/sl db/sl	200% 200%	2.68	5.05 5.04	2.26 2.30	0.85 0.83	10.84 11.30	8.94 9.54	129.29 128.90	306.31 280.94
G-383 G-387	v	32 12	20 20	35 35	0% 15%	TRUE	FALSE	db/si db/si	150%	db/si db/si	200%	3.13 7.08	5.04 5.35	2.30	0.83	16.20	9.54 14.97	128.90	280.94 187.37
	Other Equipment	12	20	33	13%	TRUE	FALSE	ub/si	130 %	UD/SI	200%	7.06	0.00	3.02	0.75	10.20	14.97	121.90	107.37
G-390	Structures & Improvements	20	39	45	-25%	TRUE	FALSE	sl	0%	db/sl	0%	6.25	5.00	2.27	0.62	14.14	12.51	138.51	235.09
G-391.1	Office Furniture & Equipment	14	7	10	0%	TRUE	FALSE	db/sl	200%	db/sl	200%	7.14	3.93	1.69	0.68	13.45	12.28	110.72	174.26
G-391.2	Computer Equipment	5	5	6	0%	TRUE	FALSE	db/sl	200%	db/sl	200%	20.00	4.12	1.92	0.53	26.57	25.75	106.02	130.75
G-393	Stores Equipment	20	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	5.00	4.95	2.36	0.74	13.05	11.54	127.83	227.66
G-394.1	Shop & Garage Equipment	29	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.45	5.00	2.31	0.81	11.56	9.86	128.72	267.64
G-394.3	Large Portable Tools	24	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	4.17	4.95	2.32	0.77	12.21	10.61	128.31	245.48
G-395	Laboratory Equipment	25	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	4.00	4.96	2.32	0.78	12.06	10.43	128.41	249.91
G-397	Communications Equipment	15	7	10	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	6.67	4.06	1.73	0.69	13.15	11.94	112.34	180.76

FALSE

FALSE

FALSE

FALSE

FALSE

FALSE

db/sl

sl

sl

sl

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sl

150%

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5.00

10.00

6.67

5.00

33.33

16.67

4.95

3.50

3.54

3.64

4.15

3.61

2.36

1.35

1.31

1.32

1.94

1.49

0.74

0.63

0.69

0.74

0.43

0.56

13.05

15.48

12.21

10.69

39.85

22.33

TRUE

TRUE

TRUE

TRUE

TRUE

TRUE

0%

0%

0%

0%

0%

0%

Miscellaneous Equipment

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

G-398

20 20 35

10 3 3

15 3 3

20

3 3 3

6 3 3

3 3

11.54

14.49

11.08

9.46

39.22

21.49

127.83

103.73

104.30

104.75

102.66

103.16

227.66

149.87 172.03

194.20

118.84

132.14

		Tabl	e 1		
	Calculation	of Margin	nal Customer (	Costs	
		\$/Cust	omer		
				O&M and	
			Annualized	Loaders	Marginal Unit
	CAPEX		CAPEX	\$/customer/	Cost \$/custmer/
Customer Class	\$/customer	RECC %	\$/customer	year	year
Residential	\$1,394.27	8.75%	\$122.00	¢101 c0	\$223.60
			•	\$101.60	
Core C/I	\$4,099.28	8.89%	\$364.60	\$346.70	\$711.30
Gas A/C	\$13,734.35	9.06%	\$1,244.77	\$4,620.40	\$5,865.16
Gas Engine	\$48,323.24	8.64%	\$4,176.78	\$907.74	\$5,084.52
NGV	\$62,935.38	9.21%	\$5,794.55	\$16,486.83	\$22,281.38
Noncore C/I	\$179,258.46	9.12%	\$16,350.27	\$13,828.55	\$30,178.82
Small EG	\$121,936.26	9.12%	\$11,114.75	\$14,143.52	\$25,258.28
Large EG	\$906,717.62	9.43%	\$85,513.35	\$43,130.52	\$128,643.87
EOR	\$333,328.79	9.32%	\$31,056.11	\$51,972.43	\$83,028.54
Long Beach	\$5,071,825.51	9.54%	\$483,937.00	\$402,400.06	\$886,337.07
SDG&E	\$11,907,864.24	9.54%	\$1,136,209.46	\$376,829.08	\$1,513,038.54
Southwest Gas	\$3,233,019.45	9.54%	\$308,484.14	\$488,768.27	\$797,252.41
Vernon	\$2,529,362.03	9.54%	\$241,343.45	\$297,880.00	\$539,223.46
DGN	\$525,735.12	9.54%	\$50,163.93	\$166,266.45	\$216,430.37

SoCalGas

2016 TCAP Phase II

Section 2

Long Run Marginal Distribution Cost Model

Workpapers to the Prepared Written Testimony of Sharim Chaudhury

## 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\_Peak\_Day\_Demand: Cost Driver for Medium Pressure Distribution Mains. It contains 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, and

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, and

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, and

4: % Share of investment between MPD and HPD.

HPD Peak Month Demand
2016 TCAP Phase II

Year         Residential         Core C&I G10         Gas AC         NoV         Gas Eng         Total Core         30         EOR 6-40         EG 6-50         Total Noncore         Wholesale         Total System           2004         0								NonCore C&I G-						Cumulative
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Year	Residential	Core C&I G10	Gas AC	NGV	Gas Eng	Total Core	30	EOR G-40	EG G-50	Total Noncore	Wholesale	Total System	Total
2004         0														
2005         40,810.307         12,723,877         8,444         633,156         76,332         54,201,346         11,202,10         2,078,448         17,278,102         13,36,860         0         8,553,766           2006         41,253,877         12,276,339         8,515         633,125         90,669         54,776,5119         11,578,243         016,161         12,727,236         55,70         693,175         93,888         3,099,225         11,578,320         2,678,449         18,016,164         12,759,337         13,33,537         0         85,68,684           2009         39,227,180         11,789,556         6,228         817,970         60,432         52,075,964         12,624,707         11,979,932         13,133,537         0         85,18,284           2011         39,227,386         11,789,556         4,780         82,1302         61,593         32,177,983         12,424,491         110,019,21         8,00,168         22,32,8288         0         84,382,11           2012         40,494,981         12,240,911         4,448         817,719         80,223         57,4765         12,34,0591         36,51,465         0         99,577,477           2014         39,824,552         11,675,462         5,337         10,005,988         90,1							0	0	0	0	0	0	0	
2006         41,263,872         12,278,389         8,515         639,125         90,689         54,765,19         11,575,421         30,016,162         18,231,651         32,823,233         0         87,586,363           2007         33,022,71         13,277,285         5,570         66,07         772,230         68,184         52,075,569         11,578,320         2,678,949         28,081,864         42,331,313         0         95,089,723           2009         40,233,192         12,046,234         5,564         770,923         80,495         53,186,469         11,578,320         2,678,949         28,016,164         19,759,387         31,330,537         0         85,118,945           2010         39,229,386         11,599,555         4,770         82,179,964         12,624,707         1,197,999         26,160,912         0,903,218         0         96,957,467         0         96,977,477           2011         39,529,368         11,579,421         12,364,699         57,7465         23,062,891         55,14,645         0         90,577,457           2014         39,30,81         12,240,600         14,014,171         14,13592         22,173,357         3551,466         0         89,197,007           2014         39,328,154         11,9														
2007         39,022,717         13,277,285         5,570         693,775         99,388         53,093,253         12,491,875         2,297,457         21,156,118         36,575,450         0         89,666,664           2009         40,233,132         12,099,234         5,564         770,239         60,432         52,075,599         11,575,894         26,801,864         42,339,133         0         95,000,723           2010         33,291,380         11,999,556         6,228         817,970         60,432         52,075,954         12,462,488         1,001,92         61,003,218         0.92,025,858         0         92,073,152           2012         40,549,961         12,640,601         4,468         887,719         80,223         54,062,991         12,035,885         2,017,621         23,344,01         37,488,207         92,017,457           2014         39,825,552         11,675,462         5,237         1,005,988         90,102         52,405,361         12,40,601         1,909,475         22,177,465         0         88,717,697         93,701,868         93,701,868         93,701,868         93,701,868         93,701,868         93,701,868         93,701,868         93,701,868         93,701,868         93,701,868         93,701,868         93,701,868         93,7														
2008         39,357,199         12,346,790         6.027         71,330         68,184         52,870,589         11,578,320         2,678,949         28,081,864         42,33,133         0         95,009,723           2019         39,221,380         11,899,955         6,228         817,970         60,432         52,075,964         12,61,164         19,759,337         13,30,537         0         85,118,945           2011         39,529,388         11,759,555         4,780         621,302         61,959         52,175,963         12,462,498         1,100,192         18,800,168         32,362,858         0         84,539,821           2012         40,549,661         12,546,001         4,463         914,448         19,725         55,173,327         12,306,299         52,177,467         0         92,611,175         17,747         17,752,379         3,630         1,064,033         134,445         52,877,466         1,909,475         22,173,357         0         83,970,707           2016         39,281,415         11,675,457         3,830         1,125,423         134,645         52,877,4069         41,124,403         0         93,71,868           2016         39,281,41         166,515         3,830         1,3125,424         139,051         130,094														
2009         40,23,192         12,038,234         5,644         77,023         80,495         53,188,408         10,909,896         1,261,164         19,759,387         31,330,537         0         85,118,945           2010         39,221,380         11,899,555         4,780         821,032         61,393         52,776,964         12,624,707         1,197,599         26,180,912         40,003,218         0         92,079,182           2011         39,529,361         12,540,601         4,488         887,719         80,223         54,062,991         12,336,990         574,786         23,084,0168         32,362,658         0         90,577,457           2014         39,821,451         11,675,462         5,237         1,005,988         90,102         52,657,465         26,774,059         36,591,666         0         98,197,007           2016         39,621,475         11,652,479         3,630         1,125,428         138,601         52,677,465         26,774,059         36,477,965         0         88,70,791           2016         39,29,699         11,65,15         3,630         1,25,428         138,616         52,677,455         26,774,059         36,477,965         0         88,70,791           2018         39,09,919         11,502,710														
2010         33 (23) (30)         11 (39) (35)         6 (22)         817 (37)         60 (432)         52 (37) (36)         12 (26) (47)         11 (37) (39)         28 (18) (31)         32 (35) (35)         0         84 (53) (32)           2011         39 (52) (36)         11 (59) (56)         4,780         821,302         61,399         52 (176,963)         12,462,498         1,100,192         18,800,168         32,352,858         0         84,539,821           2012         44,530,097         12,665,015         4,643         914,448         119,725         55,173,927         12,035,995         2,017,821         23,384,401         37,435,207         0         92,612,133           2014         39,828,552         11,675,487         3,630         1,064,033         135,446         52,577,465         12,40,4060         1,909,475         22,169,519         36,647,965         0         89,197,007           2016         39,298,145         11,699,768         3,630         1,125,428         136,801         52,257,465         12,40,432         1,909,475         22,169,533         36,692,452         0         88,71,765           2017         39,298,145         11,691,615         3,630         1,259,049         139,914,014         12,265,624         1,909,475         22,2														
2011       39.529.368       11,759.555       4,780       821,302       61.959       52,176,963       12,440,248       11,101.192       18,800.168       32,362,858       0       84,653,821         2013       41,530.097       12,605,015       4,643       914,448       119,725       55,173,927       12,035,985       2,017,821       23,384,401       37,438,207       0       92,612,133         2014       33.828,552       11,675,462       5,237       10,05,988       90,102       52,665,341       13,004,717       1,413,592       22,173,357       36,591,666       0       89,197,007         2016       33,621,415       11,699,796       3,630       1,224,028       136,801       52,257,465       1,904,775       22,166,959       36,477,965       0       88,701,71         2016       33,298,145       11,899,796       3,630       1,229,049       139,551       52,014,014       12,136,785       1,909,475       22,166,959       36,477,965       0       88,777,685         2018       39,09,991       11,820,793       3,630       1,391,696       139,515       52,014,014       12,136,785       1,909,475       22,166,959       36,676,1671       0       88,77,786         2009       36,512,177,79       1,630 </td <td></td>														
2012       40,649,961       12,540,601       4,488       897,719       80,223       55,6173,927       12,035,995       20,17,821       23,384,401       37,438,207       0       92,612,133         2014       33,828,552       11,675,462       5,237       1,005,988       90,102       52,605,341       13,004,717       1,413,592       22,173,357       35,691,666       0       89,197,007         2015       33,621,475       11,1752,879       3,630       1,124,242       13,604       12,201,521       19,09,475       22,677,466       94,477,965       0       93,771,455         2016       33,228,145       11,609,796       3,630       1,190,365       138,169       52,178,339       12,228,624       19,09,475       22,615,953       36,692,452       0       88,70,791         2018       39,090,991       11,520,793       3,630       1,331,696       140,946       51,780,5787       11,09,475       22,915,365       36,692,452       0       88,77,565         2019       38,813,30,693       140,946       51,780,5787       11,909,475       22,915,367       36,692,452       0       88,77,765         2019       38,511,479       11,182,510       2,017       1,408,535       140,946       51,780,5787       11,90														
2013         41.530.097         12.605.015         4.643         914.448         119.725         55.173.927         12.035.985         2.017.821         23.384.401         37.438.207         0         92.612.133           2014         39.824.552         11.675.462         5.237         1.005.988         90.102         52.605.341         13.004.717         1.413.592         22.173.357         36.591.666         0         89.707.007           2015         39.821.475         11.757.827         3.630         1.046.033         135.446         52.677.466         14.124.403         0         93.701.868           2016         39.298.145         11.699.796         3.630         1.125.428         136.601         52.2673.600         12.401.532         1.909.475         22.715.913         36.6761.671         0         88.777.965           2018         39.909.991         11.520.793         3.630         1.331.696         140.946         51.780.542         11.963.667         1.909.475         22.715.411         36.6761.671         0         88.777.370           2019         38.571.779         11.182.510         2.017         1.408.535         140.946         51.305.787         11.743.837         1.909.475         22.926.867         36.620.676         0         87.92														
2014         39,828,552         11,675,462         5,237         1,005,988         90,102         52,605,341         13,004,717         1,413,592         22,173,357         36,591,666         0         89,197,007           2015         39,228,455         11,752,879         3,630         1,125,428         136,801         52,267,465         12,440,860         1,909,475         22,173,357         36,591,666         0         89,197,007           2016         39,229,659         11,616,515         3,630         1,125,428         136,801         52,263,800         12,410,532         1,909,475         22,169,593         36,677,4955         0         88,771,7955         0         88,771,779           2018         39,090,991         11,520,793         3,630         1,31,966         140,946         51,905,421         1,909,475         22,917,335         36,692,452         0         88,773,370           2020         38,571,779         11,182,510         2,017         1,408,535         140,946         51,907,238         839         55         222         1,116         0         5,198,354           2004         4,987,210         20,063         21         169         957         5,265,420         766         51         187         1,004			12,540,601	4,488	887,719	80,223								
2015       39,621,475       11,752,879       3,630       1,064,033       135,446       52,577,465       12,440,860       1,909,475       22,166,359       36,477,965       0       88,870,791         2016       39,298,145       11,616,515       3,630       1,125,428       138,169       52,177,339       12,263,624       1,909,475       22,166,359       36,477,965       0       88,870,791         2018       39,090,991       11,520,793       3,630       1,259,044       139,551       52,014,014       12,136,785       1,909,475       22,715,411       36,761,671       0       88,776,865         2019       38,913,306       11,390,963       3,630       1,331,696       140,946       51,700,542       11,963,667       1,909,475       22,923,687       36,766,829       0       88,776,730         Table 1: Number of Customers by Class         Table 1: Number of Customers by Class         2004       4,987,210       20,068       22       164       982       5,197,238       839       55       222       1,116       0       5,286,424         2006       5,514,211       210,066       19       177       924       5,327,646       739       49       192       990       <	2013	41,530,097	12,605,015	4,643	914,448	119,725	55,173,927	12,035,985	2,017,821	23,384,401	37,438,207	0	92,612,133	
2016       39,298,145       11,699,796       3,630       1,125,428       138,601       52,263,800       12,401,532       1,909,475       22,166,959       36,477,965       0       88,741,765         2017       39,229,659       11,615,515       3,630       1,120,365       138,169       52,178,339       12,263,624       1,909,475       22,519,353       36,692,452       0       88,775,685         2019       38,913,306       11,320,963       3,630       1,331,696       140,946       51,780,542       11,963,667       1,909,475       22,923,687       36,796,829       0       88,777,370         2020       38,571,779       11,182,510       2,017       1,408,535       140,946       51,780,542       11,963,667       1,909,475       22,923,687       36,620,676       0       87,926,463         Table 1': Number of Customers by Class         2004       4,987,210       20,063       21       169       957       5,265,420       766       51       187       1,004       0       5,266,424         2006       5,115,570       210,966       19       177       924       5,327,646       739       49       192       980       0       5,338,626         2007 <td< td=""><td>2014</td><td>39,828,552</td><td>11,675,462</td><td>5,237</td><td>1,005,988</td><td>90,102</td><td>52,605,341</td><td>13,004,717</td><td>1,413,592</td><td>22,173,357</td><td>36,591,666</td><td>0</td><td>89,197,007</td><td></td></td<>	2014	39,828,552	11,675,462	5,237	1,005,988	90,102	52,605,341	13,004,717	1,413,592	22,173,357	36,591,666	0	89,197,007	
2017       39,229,659       11,616,515       3,630       1,190,365       138,169       52,178,339       12,263,624       1,909,475       22,519,353       36,692,452       0       88,870,791         2018       39,090,991       11,520,793       3,630       1,259,049       139,515       52,014,014       12,136,785       1,909,475       22,715,411       36,796,671       0       88,770,370         2020       38,571,779       11,300,963       3,630       1,331,695       140,946       51,780,542       11,909,475       22,923,687       36,796,629       0       88,77,370         2020       38,571,779       11,182,510       2,017       1,408,555       140,946       51,780,542       11,743,837       1,909,475       22,967,365       36,620,676       0       87,926,463         Table 1: Number of Customers by Class         2004       4,987,210       20,8860       22       164       982       5,197,238       839       55       222       1,116       0       5,198,354         2005       5,054,210       210,063       21       169       957       5,265,420       766       51       187       1,004       0       5,266,424         2006       5,115,570 <t< td=""><td>2015</td><td>39,621,475</td><td>11,752,879</td><td>3,630</td><td>1,064,033</td><td>135,446</td><td>52,577,465</td><td>12,440,860</td><td>1,909,475</td><td>26,774,069</td><td>41,124,403</td><td>0</td><td>93,701,868</td><td></td></t<>	2015	39,621,475	11,752,879	3,630	1,064,033	135,446	52,577,465	12,440,860	1,909,475	26,774,069	41,124,403	0	93,701,868	
2018       39,090,991       11,520,793       3,630       1,259,049       139,551       52,014,014       12,136,785       1,909,475       22,715,411       36,761,671       0       88,775,685         2019       38,913,306       11,390,963       3,630       1,331,696       140,946       51,780,542       11,909,475       22,923,687       36,706,629       0       88,577,370         2020       38,571,779       11,182,510       2,017       1,408,535       140,946       51,305,787       11,909,475       22,967,365       36,620,676       0       87,926,463         Table 1': Number of Customers by Class         2004       4,987,210       208,860       22       164       982       5,197,238       839       55       222       1,116       0       5,198,354         2005       5,054,210       210,063       21       169       957       5,265,420       766       51       187       1,004       0       5,382,266         2006       5,115,570       210,784       17       24       5,327,764       739       49       192       980       0       5,338,266         2008       5,248,551       211,449       15       293       843       5,461,151	2016	39,298,145	11,699,796	3,630	1,125,428	136,801	52,263,800	12,401,532	1,909,475	22,166,959	36,477,965	0	88,741,765	
2019       38,913,306       11,309,963       3,630       1,331,696       140,946       51,780,542       51,305,787       11,993,475       22,923,687       36,796,829       0       88,577,370         Table 1: Number of Customers by Class         2004       4,987,210       208,860       22       164       982       5,197,238       839       55       222       1,116       0       5,198,354         2005       5,054,210       210,063       21       169       957       5,265,420       766       51       187       1,004       0       5,286,626         2007       5,179,346       210,784       17       216       878       5,391,241       731       42       242       1,015       0       5,382,626         2008       5,248,551       211,449       15       293       843       5,461,151       674       41       2222       937       0       5,462,088         2009       5,257,766       209,301       15       341       819       5,461,254       637       34       205       876       0       5,482,130         2011       5,355,438       205,300       12       198       699       5,661,647       615 <t< td=""><td>2017</td><td>39,229,659</td><td>11,616,515</td><td>3,630</td><td>1,190,365</td><td>138,169</td><td>52,178,339</td><td>12,263,624</td><td>1,909,475</td><td>22,519,353</td><td>36,692,452</td><td>0</td><td>88,870,791</td><td></td></t<>	2017	39,229,659	11,616,515	3,630	1,190,365	138,169	52,178,339	12,263,624	1,909,475	22,519,353	36,692,452	0	88,870,791	
2020         38,571,779         11,182,510         2,017         1,408,535         140,946         51,305,787         11,743,837         1,909,475         22,967,365         36,620,676         0         87,926,463           Table 1: Number of Customers by Class           2004         4,987,210         208,860         22         164         982         5,197,238         839         55         222         1,116         0         5,198,354           2005         5,054,210         210,063         21         169         957         5,265,420         766         51         187         1,004         0         5,286,424           2006         5,115,570         210,956         19         177         924         5,327,646         739         49         192         980         0         5,328,626           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         243         843         5,461,151         674         41         222         937         0         5,462,088           2010	2018	39,090,991	11,520,793	3,630	1,259,049	139,551	52,014,014	12,136,785	1,909,475	22,715,411	36,761,671	0	88,775,685	
2020       38,571,779       11,182,510       2,017       1,408,535       140,946       51,305,787       11,743,837       1,909,475       22,967,365       36,620,676       0       87,926,463         Table 1: Number of Customers by Class         2004       4,987,210       208,860       22       164       982       5,197,238       839       55       222       1,116       0       5,198,354         2005       5,054,210       210,063       21       169       957       5,265,420       766       51       187       1,004       0       5,286,424         2006       5,115,570       210,956       19       177       924       5,327,646       739       49       192       980       0       5,328,626         2007       5,179,346       210,784       17       216       878       5,391,241       731       42       242       1,015       0       5,338,2266         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       5,469,144       40	2019	38,913,306	11,390,963	3,630	1,331,696	140,946	51,780,542	11,963,667	1,909,475	22,923,687	36,796,829	0	88,577,370	
Table 1: Number of Customers by Class           2004         4,987,210         208,860         22         164         982         5,197,238         839         55         222         1,116         0         5,198,354           2005         5,054,210         210,063         21         169         957         5,265,420         766         51         187         1,004         0         5,266,424           2005         5,054,210         210,063         21         177         924         5,327,646         739         49         192         980         0         5,328,626           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         5,469,144         205         876         0         5,492,130           2010         5,282,743         207,368         12         397         734		38.571.779	11.182.510	2.017		140.946		11.743.837	1,909,475			0		
2004         4,987,210         208,860         22         164         982         5,197,238         839         55         222         1,116         0         5,198,354           2005         5,054,210         210,063         21         169         957         5,265,420         766         51         187         1,004         0         5,266,424           2006         5,115,570         210,956         19         177         924         5,327,646         739         49         192         980         0         5,328,626           2007         5,179,346         210,784         17         216         878         5,391,241         731         42         242         1,015         0         5,328,626           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         5,469,242         649         40         213         902         0         5,469,144           2010         5,282,743         207,368         12         397         734         5,491,254	Table 1's N	umber of Custome												
20055,054,210210,063211699575,265,420766511871,00405,266,42420065,115,570210,956191779245,327,6467394919298005,328,62620075,179,346210,784172168785,391,241731422421,01505,392,25620085,248,551211,449152938435,461,15167441122293705,462,08820095,257,766209,301153418195,468,2426494021390205,469,14420105,282,743207,368123977345,491,2546373420587605,492,13020115,355,438205,300121986995,561,6476153318983705,562,48420125,380,407204,351101996955,585,6626073819984405,564,68420135,438,624206,29292057095,646,8395773222082905,647,66820145,432,625204,4989298718 <b>5,638,148</b> 60629282 <b>917</b> 05,639,065	-			22	164	092	5 107 229	920	55	222	1 116	0	5 109 254	
20065,115,570210,956191779245,327,6467394919298005,328,62620075,179,346210,784172168785,391,241731422421,01505,332,25620085,248,551211,449152938435,461,1516744122293705,462,04820095,257,766209,301153418195,461,1516744122293705,469,14420105,282,743207,368123977345,491,2546373420587605,492,13020115,355,438205,300121986995,561,6476153318983705,562,48420125,380,407204,351101996955,585,6626073819984405,566,64320135,439,624206,22592057095,648,8395773222082905,647,66820145,432,625204,4989298718 <b>5,638,148</b> 60629282 <b>917</b> 05,639,065														
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         5,566,566           2013         5,439,624         206,292         9         205         709         5,686,628														
20085,248,551211,449152938435,461,1516744122293705,462,08820095,257,766209,301153418195,468,2426494021390205,469,14420105,282,743207,368123977345,491,2546373420587605,492,13020115,355,438205,300121986995,561,6476153318983705,562,48420125,380,407204,351101996955,585,6626073819984405,568,56620135,439,624206,29292057095,646,8395773220082905,639,06520145,432,625204,4989298718 <b>5,638,148</b> 60629282 <b>917</b> 05,639,065														
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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         5,439,624         206,292         9         205         709         5,646,839         577         32         220         829         0         5,647,668           2014         5,432,625         204,498         9         298         718 <b>5,638,148</b> 606         29         282 <b>917</b> 0         5,639,065														
2012         5,380,407         204,351         10         199         695         5,585,662         607         38         199         844         0         5,586,506           2013         5,439,624         206,292         9         205         709         5,646,839         577         32         220         829         0         5,647,668           2014         5,432,625         204,498         9         298         718         5,638,148         606         29         282         917         0         5,639,065														
2013         5,439,624         206,292         9         205         709         5,646,839         577         32         220         829         0         5,647,668           2014         5,432,625         204,498         9         298         718         5,638,148         606         29         282         917         0         5,639,065														
2014 5,432,625 204,498 9 298 718 <b>5,638,148</b> 606 29 282 <b>917</b> 0 5,639,065														
				-								-		
2015 5,457,810 206,092 9 310 723 <b>5,664,944</b> 611 29 284 <b>924</b> 0 5,665,868														
2016 5,504,197 206,676 9 326 730 <b>5,711,938</b> 616 29 285 <b>930</b> 0 5,712,868	2016	E E04 407	206.676	9	326	730	5,711,938	616	29	285		0	5,712,868	
	2017	5,558,410	207,146	9	351	738	5,766,654	619	29	285	933	0	5,767,587	
	2018	5,558,410 5,617,329	207,146 207,377	9 9	351 355	745	5,825,815	621	29	285	935	0	5,826,750	
2020 5,738,021 207,403 5 386 753 <b>5,946,567</b> 627 29 283 <b>939</b> 0 5,947,506	2018 2019	5,558,410 5,617,329 5,677,687	207,146 207,377 207,429	9 9 9	351 355 370	745 753	5,825,815 5,886,248	621 624	29 29	285 284	935 937	0	5,826,750 5,887,185	

Table 2':	Number o	f Additional	Customers	Served by	Customer	Class = c	change in #	# customers	each year

2004	0	0	0	0	0	0	0	0	0	0	0	0
2005	67,000	1,203	0	5	0	68,208	0	0	0	0	0	68,2
2006	61,360	893	0	8	0	62,261	0	0	5	5	0	62,2
2007	63,776	0	0	39	0	63,815	0	0	50	50	0	63,8
2008	69,205	665	0	77	0	69,947	0	0	0	0	0	69,9
2009	9,215	0	0	48	0	9,263	0	0	0	0	0	9,2
2010	24,977	0	0	56	0	25,033	0	0	0	0	0	25,
2011	72,695	0	0	0	0	72,695	0	0	0	0	0	72,6
2012	24,969	0	0	1	0	24,970	0	5	10	15	0	24,
2013	59,217	1,941	0	6	14	61,178	0	0	21	21	0	61,
2014	0	0	0	93	9	102	29	0	62	91	0	19
2015	25,185	1,594	0	12	5	26,796	5	0	2	7	0	26,
2016	46,387	584	0	16	7	46,994	5	0	1	6	0	46,
2017	54,213	471	0	25	7	54,716	3	0	0	4	0	54,
2018	58,919	231	0	4	7	59,161	2	0	0	2	0	59,
2019	60,359	51	0	15	7	60,433	3	0	0	3	0	60
2019	60,359	51	0	15	'	00,400	5	0	-	-		,
	60,333	0	0	16	0	60,349	3	0	0	3	0	60,
2020 l <b>e 2: Ave</b>	60,333 rage Coincident P	0 <b>eak Month Dema</b>	0 Ind Per Custon	16 ner (Mcf) = Tota	0 al Demand by o	60,349	3 tomers in class	0	0	3	0	60
2020 <b>le 2: Ave</b> 2004	60,333 rage Coincident P 0	0 <u>reak Month Dema</u> 0	nd Per Custon	16 n <u>er (Mcf) = Tota</u> 0	0 al Demand by 0 0	60,349 class / total # cus 0	3 tomers in class 0	0	0	3 0	0	60,
2020 <b>le 2: Ave</b> 2004 2005	60,333 rage Coincident P 0 8.1	0 l <mark>eak Month Dema</mark> 0 60.6	0 nd Per Custon 0 402.1	16 ner (Mcf) = Tota 0 3,450.6	0 al Demand by 0 0 79.8	60,349 class / total # cus 0 10.3	3 tomers in class 0 15,640.0	0 0 40,755.8	0 0 92,396.3	3 0 31,212.0	0 0 0.0	60
2020 <b>le 2: Ave</b> 2004 2005 2006	60,333 rage Coincident P 0 8.1 8.1	0 teak Month Dema 0 60.6 60.5	0 nd Per Custon 0 402.1 448.2	16 ner (Mcf) = Tota 0 3,450.6 3,610.9	0 al Demand by 0 0 79.8 98.1	60,349 class / total # cus 0 10.3 10.3	3 tomers in class 0 15,640.0 15,663.6	0 40,755.8 61,554.3	0 92,396.3 94,956.5	3 0 31,212.0 33,493.1	0 0.0 0.0	60 1( 1)
2020 <b>le 2: Ave</b> 2004 2005 2006 2006 2007	60,333 rage Coincident P 0 8.1 8.1 7.5	0 eeak Month Dema 0 60.6 60.5 63.0	0 nd Per Custon 0 402.1 448.2 327.6	16 ner (Mcf) = Tota 0 3,450.6 3,610.9 3,211.9	0 al Demand by o 0 79.8 98.1 106.9	60,349 class / total # cus 0 10.3 10.3 9.8	3 tomers in class 0 15,640.0 15,663.6 17,088.7	0 40,755.8 61,554.3 69,701.4	0 92,396.3 94,956.5 87,422.0	3 0 31,212.0 33,493.1 36,034.9	0 0.0 0.0 0.0 0.0	60, 11 11 11
2020 <b>le 2: Ave</b> 2004 2005 2006 2007 2008	60,333 rage Coincident P 0 8.1 8.1 7.5 7.5 7.5	0 eeak Month Dema 0 60.6 60.5 63.0 58.4	0 <b>nd Per Custom</b> 0 402.1 448.2 327.6 401.8	16 ner (Mcf) = Tota 0 3,450.6 3,610.9 3,211.9 2,431.4	0 al Demand by 6 0 79.8 98.1 106.9 80.9	60,349 <b>Class / total # cus</b> 0 10.3 10.3 9.8 9.6	3 0 15,640.0 15,663.6 17,088.7 17,178.5	0 40,755.8 61,554.3 69,701.4 65,340.2	0 92,396.3 94,956.5 87,422.0 126,494.9	3 0 31,212.0 33,493.1 36,034.9 45,185.8	0 0.0 0.0 0.0 0.0 0.0	60, 10 10 10
2020 le 2: Ave 2004 2005 2006 2007 2008 2009	60,333 rage Coincident P 0 8.1 8.1 7.5 7.5 7.5 7.7	0 eak Month Dema 0 60.6 60.5 63.0 58.4 57.8	0 <b>nd Per Custom</b> 0 402.1 448.2 327.6 401.8 370.9	16 ner (Mcf) = Tota 0 3,450.6 3,610.9 3,211.9 2,431.4 2,260.8	0 al Demand by 6 0 79.8 98.1 106.9 80.9 98.3	60,349 0 10.3 9.8 9.6 9.7	3 tomers in class 0 15,640.0 15,663.6 17,088.7 17,178.5 16,810.5	0 40,755.8 61,554.3 69,701.4 65,340.2 31,529.1	0 92,396.3 94,956.5 87,422.0 126,494.9 92,767.1	3 31,212.0 33,493.1 36,034.9 45,185.8 35,399.7	0 0.0 0.0 0.0 0.0 0.0 0.0	60, 10 10 11 11
2020 <b>le 2: Ave</b> 2004 2005 2006 2007 2008 2009 2010	60,333 rage Coincident P 0 8.1 8.1 7.5 7.5 7.7 7.4	0 eak Month Dema 0 60.6 60.5 63.0 58.4 57.8 57.8 57.4	0 nd Per Custon 0 402.1 448.2 327.6 401.8 370.9 519.0	16 ner (Mcf) = Tota 0 3,450.6 3,610.9 3,211.9 2,431.4 2,260.8 2,060.4	0 al Demand by 6 0 79.8 98.1 106.9 80.9 98.3 82.3	60,349 <b>class / total # cuss</b> 0 10.3 10.3 9.8 9.6 9.7 9.5	3 0 15,640.0 15,663.6 17,088.7 17,178.5 16,810.5 19,819.0	0 40,755.8 61,554.3 69,701.4 65,340.2 31,529.1 35,223.5	0 92,396.3 94,956.5 87,422.0 126,494.9 92,767.1 127,711.8	0 31,212.0 33,493.1 36,034.9 45,185.8 35,399.7 45,665.8	0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	60, 10 10 11 11 11 10
2020 <b>le 2: Ave</b> 2004 2005 2006 2007 2008 2009 2010 2011	60,333 rage Coincident P 0 8.1 8.1 7.5 7.5 7.7 7.4 7.4 7.4	0 eak Month Dema 0 60.6 60.5 63.0 58.4 57.8 57.4 57.3	0 nd Per Custon 0 402.1 448.2 327.6 401.8 370.9 519.0 398.3	16 ner (Mcf) = Tota 0 3,450.6 3,610.9 3,211.9 2,431.4 2,260.8 2,060.4 4,148.0	0 11 Demand by 6 0 79.8 98.1 106.9 80.9 98.3 82.3 88.6	60,349 0 10.3 10.3 9.8 9.6 9.7 9.5 9.4	3 0 15,640.0 15,663.6 17,088.7 17,178.5 16,810.5 19,819.0 20,264.2	0 40,755.8 61,554.3 69,701.4 65,340.2 31,529.1 35,223.5 33,339.2	0 92,396.3 94,956.5 87,422.0 126,494.9 92,767.1 127,711.8 99,471.8	0 31,212.0 33,493.1 36,034.9 45,185.8 35,399.7 45,665.8 38,665.3	0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	60, 10 10 11 11 11 10 11
Ie 2: Ave           2004           2005           2006           2007           2008           2009           2010           2011           2012	60,333 rage Coincident P 0 8.1 8.1 7.5 7.5 7.7 7.4 7.4 7.5	0 eak Month Dema 0 60.6 60.5 63.0 58.4 57.8 57.4 57.3 61.4	0 102.1 448.2 327.6 401.8 370.9 519.0 338.3 448.8	16 0 3,450.6 3,211.9 2,431.4 2,260.8 2,060.4 4,148.0 4,460.9	0 1 Demand by 0 79.8 98.1 106.9 80.9 98.3 82.3 88.6 115.4	60,349 0 10.3 9.8 9.6 9.7 9.5 9.4 9.7	3 0 15,640.0 15,663.6 17,088.7 17,178.5 16,810.5 19,819.0 20,264.2 20,324.5	0 40,755.8 61,554.3 69,701.4 65,340.2 31,529.1 35,223.5 33,339.2 15,125.9	0 92,396.3 94,956.5 87,422.0 126,494.9 92,767.1 127,711.8 99,471.8 118,606.5	0 31,212.0 33,493.1 36,034.9 45,185.8 35,399.7 45,665.8 38,665.3 43,263.6	0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	60, 11 11 11 11 11 11 11 11
R020           Image: R004           R004           R005           R006           R007           R008           R009           R010           R011           R012           R013	60,333 rage Coincident P 0 8.1 8.1 7.5 7.5 7.7 7.4 7.4 7.4 7.5 7.5 7.6	0 eeak Month Dema 0 60.6 60.5 63.0 58.4 57.8 57.4 57.8 57.4 57.3 61.4 61.1	0 nd Per Custon 0 402.1 448.2 327.6 401.8 370.9 519.0 398.3 448.8 515.9	16 ner (MCf) = Tota 0 3,450.6 3,610.9 3,211.9 2,431.4 2,260.8 2,060.4 4,148.0 4,460.9 4,460.7	0 al Demand by ( 79.8 98.1 106.9 80.9 98.3 82.3 82.3 82.6 115.4 168.9	60,349 0 10.3 9.8 9.6 9.7 9.5 9.4 9.7 9.5 9.4 9.7 9.8	3 0 15,640.0 15,663.6 17,088.7 17,178.5 16,810.5 19,819.0 20,264.2 20,324.5 20,859.6	0 40,755.8 61,554.3 69,701.4 65,340.2 31,529.1 35,223.5 33,339.2 15,125.9 63,056.9	0 92,396.3 94,956.5 87,422.0 126,494.9 92,767.1 127,711.8 99,471.8 118,606.5 106,292.7	0 31,212.0 33,493.1 36,034.9 45,185.8 35,399.7 45,665.8 38,665.3 43,263.6 45,160.7	0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	60 1 1 1 1 1 1 1 1 1 1 1
2020 2020 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014	60,333 rage Coincident P 0 8.1 8.1 7.5 7.5 7.7 7.4 7.4 7.4 7.5 7.6 7.3	0 eak Month Dema 0 60.6 60.5 63.0 58.4 57.8 57.4 57.3 61.4 61.1 57.1	0 402.1 448.2 327.6 401.8 370.9 519.0 398.3 448.8 515.9 581.9	16 <b>ner (Mcf) = Tota</b> 0 3,450.6 3,610.9 3,211.9 2,431.4 2,260.8 2,060.4 4,148.0 4,460.9 4,460.7 3,375.8	0 al Demand by o 0 79.8 98.1 106.9 98.3 82.3 88.6 115.4 168.9 125.5	60,349 <b>class / total # cus</b> 0 10.3 10.3 9.8 9.6 9.7 9.5 9.4 9.7 9.8 9.3	3 tomers in class 0 15,640.0 15,663.6 17,088.7 17,178.5 16,810.5 19,819.0 20,264.2 20,324.5 20,859.6 21,459.9	0 40,755.8 61,554.3 69,701.4 65,340.2 31,529.1 35,223.5 33,339.2 15,125.9 63,056.9 48,744.6	0 92,396.3 94,956.5 87,422.0 126,494.9 92,767.1 127,711.8 99,471.8 118,606.5 106,292.7 78,554.2	3 31,212.0 33,493.1 36,034.9 45,185.8 35,399.7 45,665.8 38,665.3 43,263.6 45,160.7 39,892.0	0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	60 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
2020 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015	60,333 rage Coincident P 0 8.1 8.1 7.5 7.5 7.7 7.4 7.4 7.4 7.5 7.6 7.3 7.3	0 <b>Ceak Month Dema</b> 0 60.6 60.5 63.0 58.4 57.8 57.4 57.3 61.4 61.1 57.1 57.1 57.0	0 402.1 448.2 327.6 401.8 370.9 519.0 398.3 448.8 515.9 581.9 403.4	16 <b>ner (Mcf) = Tota</b> 0 3,450.6 3,610.9 3,211.9 2,431.4 2,260.8 2,060.4 4,148.0 4,460.7 3,375.8 3,435.4	0 1 Demand by ( 79.8 98.1 106.9 98.3 82.3 88.6 115.4 168.9 125.5 187.3	60,349 0 10.3 10.3 9.8 9.6 9.7 9.5 9.4 9.7 9.8 9.8 9.3 9.3	3 tomers in class 0 15,640.0 15,663.6 17,088.7 17,178.5 16,810.5 19,819.0 20,264.2 20,324.5 20,324.5 20,859.6 21,459.9 20,363.2	0 40,755.8 61,554.3 69,701.4 65,340.2 31,529.1 35,223.5 33,339.2 15,125.9 63,056.9 48,744.6 65,844.0	0 92,396.3 94,956.5 87,422.0 126,494.9 92,767.1 127,711.8 99,471.8 118,606.5 106,292.7 78,554.2 94,137.0	3 0 31,212.0 33,493.1 36,034.9 45,185.8 35,399.7 45,665.8 38,665.3 43,263.6 45,160.7 39,892.0 44,489.4	0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	60 11 11 11 11 11 11 11 11 11 11 11 11 11
Image: 2000         Ave           0004         0005           0005         0006           0006         0007           0008         0009           0010         0011           0012         0013           0014         0015           0016         0016	60,333 rage Coincident P 0 8.1 8.1 7.5 7.5 7.7 7.4 7.4 7.5 7.6 7.3 7.3 7.1	0 eak Month Dema 0 60.6 60.5 63.0 58.4 57.8 57.4 57.3 61.4 61.1 57.0 56.6	0 <b>nd Per Custon</b> 0 402.1 448.2 327.6 401.8 370.9 519.0 398.3 448.8 515.9 581.9 403.4 403.4	16 ner (Mcf) = Tota 0 3,450.6 3,610.9 3,211.9 2,431.4 2,260.8 2,060.4 4,148.0 4,460.9 4,460.9 4,460.9 4,460.7 3,375.8 3,435.4 3,454.3	0 1 Demand by 0 79.8 98.1 106.9 80.9 98.3 82.3 88.6 115.4 168.9 125.5 187.3 187.3	60,349 0 10.3 10.3 9.8 9.6 9.7 9.5 9.4 9.7 9.8 9.3 9.3 9.3 9.1	3 <b>comers in class</b> <b>0</b> 15,640.0 15,663.6 17,088.7 17,178.5 16,810.5 19,819.0 20,264.2 20,324.5 20,859.6 21,459.9 20,363.2 20,144.0	0 40,755.8 61,554.3 69,701.4 65,340.2 31,529.1 35,223.5 33,339.2 15,125.9 63,056.9 48,744.6 65,844.0	0 92,396.3 94,956.5 87,422.0 126,494.9 92,767.1 127,711.8 99,471.8 118,606.5 106,292.7 78,554.2 94,137.0 77,710.7	0 31,212.0 33,493.1 36,034.9 45,185.8 35,399.7 45,665.8 38,665.3 43,263.6 45,160.7 39,892.0 44,489.4 39,228.1	0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	60 11 12 11 11 12 11 11 11 11 11 11 11 11
2020 2020 2004 2005 2006 2007 2008 2009 2010 2011 2013 2014 2015 2016 2017	60,333 rage Coincident P 0 8.1 8.1 7.5 7.5 7.7 7.4 7.4 7.5 7.6 7.3 7.3 7.1 7.1	0 eak Month Dema 0 60.6 60.5 63.0 58.4 57.8 57.4 57.3 61.4 61.1 57.1 57.0 56.6 56.1	0 md Per Custon 0 402.1 448.2 327.6 401.8 370.9 519.0 398.3 448.8 515.9 581.9 581.9 581.9 403.4 403.4	16 ner (MC) = Tota 0 3,450.6 3,610.9 3,211.9 2,431.4 2,260.8 2,060.4 4,148.0 4,460.9 4,460.7 3,375.8 3,435.4 3,435.4 3,391.2	0 1 Demand by ( 79.8 98.1 106.9 80.9 98.3 82.3 88.6 115.4 168.9 125.5 187.3 187.3 187.3	60,349 0 10.3 10.3 9.8 9.6 9.7 9.5 9.4 9.7 9.8 9.3 9.3 9.3 9.3 9.1 9.0	3 tomers in class 0 15,640.0 15,663.6 17,088.7 17,178.5 16,810.5 19,819.0 20,264.2 20,324.5 20,859.6 21,459.9 20,363.2 20,144.0 19,808.4	0 40,755.8 61,554.3 69,701.4 65,340.2 31,529.1 35,223.5 33,339.2 15,125.9 63,056.9 48,744.6 65,844.0 65,844.0	0 92,396.3 94,956.5 87,422.0 126,494.9 92,767.1 127,711.8 99,471.8 118,606.5 106,292.7 78,554.2 94,137.0 77,710.7 78,928.9	3 31,212.0 33,493.1 36,034.9 45,185.8 35,399.7 45,665.8 38,665.3 43,263.6 45,160.7 39,892.0 44,489.4 39,228.1 39,309.5	0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	60 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
2020 <b>ble 2:</b> Ave 2004 2005 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018	60,333 rage Coincident P 0 8.1 8.1 7.5 7.5 7.7 7.4 7.4 7.4 7.5 7.6 7.3 7.3 7.1 7.1 7.0	0 eak Month Dema 0 60.6 60.5 63.0 58.4 57.8 57.4 57.3 61.4 61.1 57.1 57.0 56.6 56.1 55.6	0 402.1 448.2 327.6 401.8 370.9 519.0 398.3 448.8 515.9 581.9 403.4 403.4 403.4	16 <b>ner (Mcf) = Tota</b> 0 3,450.6 3,610.9 3,211.9 2,431.4 2,260.8 2,060.4 4,148.0 4,460.9 4,460.7 3,375.8 3,435.4 3,454.3 3,391.2 3,546.5	0 al Demand by 6 0 79.8 98.1 106.9 98.3 82.3 88.6 115.4 168.9 125.5 187.3 187.3 187.3 187.3	60,349 0 10.3 10.3 9.6 9.7 9.5 9.4 9.7 9.7 9.8 9.3 9.3 9.3 9.3 9.1 9.0 8.9	3 tomers in class 0 15,640.0 15,663.6 17,088.7 17,178.5 16,810.5 19,819.0 20,264.2 20,324.5 20,859.6 21,459.9 20,363.2 20,144.0 19,808.4 19,529.1	0 40,755.8 61,554.3 69,701.4 65,340.2 31,529.1 35,223.5 33,339.2 15,125.9 63,056.9 48,744.6 65,844.0 65,844.0	0 92,396.3 94,956.5 87,422.0 126,494.9 92,767.1 127,711.8 99,471.8 118,606.5 106,292.7 78,554.2 94,137.0 77,710.7 78,928.9 79,763.3	3 0 31,212.0 33,493.1 36,034.9 45,185.8 35,399.7 45,665.8 38,665.3 43,263.6 45,160.7 39,892.0 44,489.4 39,228.1 39,309.5 39,306.5	0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	60, 10 11 11 11 10 10 10 10 10 10 10 10 10
2020	60,333 rage Coincident P 0 8.1 8.1 7.5 7.5 7.7 7.4 7.4 7.5 7.6 7.3 7.3 7.1 7.1	0 eak Month Dema 0 60.6 60.5 63.0 58.4 57.8 57.4 57.3 61.4 61.1 57.1 57.0 56.6 56.1	0 md Per Custon 0 402.1 448.2 327.6 401.8 370.9 519.0 398.3 448.8 515.9 581.9 581.9 581.9 403.4 403.4	16 ner (MC) = Tota 0 3,450.6 3,610.9 3,211.9 2,431.4 2,260.8 2,060.4 4,148.0 4,460.9 4,460.7 3,375.8 3,435.4 3,435.4 3,391.2	0 1 Demand by ( 79.8 98.1 106.9 80.9 98.3 82.3 88.6 115.4 168.9 125.5 187.3 187.3 187.3	60,349 0 10.3 10.3 9.8 9.6 9.7 9.5 9.4 9.7 9.8 9.3 9.3 9.3 9.3 9.1 9.0	3 tomers in class 0 15,640.0 15,663.6 17,088.7 17,178.5 16,810.5 19,819.0 20,264.2 20,324.5 20,859.6 21,459.9 20,363.2 20,144.0 19,808.4	0 40,755.8 61,554.3 69,701.4 65,340.2 31,529.1 35,223.5 33,339.2 15,125.9 63,056.9 48,744.6 65,844.0 65,844.0	0 92,396.3 94,956.5 87,422.0 126,494.9 92,767.1 127,711.8 99,471.8 118,606.5 106,292.7 78,554.2 94,137.0 77,710.7 78,928.9	3 31,212.0 33,493.1 36,034.9 45,185.8 35,399.7 45,665.8 38,665.3 43,263.6 45,160.7 39,892.0 44,489.4 39,228.1 39,309.5	0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	

Table 3: Coincident Peak Month Demand For Additional Customers Served (Mcf) = # additional customers *	average demand per customers

2004	0	0	0	0	0	0	0	0	0	0	0	0
2005	540,993	72,867	0	17,253	0	631,112	0	0	0	0	0	631,112
2006	494,950	54,031	0	28,887	0	577,868	0	0	474,783	474,783	0	1,052,651
2007	480,507	0	0	125,265	0	605,772	0	0	4,371,099	4,371,099	0	4,976,871
2008	521,319	38,840	0	187,215	0	747,375	0	0	0	0	0	747,375
2009	70,515	0	0	108,517	0	179,032	0	0	0	0	0	179,032
2010	185,771	0	0	115,381	0	301,152	0	0	0	0	0	301,152
2011	536,574	0	0	0	0	536,574	0	0	0	0	0	536,574
2012	188,181	0	0	4,461	0	192,642	0	75,630	1,186,065	1,261,695	0	1,454,337
2013	452,106	118,600	0	26,764	2,364	599,835	0	0	2,232,147	2,232,147	0	2,831,982
2014	0	0	0	313,949	1,098	315,048	622,338	0	4,891,444	5,513,782	0	5,828,829
2015	182,835	90,897	0	40,297	1,013	315,041	100,753	0	202,161	302,915	0	617,956
2016	331,185	33,052	0	55,513	1,354	421,104	94,615	0	64,788	159,403	0	580,507
2017	382,621	26,393	0	85,496	1,368	495,878	68,703	0	4,899	73,601	0	569,479
2018	410,015	12,829	0	14,186	1,382	438,411	46,051	0	0	46,051	0	484,462
2019	413,684	2,818	0	54,557	1,396	472,454	50,096	0	0	50,096	0	522,550
2020	405,567	0	0	56,805	0	462,372	60,660	0	0	60,660	0	523,032

#### Table 1: Level of Usage of High Pressure Distribution Service by Customer Class

all years	100.00%	99.28%	100.00%	74.26%	95.89%	56.72%	59.43%	10.65%	

Table 4:	High Pressure Distrib	ution-Service-Usa	ge-Weighted	Coincident Pea	k Month Dem	and For Additiona	I Customers Serv	ed (Mcf) = total d	emand for additio	nal customers *	% of customers th	at use HPD syster	<u>n.</u>
2004	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	540,966	72,342	0	12,813	0	613,307	0	0	0	0	0	613,307	613,307
2006	494,925	53,642	0	21,452	0	548,567	0	0	50,548	50,548	0	599,116	1,212,423
2007	480,483	0	0	93,025	0	480,483	0	0	465,376	465,376	0	945,859	2,158,282
2008	521,293	38,560	0	139,030	0	559,854	0	0	0	0	0	559,854	2,718,136
2009	70,511	0	0	80,587	0	70,511	0	0	0	0	0	70,511	2,788,647
2010	185,762	0	0	85,685	0	185,762	0	0	0	0	0	185,762	2,974,409
2011	536,547	0	0	0	0	536,547	0	0	0	0	0	536,547	3,510,955
2012	188,172	0	0	3,313	0	188,172	0	44,946	126,276	171,222	0	359,394	3,870,350
2013	452,084	117,746	0	19,876	2,267	572,097	0	0	237,649	237,649	0	809,746	4,680,096
2014	0	0	0	233,146	1,053	1,053	352,961	0	520,775	873,736	0	874,790	5,554,885
2015	182,826	90,242	0	29,925	972	274,039	57,143	0	21,523	78,666	0	352,705	5,907,590
2016	331,169	32,814	0	41,225	1,299	365,281	53,661	0	6,898	60,559	0	425,840	6,333,430
2017	382,602	26,203	0	63,491	1,312	410,116	38,965	0	522	39,487	0	449,603	6,783,033
2018	409,994	12,737	0	10,535	1,325	424,056	26,118	0	0	26,118	0	450,174	7,233,207
2019	413,663	2,797	0	40,515	1,338	417,798	28,412	0	0	28,412	0	446,211	7,679,417

#### MPD Peak Day Demand 2016 TCAP Phase II

Year         Residential         Core C&I G10         Gas AC         NGV         Gas Eng         Total Core         G-30         EOR G-40         EG G-50         Noncore         Wholesale         Total System         Total           able 1: Peak Bay Demand by Customer Class (Mcfb: Analysis Penjod         00								NonCore C&			Total			Cummulative
2004         0	Year	Residential	Core C&I G10	Gas AC	NGV	Gas Eng	Total Core	G-30	EOR G-40	EG G-50	Noncore	Wholesale	Total System	Total
2004         0	Table 1. Beal	k Day Demand by	Customer Class (	Mcfd): Analy	eie Period									
2006         2,411,263         656,552         275         20,017         2,327,847         675,769         190         2,238         3,091,632         322,240         97,223         724,288         1,115,506         1,581,56         0         4,417,333           2007         2,357,847         675,769         190         22,390         2,199         3,046,517         392,338         86,353         1,115,506         1,594,298         0         4,640,815           2009         2,411,219         634,527         179         24,888         2,597         3,073,31         396,914         0,062         724,880         1,195,324         0         4,365,179           2010         2,2495,628         621,413         154         26,649         1,999         3,064,988         422,799         36,643         746,673         12,04,636         0         4,355,179           2011         2,443,068         642,834         150         2,347,010         43,640         61,598         92,899         1,401,879         0         4,479,047           2014         2,370,313         577,680         117         36,304         4,413         2,347,101         416,496         61,596         891,588         1,365,684         0         4,333,60						0	0	0	0	0	0	0	0	
2007         2.357,847         675,769         180         22.380         3.029         3.059,203         4.843,286         843,64         840,488         1.358,128         0         4.417,329           2008         2.377,627         643,516         194         22.980         2.19         3.064,657         382,338         86,353         1.115,006         1.554,228         0         4.668,715           2010         2.395,458         627,698         201         2.6,868         1.949         3.064,088         422,293         3.6,461         1.040,087         1.554,228         0         4.558,179           2011         2.400,528         621,413         154         2.6,868         3.104,618         482,229         3.5,464         1.040,087         1.554,228         0         4.473,047           2013         2.482,105         648,740         150         2.3,489         2.897,103         418,248         61,596         875,981         1.373,983         0         4.560,933           2016         2.370,313         577,980         117         3.3,344         4,367         2.973,925         412,506         1.596         891,588         1.365,644         0         4.313,969           2017         2.358,183 <t< td=""><td>2005</td><td>2,388,076</td><td>655,975</td><td>272</td><td>18,811</td><td>2,463</td><td>3,065,598</td><td>405,956</td><td>67,000</td><td>686,406</td><td>1,159,362</td><td>0</td><td>4,224,960</td><td></td></t<>	2005	2,388,076	655,975	272	18,811	2,463	3,065,598	405,956	67,000	686,406	1,159,362	0	4,224,960	
2008         2.377,627         643,516         194         2.980         2.199         3.046,517         382,338         86,833         1.116,506         1.594,298         0         4,640,815           2009         2.411,219         634,527         179         24,686         1.949         3.051,683         427,796         38,603         1.040,087         1.596,248         0         4,558,179           2011         2.403,068         642,834         1445         22,686         2,164,181         418,024         63,7662         1.374,238         0         4,259,623           2012         2.403,068         642,834         145         22,686         3,164,356         407,846         65,043         928,900         1.401,879         0         4,566,235           2014         2.378,395         573,089         117         3,324         4,369         2,987,101         418,218         61,596         897,901         4,353,066         4,574,343           2016         2.378,113         577,598         117         3,33,094         4,457         2,973,925         412,500         61,596         897,500         1,349,595         0         4,338,096           2019         2.358,171         567,354         117         4,	2006	2,411,263	656,552	275	20,617	2,925	3,091,632	392,240	97,223	724,288	1,213,751	0	4,305,383	
2009         2,411,219         634,627         179         24,888         2,597         3,073,391         3696,601         40,652         784,980         1,953,324         0         4,288,715           2010         2,395,458         627,698         201         26,386         1,949         3,051,693         427,796         38,603         1,040,087         1,566,456         0         4,259,623           2012         2,400,698         642,834         154         28,686         2,688         3,104,811         418,046         18,528         937,662         1,247,236         0         4,259,623           2014         2,378,335         577,980         117         34,324         4,369         2,987,103         418,646         61,596         875,981         1,37,393         0         4,360,993           2015         2,370,313         577,980         117         36,304         4,413         2,974,619         416,949         61,596         882,902         1,861,447         0         4,350,666           2016         2,387,101         567,343         1,77         4,587         41,547         2,973,925         412,500         61,596         878,500         4,318,192           2016         2,387,101         567,343	2007	2,357,847	675,769	180	22,380	3,029	3,059,203	423,295	94,364	840,468	1,358,126	0	4,417,329	
2010         2.385.488         6.27.698         201         26.384         1.949         3.051.633         427.796         38.603         1.040.087         1.566.486         0         4.558.179           2011         2.404.088         642.834         1.45         26.636         2.568         3.104.811         418.048         165.033         1.204.636         0         4.556.235           2014         2.378.385         573.089         117         34.324         4.369         2.987.101         4.666         15.66         1.77.472         1.87.240         0         4.566.235           2015         2.370.313         577.980         117         36.304         4.413         2.977.101         446.958         8.902         1.361.447         0         4.566.39           2017         2.358.177         575.608         117         40.614         4.502         2.969.667         408.409         61.506         891.588         1.348.505         0         4.339.609           2018         2.357.101         567.574         1.74         4.617         2.926.222         408.409         61.506         891.581         0         4.311.420           2020         2.341.235         561.435         117         40.547	2008	2,377,627	643,516	194	22,980	2,199	3,046,517	392,338	86,353	1,115,606	1,594,298	0	4,640,815	
2111         2,404,282         621,413         154         26,636         2,588         3,064,988         422,299         35,644         7,46,873         1,204,636         0         4,259,623           2013         2,482,105         648,744         150         28,988         3,164,316         407,846         60,493         928,990         1,401,875         0         4,562,325           2014         2,378,395         573,089         169         32,451         2,997,103         418,18         61,596         875,981         1,373,983         0         4,564,334           2016         2,378,313         577,960         117         36,304         4,413         2,997,103         418,18         61,596         817,084         1,864,477         0         4,574,343           2017         2,359,183         577,760         117         36,304         4,457         2,997,603         408,409         61,596         817,686         10         4,336,666         4,338,669         4,338,669         4,338,669         4,338,669         4,341,420         4,341,420         4,341,420         4,341,420         4,341,420         4,341,420         4,341,420         4,341,420         4,341,420         4,341,420         4,341,420         4,341,420         4,341,42	2009	2,411,219	634,527	179	24,868	2,597	3,073,391	369,691	40,652	784,980	1,195,324	0	4,268,715	
2012         2,430,608         642,834         145         2,836         2,888         3,164,356         417,846         15,623         937,662         1,274,236         0         4,479,047           2013         2,482,105         648,740         150         29,498         3,862         3,164,356         407,846         65,043         928,990         1,401,87         0         4,566,235           2014         2,376,333         577,980         117         34,324         4,389         2,997,101         418,218         61,596         819,202         1,567,240         0         4,574,343           2016         2,359,177         575,508         117         36,304         4,567         2,974,619         416,948         61,596         891,588         1,365,654         0         4,339,609           2017         2,357,101         567,354         117         40,614         4,507         2,962,282         408,409         61,596         891,588         1,366,684         0         4,311,420           2019         2,352,25         561,435         117         42,956         4,547         2,962,282         408,429         914,718         1,379,138         0         4,311,420           2020         2,341,235	2010	2,395,458	627,698	201	26,386	1,949	3,051,693	427,796	38,603	1,040,087	1,506,486	0	4,558,179	
2013         2,482,105         648,740         150         29,498         3,862         3,164,356         407,846         65,043         928,990         1,401,879         0         4,566,235           2014         2,370,313         577,989         169         32,441         2,907         2,987,101         418,218         61,596         11,07,427         1,587,240         0         4,576,343           2016         2,358,117         575,608         117         36,304         4,413         2,974,619         416,946         61,596         882,902         1,381,447         0         4,336,066           2018         2,357,101         567,344         117         40,614         4,502         2,989,671         408,409         61,596         891,588         1,365,684         0         4,318,192           2019         2,357,101         567,344         117         42,958         4,547         2,982,622         402,824         61,596         914,718         1,379,138         0         4,311,169           2020         2,341,235         551,718         65         45,437         4,547         2,962,622         1,16         0         5,198,354           2004         4,987,210         208,860         22         <	2011	2,404,928	621,413	154	26,494	1,999	3,054,988	422,299	35,464	746,873	1,204,636	0	4,259,623	
2014         2,378,395         573,089         169         32,451         2,907         2,967,010         436,406         61,596         875,981         1,373,983         0         4,360,993           2015         2,378,135         577,980         117         34,324         4,369         2,987,103         418,248         61,596         882,902         1,581,447         0         4,353,606           2017         2,358,177         575,608         117         38,399         4,457         2,974,619         412,500         61,596         891,588         1,365,664         0         4,339,609           2018         2,357,101         567,354         117         42,958         4,547         2,969,687         408,409         61,596         878,500         1,348,505         0         4,311,129           2020         2,341,225         551,718         65         45,437         4,547         2,943,001         395,733         61,596         910,839         1,368,468         0         4,311,420           2005         5,164,210         210,063         21         169         957         222         1,116         0         5,266,424           2006         5,176,270         210,968         193         173	2012	2,430,608	642,834	145	28,636	2,588	3,104,811	418,046	18,528	937,662	1,374,236	0	4,479,047	
2015       2,370,313       577,980       117       34,324       4,369       2,987,103       418,218       61,596       882,902       1,361,447       0       4,336,066         2016       2,358,183       571,769       117       36,304       4,413       2,973,925       412,500       61,596       882,002       1,361,447       0       4,338,609         2018       2,357,101       567,354       117       40,614       4,502       2,969,687       408,409       61,596       878,500       1,348,505       0       4,311,420         2019       2,353,225       561,435       117       42,958       4,547       2,962,282       408,409       61,596       878,500       1,348,505       0       4,311,420         2020       2,341,235       551,718       65       45,437       4,547       2,963,001       395,73       61,596       914,718       1,379,138       0       4,311,420         2004       4,987,210       208,860       22       164       987       5,285,420       766       51       187       1,004       0       5,266,424         2005       5,054,210       210,063       19       177       924       5,327,646       739       49 <td< td=""><td>2013</td><td>2,482,105</td><td>648,740</td><td>150</td><td>29,498</td><td>3,862</td><td>3,164,356</td><td>407,846</td><td>65,043</td><td>928,990</td><td>1,401,879</td><td>0</td><td>4,566,235</td><td></td></td<>	2013	2,482,105	648,740	150	29,498	3,862	3,164,356	407,846	65,043	928,990	1,401,879	0	4,566,235	
2016       2,358,177       575,608       117       36,304       4,413       2,974,619       416,949       61,596       882,902       1,361,447       0       4,336,066         2017       2,359,183       571,769       117       36,399       4,457       2,969,67       408,409       61,596       891,588       1,365,684       0       4,339,609         2019       2,353,225       561,435       117       42,958       4,547       2,962,282       402,824       61,596       914,718       1,379,138       0       4,341,420         2020       2,341,235       551,718       65       45,437       4,547       2,962,282       402,824       61,596       914,718       1,379,138       0       4,341,420         2020       2,341,235       551,718       65       45,437       4,547       2,962,282       402,824       61,596       910,839       1,368,168       0       4,311,169         204       4,987,210       208,860       22       164       982       5,197,238       839       55       222       1,116       0       5,286,424         2006       5,054,210       210,063       21       169       957       5,266,427       739       49       1	2014	2,378,395	573,089	169	32,451	2,907	2,987,010	436,406	61,596	875,981	1,373,983	0	4,360,993	
2016       2,358,177       575,608       117       36,304       4,413       2,974,619       416,949       61,596       882,902       1,361,447       0       4,336,066         2017       2,359,183       571,769       117       36,399       4,457       2,969,67       408,409       61,596       891,588       1,365,684       0       4,339,609         2019       2,353,225       561,435       117       42,958       4,547       2,962,282       402,824       61,596       914,718       1,379,138       0       4,341,420         2020       2,341,235       551,718       65       45,437       4,547       2,962,282       402,824       61,596       914,718       1,379,138       0       4,341,420         2020       2,341,235       551,718       65       45,437       4,547       2,962,282       402,824       61,596       910,839       1,368,168       0       4,311,169         204       4,987,210       208,860       22       164       982       5,197,238       839       55       222       1,116       0       5,286,424         2006       5,054,210       210,063       21       169       957       5,266,427       739       49       1												0		
2017       2,359,183       571,769       117       38,399       4,457       2,973,925       412,500       61,596       891,588       1,365,684       0       4,339,609         2018       2,357,101       567,354       1177       40,614       4,502       2,999,687       408,409       61,596       891,588       1,345,505       0       4,318,192         2019       2,353,225       561,435       117       42,958       4,547       2,962,282       42,242       61,596       911,718       1,379,138       0       4,311,420         2020       2,341,235       551,718       65       45,437       4,547       2,943,001       395,733       61,596       910,839       1,366,168       0       4,311,420         2020       2,341,235       551,718       65       45,437       4,547       2,943,001       395,733       61,596       910,839       1,366,168       0       4,311,169         (able 1: Number of Customers by Class         2004       4,987,210       206,860       22       164       982       5,197,238       839       55       222       1,116       0       5,198,354         2006       5,116,570       210,063       211       77												0		
2019       2,353,225       561,435       117       42,958       4,547       2,962,282       402,824       61,596       914,718       1,379,138       0       4,341,420         calle       1<	2017		571,769	117		4,457			61,596	891,588		0		
2019       2,353,225       561,435       117       42,958       4,547       2,962,282       402,824       61,596       914,718       1,379,138       0       4,341,420         calle       1<	2018	2.357.101	567.354	117	40.614	4.502	2.969.687	408,409	61,596	878.500	1.348.505	0	4.318.192	
2020         2,341,235         551,718         65         45,437         4,547         2,943,001         395,733         61,596         910,839         1,368,168         0         4,311,169           able 1: Number of Customers by Class														
Table 1: Number of Customers by Class           2004         4,987,210         208,860         22         164         982         5,197,238         839         55         222         1,116         0         5,198,354           2005         5,054,210         210,063         21         169         957         5,266,420         766         51         187         1,004         0         5,266,424           2006         5,115,570         210,956         19         177         924         5,327,646         739         49         192         980         0         5,338,626           2007         5,179,346         210,784         17         216         878         5,391,241         731         42         242         1,015         0         5,338,626           2008         5,248,551         211,449         15         293         843         5,461,151         674         41         222         937         0         5,462,088           2010         5,252,746         209,301         15         341         819         5,461,242         649         40         213         902         0         5,462,180           2011         5,355,438         205,300         12<														
20044,987,210208,860221649825,197,238839552221,11605,198,35420055,054,210210,053211699575,265,420766511871,00405,266,42420065,115,570210,956191779245,327,6467394919298005,328,62620075,179,346210,784172168785,391,241731422421,01505,322,26620085,248,551211,449152938435,461,1516744122293705,462,08820095,257,766209,301153418195,468,2426494021390205,462,13020105,282,743207,388123977345,461,6476153318983705,562,48420125,380,407204,351101996955,585,6626073819984405,582,06620145,432,625204,49892987185,583,1486062928291705,663,906520155,457,810206,09293107235,664,9446112928492405,665,86820165,504,197206,67693267305,711,9386162928593305,712,58720	Table 1'· Nur	mber of Customers	a hy Class											
20055,054,210210,063211699575,265,420766511871,00405,266,42420065,115,570210,956191779245,327,6467394919298005,328,62620075,179,346210,784172168785,391,241731422421,01505,392,25620085,248,551211,449152938435,461,1516744122293705,462,08820095,257,766209,301153418195,468,2426494021390205,469,14420105,282,743207,368123977345,491,2546373420587605,482,13020115,358,438205,300121986995,561,6476153318983705,568,56620135,439,624206,29292057095,684,6835773222082905,639,06520145,432,625204,49892987185,684,9446112928492405,668,86820155,504,197206,09293107235,664,9446112928492405,665,86820155,504,197206,69293267305,711,9386162928593305,712,8682016 </td <td></td> <td></td> <td></td> <td>22</td> <td>164</td> <td>982</td> <td>5,197,238</td> <td>839</td> <td>55</td> <td>222</td> <td>1,116</td> <td>0</td> <td>5,198,354</td> <td></td>				22	164	982	5,197,238	839	55	222	1,116	0	5,198,354	
20065,115,570210,956191779245,327,6467394919298005,328,62620075,179,346210,784172168785,391,241731422421,01505,392,25620085,248,551211,449152938435,461,1516744122293705,462,08820095,257,766209,301153418195,468,2426494021390205,492,13020105,282,743207,368123977345,491,2546373420587605,492,13020115,358,438205,300121986995,561,6626073819984405,568,56620125,380,407204,351101996955,585,6626073819984405,568,56620135,439,624206,29292057095,648,8395773222082905,647,66820145,432,625204,49892987185,638,1486062928291705,639,06520155,457,810206,09293107235,664,8446112928492405,665,86820165,041,197206,76693267305,711,9386162928593305,712,8682016 <td></td>														
20075,179,346210,784172168785,391,241731422421,01505,392,25620085,248,551211,449152938435,461,1516744122293705,462,08820095,257,766209,301153418195,468,2426494021390205,469,14420105,282,743207,368123977345,491,2546373420587605,422,13020115,355,438205,300121986995,561,6476153318983705,562,48420125,380,407204,351101996955,586,6626073819984405,562,48420135,439,624206,29292057095,646,8395773222082905,639,06520145,432,625204,49892987185,638,1486062928291705,639,06520155,457,810206,09293107235,664,9446112928492405,665,86820165,041,197206,67693267305,711,9386162928593305,712,86820165,614,197206,771,4693517385,766,6546192928593505,767,5872017 </td <td></td> <td></td> <td></td> <td></td> <td>177</td> <td></td> <td></td> <td></td> <td>49</td> <td></td> <td></td> <td>0</td> <td></td> <td></td>					177				49			0		
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         5,462,242         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         5,462,088           2011         5,355,438         205,300         12         198         699         5,561,647         615         33         189         837         0         5,582,484           2012         5,380,407         204,351         10         199         695         5,585,662         607         38         199         844         0         5,586,566           2013         5,439,624         206,922         9         205         709         5,646,839         577         32         220         843         0         5,639,164           2014         5,457,810         206,092         9         310         723         5,664,944														
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         5,661,647         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         5,439,624         206,292         9         205         709         5,648,839         577         32         220         829         0         5,647,668           2014         5,432,625         204,498         9         298         718         5,664,844         611         29         284         924         0         5,639,065           2015         5,457,810         206,676         9         326         730         5,711,938         616         29         284         924         0         5,665,868           2016         5,504,197         206,676         9         326         730         5,766,654 <t< td=""><td>2008</td><td></td><td>211,449</td><td>15</td><td>293</td><td>843</td><td>5,461,151</td><td>674</td><td>41</td><td>222</td><td>937</td><td>0</td><td>5,462,088</td><td></td></t<>	2008		211,449	15	293	843	5,461,151	674	41	222	937	0	5,462,088	
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         5,661,647         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         5,439,624         206,292         9         205         709         5,648,839         577         32         220         829         0         5,647,668           2014         5,432,625         204,498         9         298         718         5,664,844         611         29         284         924         0         5,639,065           2015         5,457,810         206,676         9         326         730         5,711,938         616         29         284         924         0         5,665,868           2016         5,504,197         206,676         9         326         730         5,766,654 <t< td=""><td>2009</td><td>5.257.766</td><td>209.301</td><td>15</td><td>341</td><td>819</td><td>5,468,242</td><td>649</td><td>40</td><td>213</td><td>902</td><td>0</td><td>5,469,144</td><td></td></t<>	2009	5.257.766	209.301	15	341	819	5,468,242	649	40	213	902	0	5,469,144	
2011         5,355,438         205,300         12         198         699         5,661,647         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         5,439,624         206,292         9         205         709         5,646,839         577         32         220         829         0         5,647,668           2014         5,432,625         204,498         9         298         718         5,638,148         606         29         282         917         0         5,663,065           2015         5,457,810         206,092         9         310         723         5,664,944         611         29         284         924         0         5,665,868           2016         5,504,197         206,676         9         326         730         5,711,938         616         29         285         930         0         5,712,868           2016         5,504,197         206,676         9         351         738         5,766,654 <td< td=""><td>2010</td><td>5.282.743</td><td>207.368</td><td>12</td><td>397</td><td>734</td><td>5,491,254</td><td>637</td><td>34</td><td>205</td><td>876</td><td>0</td><td>5,492,130</td><td></td></td<>	2010	5.282.743	207.368	12	397	734	5,491,254	637	34	205	876	0	5,492,130	
2012         5,380,407         204,351         10         199         695         5,585,662         607         38         199         844         0         5,586,506           2013         5,439,624         206,292         9         205         709         5,646,839         577         32         220         829         0         5,647,668           2014         5,432,625         204,498         9         298         718         5,638,148         606         29         282         917         0         5,639,065           2015         5,457,810         206,092         9         310         723         5,664,944         611         29         284         924         0         5,665,868           2016         5,504,197         206,676         9         326         730         5,711,938         616         29         285         930         0         5,712,868           2017         5,558,410         207,146         9         351         738         5,766,654         619         29         285         933         0         5,767,587           2018         5,617,329         207,377         9         355         745         5,825,815	2011	5.355.438	205,300		198	699		615	33		837	0		
2013         5,439,624         206,292         9         205         709         5,646,839         577         32         200         829         0         5,647,668           2014         5,432,625         204,498         9         298         718         5,638,148         606         29         282         917         0         5,639,065           2015         5,457,810         206,092         9         310         723         5,664,944         611         29         284         924         0         5,665,868           2016         5,504,197         206,676         9         326         730         5,711,938         616         29         285         930         0         5,712,868           2017         5,558,410         207,146         9         351         738         5,766,654         619         29         285         933         0         5,767,587           2018         5,617,329         207,377         9         355         745         5,825,815         621         29         285         935         0         5,826,750									38		844	0		
2014         5,432,625         204,498         9         298         718         5,638,148         606         29         282         917         0         5,639,065           2015         5,457,810         206,092         9         310         723         5,664,944         611         29         284         924         0         5,665,868           2016         5,504,197         206,676         9         326         730         5,711,938         616         29         285         930         0         5,712,868           2017         5,558,410         207,7146         9         351         738         5,766,654         619         29         285         933         0         5,767,587           2018         5,617,329         207,377         9         355         745         5,825,815         621         29         285         935         0         5,826,750														
2016         5,504,197         206,676         9         326         730         5,711,938         616         29         285         930         0         5,712,868           2017         5,558,410         207,146         9         351         738         5,766,654         619         29         285         933         0         5,767,587           2018         5,617,329         207,377         9         355         745         5,825,815         621         29         285         935         0         5,826,750				9	298	718		606	29	282	917	0		
2017         5,558,410         207,146         9         351         738         5,766,654         619         29         285         933         0         5,767,587           2018         5,617,329         207,377         9         355         745         5,825,815         621         29         285         935         0         5,826,750	2015	5,457,810	206,092	9	310	723	5,664,944	611	29	284	924	0	5,665,868	
<b>2018</b> 5,617,329 207,377 9 355 745 5,825,815 621 29 285 935 0 5,826,750	2016	5,504,197	206,676	9	326	730	5,711,938	616	29	285	930	0	5,712,868	
	2017	5,558,410	207,146	9	351	738	5,766,654	619	29	285	933	0	5,767,587	
<b>2019</b> 5,677,687 207,429 9 370 753 5,886,248 624 29 284 937 0 5,887,185	2018	5,617,329	207,377	9	355	745	5,825,815	621	29	285	935	0	5,826,750	
	2019	5,677,687	207,429	9	370	753	5,886,248	624	29	284	937	0	5,887,185	

#### Table 2': Number of Additional Customers Served by Customer Class = change in # customers each year

Tak	ne z. Nulliber	of Additional Cua	comers serveu .	V Customer		e in # custoni	ers each year						
	2004	0	0	0	0	0	0	0	0	0	0	0	0
	2005	67,000	1,203	0	5	0	68,208	0	0	0	0	0	68,208
	2006	61,360	893	0	8	0	62,261	0	0	5	5	0	62,266
	2007	63,776	0	0	39	0	63,815	0	0	50	50	0	63,865
	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	59,217	1,941	0	6	14	61,178	0	0	21	21	0	61,199
	2014	0	0	0	93	9	102	29	0	62	91	0	193
	2015	25,185	1,594	0	12	5	26,796	5	0	2	7	0	26,803
	2016	46,387	584	0	16	7	46,994	5	0	1	6	0	46,999
	2017	54,213	471	0	25	7	54,716	3	0	0	4	0	54,720
	2018	58,919	231	0	4	7	59,161	2	0	0	2	0	59,163
	2019	60,359	51	0	15	7	60,433	3	0	0	3	0	60,435

#### Table 2: Average Peak Day Demand Per Customer (Mcfd) = Total Demand by class / total # customers in class

2004	0	0	0	0	0	0	0	0	0	0	0	0
2005	0.47	3.12	12.97	111.31	2.57	0.58	529.97	1313.73	3670.62	1154.74	0.00	0.80
2006	0.47	3.11	14.46	116.48	3.17	0.58	530.77	1984.14	3772.33	1238.52	0.00	0.81
2007	0.46	3.21	10.57	103.61	3.45	0.57	579.06	2246.76	3473.01	1338.06	0.00	0.82
2008	0.45	3.04	12.96	78.43	2.61	0.56	582.10	2106.18	5025.25	1701.49	0.00	0.85
2009	0.46	3.03	11.97	72.93	3.17	0.56	569.63	1016.31	3685.35	1325.19	0.00	0.78
2010	0.45	3.03	16.74	66.46	2.66	0.56	671.58	1135.40	5073.60	1719.73	0.00	0.83
2011	0.45	3.03	12.85	133.81	2.86	0.55	686.67	1074.66	3951.71	1439.23	0.00	0.77
2012	0.45	3.15	14.48	143.90	3.72	0.56	688.71	487.57	4711.87	1628.24	0.00	0.80
2013	0.46	3.14	16.64	143.89	5.45	0.56	706.84	2032.58	4222.68	1691.05	0.00	0.81
2014	0.44	2.80	18.77	108.90	4.05	0.53	720.14	2124.00	3103.36	1497.91	0.00	0.77
2015	0.43	2.80	13.01	110.82	6.04	0.53	684.54	2124.00	3893.69	1717.12	0.00	0.81
2016	0.43	2.79	13.01	111.43	6.04	0.52	677.26	2124.00	3095.19	1464.09	0.00	0.76
2017	0.42	2.76	13.01	109.39	6.04	0.52	666.28	2124.00	3124.96	1463.09	0.00	0.75
2018	0.42	2.74	13.01	114.40	6.04	0.51	657.16	2124.00	3084.78	1441.86	0.00	0.74
2019	0.41	2.71	13.01	116.05	6.04	0.50	645.46	2124.00	3219.56	1471.56	0.00	0.74

Table 3: Peak D	ay Demand For	Additional Custo	omers Serve	d (Mcfd) = # a	dditional custo	mers * average d	emand per cus	<u>tom</u> ers
2004	0	0	0	0	0	0	0	0

Table 5. Fear	Day Demanu For	Augulional Cusi	Uniters Serve	u(uucu) = # au	unuonai cusi	uniers average u	lemanu per cus	lomers				
2004	0	0	0	0	0	0	0	0	0	0	0	0
2005	31,657	3,757	0	557	0	35,970	0	0	0	0	0	35,970
2006	28,923	2,779	0	932	0	32,634	0	0	18,862	18,862	0	51,495
2007	29,033	0	0	4,041	0	33,074	0	0	173,650	173,650	0	206,725
2008	31,350	2,024	0	6,039	0	39,414	0	0	0	0	0	39,414
2009	4,226	0	0	3,501	0	7,727	0	0	0	0	0	7,727
2010	11,326	0	0	3,722	0	15,048	0	0	0	0	0	15,048
2011	32,645	0	0	0	0	32,645	0	0	0	0	0	32,645
2012	11,280	0	0	144	0	11,424	0	2,438	47,119	49,557	0	60,980
2013	27,021	6,104	0	863	76	34,064	0	0	88,676	88,676	0	122,741
2014	0	0	0	10,127	35	10,163	20,884	0	193,241	214,125	0	224,288
2015	10,938	4,470	0	1,300	33	16,741	3,387	0	8,362	11,749	0	28,489
2016	19,874	1,626	0	1,791	44	23,334	3,181	0	2,580	5,761	0	29,096
2017	23,010	1,299	0	2,758	44	27,111	2,311	0	194	2,505	0	29,616
2018	24,723	632	0	458	45	25,857	1,550	0	0	1,550	0	27,407
2019	25,017	139	0	1,760	45	26,961	1,687	0	0	1,687	0	28,647

Table 1: Level of Usage of Medium	Broccure Distribution	Service by Customer Class
Table 1: Level of Usage of Medium	Pressure Distribution	a Service by Customer Class

all years 99.52% 93.33% 50.29% 31.26% 79.48% 19.24% 0.49% 3.47%
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Table 4: Mediu	um Pressure Distr	ibution-Service-	Usage-Weig	hted Peak Day	Demand For	Additional Custon	ners Served (Me	fd) = total de	emand for add	tional custome	ers * % of cu	stomers that use	HPD system.
2004	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	31,506	3,506	0	174	0	35,187	0	0	0	0	0	35,187	35,187
2006	28,785	2,594	0	291	0	31,670	0	0	655	655	0	32,326	67,512
2007	28,895	0	0	1,263	0	30,158	0	0	6,034	6,034	0	36,192	103,704
2008	31,201	1,889	0	1,888	0	34,978	0	0	0	0	0	34,978	138,682
2009	4,206	0	0	1,094	0	5,300	0	0	0	0	0	5,300	143,982
2010	11,272	0	0	1,163	0	12,435	0	0	0	0	0	12,435	156,418
2011	32,489	0	0	0	0	32,489	0	0	0	0	0	32,489	188,907
2012	11,226	0	0	45	0	11,271	0	12	1,637	1,649	0	12,920	201,827
2013	26,892	5,697	0	270	61	32,920	0	0	3,081	3,081	0	36,001	237,828
2014	0	0	0	3,165	28	3,194	4,019	0	6,715	10,734	0	13,927	251,755
2015	10,886	4,172	0	406	26	15,490	652	0	291	942	0	16,433	268,188
2016	19,779	1,518	0	560	35	21,891	612	0	90	702	0	22,593	290,781
2017	22,900	1,212	0	862	35	25,010	445	0	7	451	0	25,461	316,242
2018	24,605	590	0	143	35	25,373	298	0	0	298	0	25,672	341,914
2019	24,898	130	0	550	36	25,613	325	0	0	325	0	25,938	367,852

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
2004	0	3	24	0	6,935	1,161	17,916	35,977	68,553	13,775	2,205	0	0	0	0	0	146,549
2005	0	0	0	0	5,258	330	17,752	15,989	25,904	29,614	1,763	0	0	0	0	0	96,610
2006	0	13	246	0	8,442	605	3,454	2,891	103,361	107	14,204	47	0	0	0	0	133,370
2007	0	0	3	0	2,370	101	2,591	22,884	34,680	5,056	11,962	0	0	1,848	0	0	81,495
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

2016 TCAP Phase II Table 1: High Pressure Distribution Mains Footage Investment: New Business & Replacement Combined

Southern California Gas Company												
Col. 1	2	3	4	5	6	7	8	SoCal				
Year	1/2"	1"	2"	3"	4"	6"	8"	Total				
2004	489	12,482	2,999,028	176,138	420,528	179,673	64,088	3,852,426				
2005	0	13,684	3,496,903	147,423	431,732	231,395	270,515	4,591,652				
2006	128	9,161	3,433,117	123,327	529,345	222,375	104,925	4,422,378				
2007	0	8,877	2,673,915	157,539	532,221	158,092	113,116	3,643,760				
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				

Table 2: Total Plastic Distribution Mains Footage Investment: New Business & Replacement Combine

					Soumennic	anioma G	ias Compan	y									
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
2004	0	3	31	13	16,188	4,854	25,536	38,201	70,423	14,015	2,273	1	0	0	0	0	171,538
2005	0	0	15	2	11,404	4,122	23,396	21,233	26,487	29,614	2,392	0	0	0	0	0	118,665
2006	0	13	977	0	12,105	2,655	8,420	5,111	104,281	1,104	14,351	47	0	0	0	0	149,064
2007	0	0	0	0	4,752	3,149	6,430	25,172	42,315	6,175	12,540	42	0	0	0	0	100,575
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

#### rable 3: Total Steel Distribution Mains (including HP) Footage Investment: New Business & Replacement Combined Southern California Gas Company

Table 4:	Plastic New Business Vs	Replacement Distribution	n Mains Footage:	Based on a Sample Survey

	Col. 1	2	3	4	5	6	7	8	9	
	Unique Row	Investment								
Year	Identifier	Туре	1/2"	1"	2"	3"	4"	6"	8"	Total
2004	2004.1	New Business	352	9,986	2,750,360	137,941	351,748	115,295	41501	3,407,183
	2004.2	Replacement	137	2,496	248,668	38,197	68,780	67,656	19309	445,243
	2004.3	New Business %	71.98%	80.00%	91.71%	78.31%	83.64%	63.02%	68.25%	88.44%
2005	2005.1	New Business	0	10,539	3,228,164	102,822	386,760	173,390	72234	3,973,909
	2005.2	Replacement	0	3,145	268,739	44,541	44,972	52,388	19646	433,431
	2005.3	New Business %	0.00%	77.02%	92.31%	69.77%	89.58%	76.80%	78.62%	90.17%
2006	2006.1	New Business	0	7,599	3,227,106	91,227	476,786	202,137	98434	4,103,289
	2006.2	Replacement	0	1,690	206,011	32,100	52,559	20,238	6491	319,089
	2006.3	New Business %	0.00%	81.81%	94.00%	73.97%	90.07%	90.90%	93.81%	92.78%
2007	2007.1	New Business	0	5,567	2,410,968	92,756	430,855	113,127	91433	3,144,706
	2007.2	Replacement	0	3,310	262,947	64,783	101,366	44,965	21683	499,054
	2007.3	New Business %	0.00%	62.71%	90.17%	58.88%	80.95%	71.56%	80.83%	86.30%
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%

Table 5:	Steel New Busine	ess vs. Replacement Dist	ribution mains	Footage: Base	ed on a Sample	e Survey													
	Col. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	Unique Row	Investment																	
Year	Identifier	Туре	1/2"	3/4"	1"	1 1/4"	2"	3"	4"	6"	8"	10"	12"	16"	20"	24"	26"	30"	Total
2004	2004.1	New Business	0	0	0	13	6286	868	3946	25186	40665	0	0	0	0	0	0	0	76,964
	2004.2	Replacement	0	3	0	31	9902	3986	21590	13015	29758	14015	2273	1	0	0	0	0	94,574
	2004.3	New Business %	0.00%	0.00%	0.00%	29.55%	38.83%	17.88%	15.45%	65.93%	57.74%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	44.87%
2005	2005.1	New Business	0	0	0	0	4685	943	14273	15775	5199	0	19	0	0	0	0	0	40,894
	2005.2	Replacement	0	0	15	2	6719	3175	8950	5458	21288	29614	2373	0	0	0	0	0	77,594
	2005.3	New Business %	0.00%	0.00%	0.00%	0.00%	41.08%	22.90%	61.46%	74.29%	19.63%	0.00%	0.79%	0.00%	0.00%	0.00%	0.00%	0.00%	34.51%
2006	2006.1	New Business	0	0	246	0	7362	1	3588	2019	35856	0	0	0	0	0	0	0	49,072
	2006.2	Replacement	0	13	731	0	4185	1952	2247	2780	2471	1074	9001	47	0	0	0	0	24,501
	2006.3	New Business %	0.00%	0.00%	25.18%	0.00%	63.76%	0.05%	61.49%	42.07%	93.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	66.70%
2007	2007.1	New Business	0	0	0	0	244	0	262	131	0	5052	0	0	0	0	0	0	5,689
	2007.2	Replacement	0	0	0	0	4508	3147	6168	25041	42311	1123	12540	42	0	1848	0	0	96,728
	2007.3	New Business %	0.00%	0.00%	0.00%	0.00%	5.13%	0.00%	4.07%	0.52%	0.00%	81.81%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.55%
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	0	2110	562	9047	4798	5104	1403	5332	331	0	0	0	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%

#### Table 5: Steel New Business Vs. Replacement Distribution Mains Footage: Based on a Sample Survey

			Total Plas	stic Mains	Investmer	nt	
Col. 1	2	3	4	5	6	7	8
Year	1/2"	1"	2"	3"	4"	6"	8"
2004	0.0000	0.0048	0.0047	0.0379	0.0576	0.1423	0.0352
2005	0.0000	0.0000	0.0051	0.0301	0.0926	0.1890	0.1627
2006	0.0000	0.0000	0.0029	0.0316	0.1286	0.1828	0.1533
2007	0.0000	0.0000	0.0044	0.0261	0.0759	0.1249	0.0631
2008	0.0000	0.0000	0.0087	0.0183	0.1731	0.2858	0.5753
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

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

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"
2004	0.0000	0.0000	0.0000	1.0000	0.0270	0.0105	0.1544	0.6433	0.3665	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2005	0.0000	0.0000	0.0000	0.0000	0.0975	0.0010	0.6133	0.7359	0.1962	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2006	0.0000	0.0000	0.0000	0.0000	0.0013	0.0005	0.4459	0.0183	0.7715	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2007	0.0000	0.0000	0.0000	0.0000	0.0093	0.0013	0.4054	0.4276	0.8082	0.0000	0.8459	0.0000	0.0000	0.0000	0.0000	0.0000
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

#### Table 8: Contibution in Aid of Constru

	Plastic Mains	Steel Mains
Year	SoCal	SoCal
2004	0.0778	0.3571
2005	0.0151	0.0984
2006	0.1121	0.0418
2007	0.0010	0.0038
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)

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

uction as Fra	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
2004	4,466,667	0.1283	0.634
2005	2,834,217	0.1291	0.715
2006	6,875,135	0.1286	0.745
2007	4,440,822	0.1284	0.749
2008	5,206,724	0.1293	0.834
2009	3,628,108	0.1282	0.826
2010	4,745,677	0.1296	0.846
2011	6,284,162	0.1284	0.957
2012	7,793,152	0.1272	1.014
2013	8,059,322	0.1318	1.000

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 2013\$'s		\$0.00	\$24.71	\$24.11	\$35.66	\$40.97	\$46.77	\$52.11
Replacement 2013\$'s		\$76.56 \$109.13 \$301.50 \$390.54 \$		\$348.39	\$376.07	\$400.01		
escalate to 2017\$'s	2017 \$s	1.07623	1.07623	1.07623	1.07623	1.07623	1.07623	1.07623
New Business 2017\$'s		\$0.00	\$26.59	\$25.95	\$38.38	\$44.09	\$50.34	\$56.08
Replacement 2017\$'s		\$82.40	\$117.45	\$324.48	\$420.31	\$374.94	\$404.74	\$430.50

Veee	Unique Row Identifier	Investment	4/0"	47	01	25		<b>C</b> 1	0"	-
Year		Type	1/2"	<u>1"</u>	<u>2"</u>	<u>3"</u>	<u>4"</u>	<u>6"</u>	<u>8"</u>	Ţ
2005	2005.1	NB	0	280,245	83,762,897	3,947,947	17,053,774	8,944,762	11,926,911	125,916,5
	2005.2	PB	0	0	5,730,288	1,862,835	14,990,199	17,705,055	18,950,331	59,238,
	2005.3	CANC	0	(5,500)	(1,371,490)	(85,524)	(287,744)	(176,051)	(229,309)	(2,155,
2006	2006.1	NB	0	199,282	83,735,445	3,501,321	21,023,375	10,174,620	5,520,280	124,154,
	2006.2	PB	0	0	3,187,508	1,636,769	25,514,213	16,453,618	6,922,478	53,714,
	2006.3	CANC	0	(27,299)	(9,982,586)	(530,426)	(2,615,629)	(1,254,344)	(659,407)	(15,069,
2007	2007.1	NB	0	148,033	62,558,676	3,560,004	18,998,096	5,694,278	5,127,656	96,086,
	2007.2	PB	0	0	3,840,526	1,729,175	15,148,800	7,991,640	3,074,649	31,784,
	2007.3	CANC	0	(237)	(69,750)	(6,079)	(23,592)	(8,000)	(6,377)	(114,
2008	2008.1	NB	0	88,001	19,193,651	1,476,337	6,391,858	1,497,933	474,838	29,122,
	2008.2	PB	0	0	2,845,027	661,996	16,654,569	11,285,022	9,712,568	41,159,
	2008.3	CANC	0	(336)	(69,562)	(8,819)	(30,270)	(13,135)	(5,882)	(128,
2009	2009.1	NB	0	15,955	8,146,206	357,090	3,439,107	454,527	1,667,345	14,080
	2009.2	PB	0	0	737,539	244,623	3,859,283	8,272,936	9,002,238	22,116,
	2009.3	CANC	0	(237)	(43,329)	(5,043)	(17,550)	(7,397)	(9,848)	(83,
2010	2010.1	NB	0	21,539	6,290,668	537,593	1,865,218	690,751	480,054	9,885,
	2010.2	PB	0	0	681,080	288,756	9,773,250	11,667,107	7,642,711	30,052
	2010.3	CANC	0	(393)	(73,743)	(9,398)	(33,032)	(16,964)	(11,242)	(144
2011	2011.1	NB	0	9,812	9,754,223	304,010	1,700,483	221,072	431,712	12,421,
	2011.2	PB	0	0	0	0	0	0	0	
	2011.3	CANC	0	0	0	0	0	0	0	
2012	2012.1	NB	0	31,378	7,058,378	927,614	3,155,186	623,906	176,487	11,972,
	2012.2	PB	0	0	0	0	0	0	0	
	2012.3	CANC	0	0	0	0	0	0	0	
2013	2013.1	NB	0	13,668	11,421,638	1,387,717	2,968,360	681,942	519,310	16,992
	2013.2	PB	0	0	0	0	0	0	0	
	2013.3	CANC	0	4	1.044	144	315	85	58	1.

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 \$/foot
  - = Plastic NB \$'s

PB 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 Business vs. Replacement Investments: 1/2" 3/4" 10' 12" 16" 20" 24" 26" Steel 1 1/4 New Business 2013\$'s \$0.00 \$61.92 \$61.06 \$67.36 \$73.66 \$85.87 \$98.08 \$113.02 \$140.18 \$167.33 \$229.88 \$292.44 \$355.00 \$417.55 \$480.11 Replacement 2013\$'s \$0.00 \$130.39 \$129.53 \$167.38 \$205.25 \$220.92 \$236.60 \$241.16 \$245.70 \$276.99 \$308.28 \$394.54 \$480.81 \$567.07 \$653.34 escalate to 2017\$'s 2017 \$s 1.07623 1.07623 1.07623 1.07623 1.07623 1.07623 1.07623 1.07623 1.07623 1.07623 1.07623 1.07623 1.07623 1.07623 1.07623 New Business 2017\$'s \$0.00 \$66.64 \$65.71 \$72.49 \$79.27 \$92.41 \$105.55 \$121.64 \$150.86 \$180.08 \$247.41 \$314.73 \$382.06 \$449.38 \$516.71 Replacement 2017\$'s \$0.00 \$140.33 \$139.40 \$180.14 \$220.89 \$237.77 \$254.64 \$259.54 \$264.43 \$298.11 \$331.78 \$424.61 \$517.46 \$610.30 \$703.15 Col. 1 2 3 4 5 6 8 10 12 13 14 15 16 Unique Row Investment Identifier Year Type 1/2" 3/4" 1" 1 1/4" 2" 3" 4" 6" 8" 10" 12" 16" 20" 24" 2005 2005.1 NB 0 0 0 0 371 398 87 230 1 517 756 1 918 882 784 331 • 4 701 0 0 2005.2 PB 0 0 0 245,633 951 3,653,802 4.055.605 1.374.517 0 0 0 0 2005.3 CANC (97) (14) (88,955) (37,482) (242,990) (254,140) (393,184) (524,752) (58,232) 0 0 0 0 0 2006 2006.1 NB 16,166 261,559 14,717,766 0 0 0 611.816 126 546.496 0 0 0 2006.2 PB 0 0 0 0 3.474 323 956.097 24.325 21,275,520 0 0 0 0 0 2006.3 CANC (2,687) (40,158) (10,268) (37,192) (26,017) (658,354) (8,320) (148,583) 0 (36) 0 (619) 0 0 2007 2007.1 NB 909,780 15,935 0 0 0 19,343 0 27,654 0 0 9,719 951 663,842 2,793,711 9.042.777 3,519,523 0 2007.2 PB 0 0 0 0 0 0 0 2007.3 CANC (1,418) (1,095) (2,554) (11,524) (24,026) (4,185) (11,677) 0 0 0 0 (50) 0 0 2008.1 2008 NB 149,715 157,377 312,022 0 3,826,329 41,983 295,889 2008.2 PB 0 0 0 951 2.217.719 0 0 0 0 0 0 2008.3 CANC (23) (8,896) (7,527) (11,537) (71,294) (144,664) (17,849) (1,755) 0 0 0 0 0 0 2009.1 2009 NB 113,599 106,644 1,006,326 4,526 487 0 107,796 136,715 94,216 8,122,370 5,293,397 572,363 2009.2 PB 0 0 0 0 0 0 0 0 2009.3 CANC 0 0 0 0 (12,227) (3,744) (22,721) (70,845) (87,415) (6,134) (4,018) (11,645) (11,344) 0 2010 2010.1 NB 58,900 608 3,905 0 395,619 128,631 1,111,750 1,502,489 1,212,156 0 2010.2 PB 0 0 0 0 0 0 0 2010.3 CANC 0 0 0 0 (37,129) (6,541) (65,974) (108,762) (126,087) (192,762) (52,602) 0 0 0 2011 2011.1 NB 237 2011.2 PB 0 476 954,893 2,594,902 1,198,934 949,766 0 0 0 0 0 0 0 2011.3 CANC 0 0 0 0 0 0 0 0 0 0 0 0 0 2012 2012.1 NB 23 227 3.974 500 444 665 129 0 0 0 0 0 0 0 2012.2 PB 2,833,104 5,363,178 2,863,533 2,912,197 0 0 0 0 0 0 0 0 2012.3 CANC 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2013 2013.1 NB 0 0 0 0 3 7 2 6 0 150 716 0 0 0 0 0 0 0 2013.2 PB 1,008,112 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)

0

0

4

53

16

456

- Table 3 Steel Feet NB & R
  - \* Table 5 Steel feet NB as % total plastic

CANC

\* NB cost \$/foot

2013.3

- = Steel NB \$'s
- Table 3 Steel Feet NB & R PB
  - \* Table 7 Steel feet PB as % total plastic
  - \* Replace cost \$/foot
  - = Steel PB \$'s
- CANC Table 3 Steel Feet NB & R
  - \* Table 8 CANC as % total Mains \* NB cost \$/foot
  - = Steel CANC \$'s

NB

180

237

78

406

30"

\$542.66

\$739.60

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619,114

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1,231,582

14.326.858

(230,092)

63,414

4.350.645

(589,857

5,698,970

1.192.774

13,972,011

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#### 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:

Steel			1/2"	3/4"	1"	1 1/4"	2"	3"	4"	6"	8"	10"	12"	16"	20"	24"	26"	30"	
New Busin	ess 2013\$'s		\$0.00	\$61.92	\$61.06	\$67.36	\$73.66	\$85.87	\$98.08	\$113.02	\$140.18	\$167.33	\$229.88	\$292.44	\$355.00	\$417.55	\$480.11	\$542.66	
Replaceme	nt 2013\$'s		\$0.00	\$130.39	\$129.53	\$167.38	\$205.25	\$220.92	\$236.60	\$241.16	\$245.70	\$276.99	\$308.28	\$394.54	\$480.81	\$567.07	\$653.34	\$739.60	
escalate	to 2017\$'s	2017 \$s	1.07623	1.07623	1.07623	1.07623	1.07623	1.07623	1.07623	1.07623	1.07623	1.07623	1.07623	1.07623	1.07623	1.07623	1.07623	1.07623	-
New Busin	ess 2017\$'s		\$0.00	\$66.64	\$65.71	\$72.49	\$79.27	\$92.41	\$105.55	\$121.64	\$150.86	\$180.08	\$247.41	\$314.73	\$382.06	\$449.38	\$516.71	\$584.03	_
Replaceme	nt 2017\$'s		\$0.00	\$140.33	\$139.40	\$180.14	\$220.89	\$237.77	\$254.64	\$259.54	\$264.43	\$298.11	\$331.78	\$424.61	\$517.46	\$610.30	\$703.15	\$795.98	
2017 \$s																			
	Unique Row	Investment																	
Year	Identifier	Type	<u>1/2"</u>	3/4"	<u>1"</u>	1 1/4"	<u>2</u> *	<u>3"</u>	<u>4*</u>	6"	8"	10"	12"	16"	20"	24"	26"	30"	Total
2005	2005.1	NB	0	0	0	0	171,239	6,983	1,151,616	1,444,968	767,067	0	3,465	0	0	0	0	0	3,545,339
	2005.2	PB	0	0	0	0	113,253	76	2,772,367	3,053,976	1,344,263	0	0	0	0	0	0	0	7,283,934
	2005.3	CANC	0	0	0	0	(41,014)	(3,001)	(184,372)	(191,374)	(384,530)	(524,752)	(42,919)	0	0	0	0	0	(1,371,962)
2006	2006.1	NB	0	0	4,070	0	426,679	29	224,180	147,949	14,587,921	0	0	0	0	0	0	0	15,390,829
	2006.2	PB	0	0	0	0	2,422	74	392,204	13,759	21,087,820	0	0	0	0	0	0	0	21,496,280
	2006.3	CANC	0	(36)	(676)	0	(28,006)	(2,340)	(15,257)	(14,716)	(652,546)	(806)	(147,061)	(619)	0	0	0	0	(862,065)
2007	2007.1	NB	0	0	0	0	9,647	0	11,143	14,487	0	744,915	0	0	0	0	0	0	780,192
	2007.2	PB	0	0	0	0	4,847	31	267,498	2,539,778	7,411,166	0	3,357,299	0	0	0	0	0	13,580,619
	2007.3	CANC	0	0	0	0	(707)	(35)	(1,029)	(10,477)	(19,691)	(3,427)	(11,139)	0	0	0	0	0	(46,505)
2008	2008.1	NB	0	0	0	0	60,477	0	58,537	323,508	0	0	0	0	0	0	0	0	442,522
	2008.2	PB	0	0	0	0	16,959	17	110,057	2,299,352	3,847,316	0	0	0	0	0	0	0	6,273,701
	2008.3	CANC	0	0	0	0	(3,593)	(136)	(4,291)	(73,918)	(145,457)	(17,834)	(2,196)	0	0	0	0	0	(247,425)
2009	2009.1	NB	0	0	0	0	4,366	52,791	616,185	434	3,481	0	0	0	0	0	0	0	677,258
	2009.2	PB	0	0	0	0	4,143	67,677	57,690	7,244,972	4,071,042	26,812	0	0	0	0	0	0	11,472,336
	2009.3	CANC	0	0	0	0	(470)	(1,853)	(13,912)	(63,192)	(67,229)	(287)	(253)	(2,231)	0	0	0	0	(149,428)
2010	2010.1	NB	0	0	0	0	28,212	0	2,793	344	0	0	0	0	0	0	0	0	31,349
	2010.2	PB	0	0	0	0	189,495	109,930	795,017	850,338	872,259	0	0	0	0	0	0	0	2,817,039
	2010.3	CANC	0	0	0	0	(17,784)	(5,590)	(47,178)	(61,554)	(90,731)	(170,540)	(61,568)	0	0	0	0	0	(454,946)
2011	2011.1	NB	0	0	0	0	168	0	0	0	0	0	0	0	0	0	0	0	168
	2011.2	PB	0	0	0	0	0	324	1,332,281	2,205,272	1,555,628	1,991,452	0	0	0	0	0	0	7,084,957
	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	4,748	621	586,162	935,145	0	0	0	0	0	0	0	0	1,526,676
	2012.2	PB	0	0	0	0	0	0	3,318,368	7,540,421	6,951,878	5,170,507	0	0	0	0	0	0	22,981,174
	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	893	0	145,217	0	0	0	0	0	0	0	0	0	146,110
	2013.2	PB	0	0	0	0	0	0	971,326	0	0	0	0	0	0	0	0	0	971,326
		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)

- Table 1 HPD Feet NB & R
- \* Table 5 Steel feet NB as % total plastic
- \* NB cost \$/foot
- = HPD NB \$'s

NB

- PB 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

			Total Distri	oution Mains			High Pressure Distribution Mains					Medium Pressure Distribution Mains						
	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
2005	130,600,833	68,569,217	(3,755,464)	4,468,683	199,883,269	199,883,269	3,545,339	7,283,934	(1,371,962)	576,964	10,034,275	10,034,275	127,055,494	61,285,282	(2,383,503)	3,891,720	189,848,994	189,848,994
2006	140,308,251	75,974,323	(16,001,924)	9,609,107	209,889,757	409,773,026	15,390,829	21,496,280	(862,065)	1,235,251	37,260,296	47,294,571	124,917,422	54,478,044	(15,139,860)	8,373,855	172,629,462	362,478,456
2007	97,059,456	47,815,313	(170,565)	5,959,329	150,663,533	560,436,559	780,192	13,580,619	(46,505)	765,309	15,079,616	62,374,187	96,279,264	34,234,694	(124,060)	5,194,019	135,583,917	498,062,373
2008	29,741,732	47,542,052	(391,549)	6,948,113	83,840,348	644,276,907	442,522	6,273,701	(247,425)	898,103	7,366,900	69,741,087	29,299,211	41,268,351	(144,124)	6,050,010	76,473,448	574,535,820
2009	15,311,812	36,443,478	(313,498)	4,350,817	55,792,608	700,069,515	677,258	11,472,336	(149,428)	557,797	12,557,963	82,299,050	14,634,555	24,971,142	(164,070)	3,793,020	43,234,646	617,770,466
2010	9,949,237	34,403,550	(734,630)	5,742,870	49,361,027	749,430,542	31,349	2,817,039	(454,946)	744,016	3,137,457	85,436,507	9,917,887	31,586,511	(279,684)	4,998,854	46,223,569	663,994,035
2011	12,421,550	5,698,970	0	7,429,092	25,549,612	774,980,154	168	7,084,957	0	953,607	8,038,732	93,475,239	12,421,382	(1,385,987)	0	6,475,484	17,510,880	681,504,915
2012	13,165,722	13,972,011	0	8,139,388	35,277,122	810,257,275	1,526,676	22,981,174	0	1,035,472	25,543,322	119,018,561	11,639,046	(9,009,163)	0	7,103,916	9,733,800	691,238,715
2013	17,147,077	1,008,112	3,112	7,950,652	26,108,954	836,366,229	146,110	971,326	0	1,047,949	2,165,384	121,183,944	17,000,968	36,787	3,112	6,902,703	23,943,570	715,182,285
2014	0	0	0				0	0	0				0	0	0	0	0	
Total	465,705,671	331,427,026	(21,364,518)	60,598,050	836,366,229		22,540,441	93,961,365	(3,132,330)	7,814,468	121,183,944		443,165,230	237,465,661	(18,232,188)	52,783,582	715,182,285	

Table 4: Load-Growth-Related Total, High & Medium Pressure Distribution Mains Historical Investments 2017 \$s

	New	Pressure	Contribution in Aid of	Acct 378 (Meter &		Cumulative	
Year	Business	Betterment	New Constr.	Reg. Stns.)	Total	Total S	ource
able 1: Forecasted Distribution	related Investment C	osts: 2013 \$s					
2013	\$0	\$0	\$0	\$0	\$0	\$0	
2014	\$20,394,076	\$18,823,671	(\$64,120)	\$7,547,649	\$46,701,278	\$46,701,278	
2015	\$22,924,254	\$18,823,671	(\$64,120)	\$7,932,059	\$49,615,864	\$96,317,142	
2016	\$25,454,431	\$18,823,671	(\$64,120)	\$8,316,468	\$52,530,450	\$148,847,592	
2017	\$27,984,608	\$18,823,671	(\$64,120)	\$8,700,877	\$55,445,037	\$204,292,628	
2018	\$30,514,785	\$18,823,671	(\$64,120)	\$9,085,286	\$58,359,623	\$262,652,251	
2019	\$33,044,962	\$18,823,671	(\$64,120)	\$9,469,695	\$61,274,209	\$323,926,461	
Table 1: Forecasted Distribution	related investment C	oste oscalatod to '	2017 \$16.				
Esclation 2013\$'s to 2017\$'s	1.0762	1.07623	1.07623	1.07623			
	1.0702	1.07020	1.07020	1.07020			
2013	\$0	\$0	\$0	\$0	\$0	\$836,366,229	
2014	\$21,948,713	\$20,258,596	(\$69,007)	\$8,123,005	\$50,261,307	\$886,627,536	
2015	\$24,671,765	\$20,258,596	(\$69,007)	\$8,536,718	\$53,398,071	\$940,025,607	
2016	\$27,394,817	\$20,258,596	(\$69,007)	\$8,950,430	\$56,534,836	\$996,560,443	
2017	\$30,117,869	\$20,258,596	(\$69,007)	\$9,364,143	\$59,671,601	\$1,056,232,044	
2018	\$32,840,921	\$20,258,596	(\$69,007)	\$9,777,856	\$62,808,365	\$1,119,040,409	
					. , ,		
2019 Nuccetion Factor - total historic	\$35,563,973	\$20,258,596	(\$69,007)	\$10,191,568	\$65,945,130	\$1,184,985,539	
Allocation Factor = total historic: HPD \$ Total Dist \$'s	al HPD Invested as % \$22,540,441 \$465,705,671	total Distribution \$93,961,365 \$331,427,026	Investment (\$3,132,330) (\$21,364,518)	\$7,814,468 \$60,598,050	\$121,183,944 \$836,366,229	\$1,184,985,539 -	
Allocation Factor = total historic	al HPD Invested as % \$22,540,441	total Distribution \$93,961,365	Investment (\$3,132,330)	\$7,814,468	\$121,183,944	\$1,184,985,539 -	
Allocation Factor = total historic: HPD \$ Total Dist \$'s HPD \$ as % Distribution	al HPD Invested as % \$22,540,441 \$465,705,671 5%	total Distribution \$93,961,365 \$331,427,026 28%	<u>Investment</u> (\$3,132,330) (\$21,364,518) 15%	\$7,814,468 \$60,598,050	\$121,183,944 \$836,366,229	\$1,184,985,539 -	
Allocation Factor = total historic: HPD \$ Total Dist \$'s	al HPD Invested as % \$22,540,441 \$465,705,671 5%	total Distribution \$93,961,365 \$331,427,026 28%	<u>Investment</u> (\$3,132,330) (\$21,364,518) 15%	\$7,814,468 \$60,598,050	\$121,183,944 \$836,366,229	\$1,184,985,539 - \$121,183,944	
Allocation Factor = total historic: HPD \$ Total Dist \$'s HPD \$ as % Distribution High Pressure Distribution Mains	al HPD Invested as % \$22,540,441 \$465,705,671 5% s = Total Distribution	total Distribution \$93,961,365 \$331,427,026 28% * allocation factor	<u>Investment</u> (\$3,132,330) <u>(\$21,364,518)</u> 15%	\$7,814,468 <u>\$60,598,050</u> 13%	\$121,183,944 \$836,366,229 14%	-	
Allocation Factor = total historic: HPD \$ Total Dist \$'s HPD \$ as % Distribution High Pressure Distribution Mains 2013	al HPD Invested as % \$22,540,441 \$465,705,671 5% s = Total Distribution \$0	total Distribution \$93,961,365 \$331,427,026 28% * allocation factor \$0	<u>Investment</u> (\$3,132,330) (\$21,364,518) 15% \$0	\$7,814,468 <u>\$60,598,050</u> 13% <b>\$0</b>	\$121,183,944 <u>\$836,366,229</u> 14% \$0	\$121,183,944	
Allocation Factor = total historic: HPD \$ Total Dist \$'s HPD \$ as % Distribution High Pressure Distribution Mains 2013 2014	al HPD Invested as % \$22,540,441 \$465,705,671 5% s = Total Distribution \$0 \$1,062,331	total Distribution \$93,961,365 \$331,427,026 28% * allocation factor \$0 \$5,743,422	Investment (\$3,132,330) (\$21,364,518) 15% \$0 (\$10,117)	\$7,814,468 \$60,598,050 13% \$0 \$1,047,508	\$121,183,944 <u>\$836,366,229</u> 14% \$0 \$7,843,144	\$121,183,944 \$129,027,089	
Allocation Factor = total historic: HPD \$ Total Dist \$'s HPD \$ as % Distribution digh Pressure Distribution Main: 2013 2014 2015	al HPD Invested as % \$22,540,441 \$465,705,671 5% s = Total Distribution \$0 \$1,062,331 \$1,194,129	total Distribution \$93,961,365 \$331,427,026 28% * allocation factor \$0 \$5,743,422 \$5,743,422	Investment (\$3,132,330) (\$21,364,518) 15% \$0 (\$10,117) (\$10,117)	\$7,814,468 \$60,598,050 13% \$0 \$1,047,508 \$1,100,859	\$121,183,944 <u>\$836,366,229</u> 14% \$0 \$7,843,144 \$8,028,292	\$121,183,944 \$129,027,089 \$137,055,381	
Allocation Factor = total historic: HPD \$ Total Dist \$'s HPD \$ as % Distribution digh Pressure Distribution Mains 2013 2014 2015 2016	al HPD Invested as % \$22,540,441 \$465,705,671 5% s = Total Distribution \$0 \$1,062,331 \$1,194,129 \$1,325,926	total Distribution \$93,961,365 \$331,427,026 28% * allocation factor \$0 \$5,743,422 \$5,743,422 \$5,743,422	Investment (\$3,132,330) (\$21,364,518) 15% \$0 (\$10,117) (\$10,117) (\$10,117)	\$7,814,468 \$60,598,050 13% \$0 \$1,047,508 \$1,100,859 \$1,154,210	\$121,183,944 <u>\$836,366,229</u> 14% \$0 \$7,843,144 \$8,028,292 \$8,213,440	\$121,183,944 \$129,027,089 \$137,055,381 \$145,268,822	
Allocation Factor = total historic: HPD \$ Total Dist \$'s HPD \$ as % Distribution digh Pressure Distribution Mains 2013 2014 2015 2016 2017	al HPD Invested as % \$22,540,441 \$465,705,671 5% s = Total Distribution \$0 \$1,062,331 \$1,194,129 \$1,325,926 \$1,457,723	total Distribution \$93,961,365 \$331,427,026 28% * allocation factor \$0 \$5,743,422 \$5,743,422 \$5,743,422 \$5,743,422 \$5,743,422	Investment (\$3,132,330) (\$21,364,518) 15% \$0 (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117)	\$7,814,468 \$60,598,050 13% \$0 \$1,047,508 \$1,100,859 \$1,154,210 \$1,207,560	\$121,183,944 \$836,366,229 14% \$0 \$7,843,144 \$8,028,292 \$8,213,440 \$8,398,588	\$121,183,944 \$129,027,089 \$137,055,381 \$145,268,822 \$153,667,410	
Allocation Factor = total historic: HPD \$ Total Dist \$'s HPD \$ as % Distribution digh Pressure Distribution Mains 2013 2014 2015 2016 2017 2018	al HPD Invested as % \$22,540,441 \$465,705,671 5% 5 = Total Distribution \$0 \$1,062,331 \$1,194,129 \$1,325,926 \$1,457,723 \$1,589,521 \$1,721,318	total Distribution \$93,961,365 \$331,427,026 28% * allocation factor \$0 \$5,743,422 \$5,743,422 \$5,743,422 \$5,743,422 \$5,743,422 \$5,743,422 \$5,743,422	Investment (\$3,132,330) (\$21,364,518) 15% \$0 (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117)	\$7,814,468 \$60,598,050 13% \$0 \$1,047,508 \$1,100,859 \$1,154,210 \$1,207,560 \$1,260,911	\$121,183,944 \$836,366,229 14% \$0 \$7,843,144 \$8,028,292 \$8,213,440 \$8,398,588 \$8,583,736	\$121,183,944 \$129,027,089 \$137,055,381 \$145,268,822 \$153,667,410 \$162,251,146	
Allocation Factor = total historic: HPD \$ Total Dist \$'s HPD \$ as % Distribution digh Pressure Distribution Mains 2013 2014 2015 2016 2017 2018 2019	al HPD Invested as % \$22,540,441 \$465,705,671 5% 5 = Total Distribution \$0 \$1,062,331 \$1,194,129 \$1,325,926 \$1,457,723 \$1,589,521 \$1,721,318	total Distribution \$93,961,365 \$331,427,026 28% * allocation factor \$0 \$5,743,422 \$5,743,422 \$5,743,422 \$5,743,422 \$5,743,422 \$5,743,422 \$5,743,422	Investment (\$3,132,330) (\$21,364,518) 15% \$0 (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117)	\$7,814,468 \$60,598,050 13% \$0 \$1,047,508 \$1,100,859 \$1,154,210 \$1,207,560 \$1,260,911	\$121,183,944 \$836,366,229 14% \$0 \$7,843,144 \$8,028,292 \$8,213,440 \$8,398,588 \$8,583,736	\$121,183,944 \$129,027,089 \$137,055,381 \$145,268,822 \$153,667,410 \$162,251,146	
Allocation Factor = total historic: HPD \$ Total Dist \$'s HPD \$ as % Distribution digh Pressure Distribution Mains 2013 2014 2015 2016 2017 2018 2019 Medium Pressure Distribution M	al HPD Invested as % \$22,540,441 \$465,705,671 5% s = Total Distribution \$0 \$1,062,331 \$1,194,129 \$1,325,926 \$1,457,723 \$1,589,521 \$1,721,318 ains = Total Distribution	total Distribution \$93,961,365 \$331,427,026 28% * allocation factor \$0 \$5,743,422 \$	Investment (\$3,132,330) (\$21,364,518) 15% \$0 (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117)	\$7,814,468 \$60,598,050 13% \$1,047,508 \$1,104,7508 \$1,100,859 \$1,154,210 \$1,207,560 \$1,260,911 \$1,214,261	\$121,183,944 \$836,366,229 14% \$0 \$7,843,144 \$8,028,292 \$8,213,440 \$8,398,588 \$8,583,736 \$8,768,884	\$121,183,944 \$129,027,089 \$137,055,381 \$145,268,822 \$153,667,410 \$162,251,146 \$171,020,031	
Allocation Factor = total historic: HPD \$ Total Dist \$'s HPD \$ as % Distribution digh Pressure Distribution Mains 2013 2014 2015 2016 2017 2018 2019 Medium Pressure Distribution Mains 2013	al HPD Invested as % \$22,540,441 \$465,705,671 5% 5 = Total Distribution \$0 \$1,062,331 \$1,194,129 \$1,325,926 \$1,457,723 \$1,589,521 \$1,721,318 ains = Total Distributi \$0	total Distribution \$93,961,365 \$331,427,026 28% * allocation factor \$0 \$5,743,422 \$	Investment (\$3,132,330) (\$21,364,518) 15% \$0 (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117)	\$7,814,468 \$60,598,050 13% \$1,047,508 \$1,100,859 \$1,154,210 \$1,207,560 \$1,260,911 \$1,314,261 \$0	\$121,183,944 \$836,366,229 14% \$0 \$7,843,144 \$8,028,292 \$8,213,440 \$8,398,588 \$8,583,736 \$8,768,884 \$0	\$121,183,944 \$129,027,089 \$137,055,381 \$145,268,822 \$153,667,410 \$162,251,146 \$171,020,031 \$715,182,285	
Allocation Factor = total historic: HPD \$ Total Dist \$'s HPD \$ as % Distribution digh Pressure Distribution Mains 2013 2014 2015 2016 2017 2018 2019 Medium Pressure Distribution Mains 2013 2014	al HPD Invested as % \$22,540,441 \$465,705,671 5% 5 = Total Distribution \$0 \$1,062,331 \$1,194,129 \$1,325,926 \$1,457,723 \$1,589,521 \$1,721,318 ains = Total Distributi \$0 \$20,886,382	total Distribution \$93,961,365 \$331,427,026 28% * allocation factor \$0 \$5,743,422 \$	Investment (\$3,132,330) (\$21,364,518) 15% \$0 (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117)	\$7,814,468 \$60,598,050 13% \$1,047,508 \$1,104,500 \$1,154,210 \$1,207,560 \$1,260,911 \$1,314,261 \$0 \$7,075,497	\$121,183,944 \$836,366,229 14% \$0 \$7,843,144 \$8,028,292 \$8,213,440 \$8,398,588 \$8,583,736 \$8,768,884 \$0 \$42,418,162	\$121,183,944 \$129,027,089 \$137,055,381 \$145,268,822 \$153,667,410 \$162,251,146 \$171,020,031 \$715,182,285 \$757,600,447	
Allocation Factor = total historic: HPD \$ Total Dist \$'s HPD \$ as % Distribution digh Pressure Distribution Main: 2013 2014 2015 2016 2017 2018 2019 Medium Pressure Distribution Main: 2013 2014 2013 2014 2013 2014 2013	al HPD Invested as % \$22,540,441 \$465,705,671 5% 5 = Total Distribution \$0 \$1,062,331 \$1,194,129 \$1,325,926 \$1,457,723 \$1,589,521 \$1,721,318 ains = Total Distributi \$0 \$20,886,382 \$23,477,636	total Distribution \$93,961,365 \$331,427,026 28% * allocation factor \$0 \$5,743,422 \$	Investment (\$3,132,330) (\$21,364,518) 15% (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117)	\$7,814,468 \$60,598,050 13% \$1,047,508 \$1,100,859 \$1,154,210 \$1,207,560 \$1,260,911 \$1,314,261 \$0 \$7,075,497 \$7,435,859	\$121,183,944 \$836,366,229 14% \$0 \$7,843,144 \$8,028,292 \$8,213,440 \$8,398,588 \$8,583,736 \$8,768,884 \$0 \$42,418,162 \$45,369,779	\$121,183,944 \$129,027,089 \$137,055,381 \$145,268,822 \$153,667,410 \$162,251,146 \$171,020,031 \$715,182,285 \$757,600,447 \$802,970,226	
Allocation Factor = total historic: HPD \$ Total Dist \$'s HPD \$ as % Distribution digh Pressure Distribution Mains 2013 2014 2015 2016 2017 2018 2019 Medium Pressure Distribution Mains 2013 2014 2015 2016	al HPD Invested as % \$22,540,441 \$465,705,671 5% 5 5 5 5 5 5 5 5 5 5 5 5 5	total Distribution \$93,961,365 \$331,427,026 28% * allocation factor \$0 \$5,743,422 \$	Investment (\$3,132,330) (\$21,364,518) 15% (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117) (\$10,117)	\$7,814,468 \$60,598,050 13% \$1,047,508 \$1,100,859 \$1,154,210 \$1,207,560 \$1,260,911 \$1,314,261 \$0 \$7,075,497 \$7,435,859 \$7,796,221	\$121,183,944 \$836,366,229 14% \$0 \$7,843,144 \$8,028,292 \$8,213,440 \$8,398,588 \$8,583,736 \$8,768,884 \$0 \$42,418,162 \$45,369,779 \$48,321,396	\$121,183,944 \$129,027,089 \$137,055,381 \$145,268,822 \$153,667,410 \$162,251,146 \$171,020,031 \$715,182,285 \$757,600,447 \$802,970,226 \$851,291,622	

#### 2016 TCAP Phase II

## TABLE 8

Distribution Long Run Marginal Cost Estimate (2013\$s) SOUTHERN CALIFORNIA GAS COMPANY 2016 TCAP Phase II

System	MPD	HPD
Demand Determinate	mcfd	mcf/month
Capital-related LRMC:		
Medium Pressure Regression Coefficient =	\$2,135	\$20.39
Weighted RECC Factor =	8.57%	8.56%
Annualized Capital-related LRMC	\$183.00	\$1.75
O&M-related LRMC:		
Total Distribution O&M costs (2013 \$000's) =	\$47,052	\$47,052
escalation 2013 to 2017	1.0762	1.0762
Total Distribution O&M costs (2017 \$000's) =	\$50,639	\$50,639
% Share of Investment	86%	14%
Peak Day Demand	4,340	88,871
O&M-related LRMC	\$9.98	\$0.08256
A&G-related LRMC:		
A&G Factor, as a Percent of O&M-related LRMC	41.79%	41.79%
A&G-related LRMC	\$4.17	\$0.03451
General Plant (GP)-related LRMC:		
GP Factor, as a Percent of O&M-related LRMC	30.21%	30.21%
GP-related LRMC	\$3.01	\$0.02494
Material & Supply (M&S)-related LRMC:		
Total Distribution M&S costs (2013 \$000's) =	\$1,443	\$1,443
% Share of Investment	86%	14%
Demand Determinantes	5,768	5,768
M&S-related LRMC	\$0.21	\$0.03625
Distribution LRMC =	\$200.38 \$/Mcfd	\$1.92 \$Mcf/mo

### TABLE 7 Regression of Distribution Investment SOUTHERN CALIFORNIA GAS COMPANY 2016 TCAP Phase II

System	MPD	MPD	HPD	HPD
				Peak Month Cumulative
	Cumulative	Peak Day Cumulative	Cumulative	Demand MMcf/
Year	Investment \$000	Demand MMcfd	Investment \$000	Month
2005	\$189,849	35	\$10,034	613
2006	\$362,478	68	\$47,295	1,212
2007	\$498,062	104	\$62,374	2,158
2008	\$574,536	139	\$69,741	2,718
2009	\$617,770	144	\$82,299	2,789
2010	\$663,994	156	\$85,437	2,974
2011	\$681,505	189	\$93,475	3,511
2012	\$691,239	202	\$119,019	3,870
2013	\$715,182	238	\$121,184	4,680
2014	\$757,600	252	\$129,027	5,555
2015	\$802,970	268	\$137,055	5,908
2016	\$851,292	291	\$145,269	6,333
2017	\$902,565	316	\$153,667	6,783
2018	\$956,789	342	\$162,251	7,233
2019	\$1,013,966	368	\$171,020	7,679
Regression Coefficient	\$2,135		\$20.39	

### Calculate Weighted Average RECC Factor:

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System	MPD	MPD	MPD	MPD	HPD	HPD	HPD	HPD
Historical Investment	New Business \$000's	Pressure Betterment \$000	Contribute in aid of Construction \$000	Account #378 Meter & Reg Stations \$000	New Business \$000's	Pressure Betterment \$000	Contribute in aid of Construction \$000	Account #378 Meter & Reg Stations \$000
2005	\$127,055	\$61,285	(\$2,384)	\$3,892	\$3,545	\$7,284	(\$1,372)	\$577
2006	\$124,917	\$54,478	(\$15,140)	\$8,374	\$15,391	\$21,496	(\$862)	\$1,235
2007	\$96,279	\$34,235	(\$124)	\$5,194	\$780	\$13,581	(\$47)	\$765
2008	\$29,299	\$41,268	(\$144)	\$6,050	\$443	\$6,274	(\$247)	\$898
2009	\$14,635	\$24,971	(\$164)	\$3,793	\$677	\$11,472	(\$149)	\$558
2010	\$9,918	\$31,587	(\$280)	\$4,999	\$31	\$2,817	(\$455)	\$744
2011	\$12,421	(\$1,386)	\$0	\$6,475	\$0	\$7,085	\$0	\$954
2012	\$11,639	(\$9,009)	\$0	\$7,104	\$1,527	\$22,981	\$0	\$1,035
2013	\$17,001	\$37	\$3	\$6,903	\$146	\$971	\$0	\$1,048
2014	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Invest \$000	\$443,165	\$237,466	(\$18,232)	\$52,784	\$22,540	\$93,961	(\$3,132)	\$7,814
	Total Invest \$000's	% of Total	RECC %	Weghted RECC%	Total Invest \$000's	% of Total	RECC %	Weghted RECC%
New Business \$000's	\$443,165	62%	8.49%	5.26%	\$22,540	19%	8.49%	1.58%
Pressure Betterment	\$237,466	33%	8.49%	2.82%	\$93,961	78%	8.49%	6.58%
CIAC	(\$18,232)	-3%	8.49%	-0.22%	(\$3,132)	-3%	8.49%	-0.22%
subtotal	\$662,399	93%		7.87%	\$113,369	94%		7.94%
Meter & Reg Stations #378	\$52,784	7%	9.54%	0.70%	\$7,814	6%	9.54%	0.62%
Total	\$715,182	100%		8.57%	\$121,184	100%		8.56%

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

	Investment \$000's % Share			
MPD Investment	\$715,182	86%		
HPD Investment	\$121,184	14%		
	\$836,366	100%		

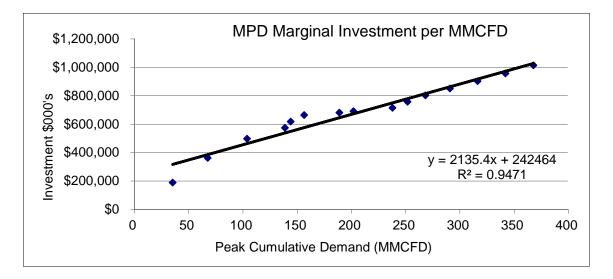
## TABLE 2 Marginal MPD Costs

Table 2					
		Cumulative			
	Cumulative	CAPEX			
Year	MMCFD	\$000's			
2005	35	\$189,849			
2006	68	\$362,478			
2007	104	\$498,062			
2008	139	\$574,536			
2009	144	\$617,770			
2010	156	\$663,994			
2011	189	\$681,505			
2012	202	\$691,239			
2013	238	\$715,182			
2014	252	\$757,600			
2015	268	\$802,970			
2016	291	\$851,292			
2017	316	\$902,565			
2018	342	\$956,789			
2019	368	\$1,013,966			

## TABLE 5 Marginal HPD Costs

Table 5					
	Cumulative Cumulative				
	MMCF/	CAPEX			
Year	month	\$000's			
2005	613	\$10,034			
2006	1,212	\$47,295			
2007	2,158	\$62,374			
2008	2,718	\$69,741			
2009	2,789	\$82,299			
2010	2,974	\$85,437			
2011	3,511	\$93,475			
2012	3,870	\$119,019			
2013	4,680	\$121,184			
2014	5,555	\$129,027			
2015	5,908	\$137,055			
2016	6,333	\$145,269			
2017	6,783	\$153,667			
2018	7,233	\$162,251			
2019	7,679	\$171,020			

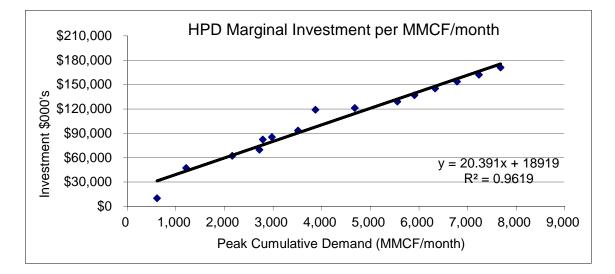
## TABLE 3 Marginal MPD Investment per MMCFD





## TABLE 6 Marginal HPD Investment per MMCF/month

Table 6



## Table 4 Marginal MP Distribution Cost

Table 4				
Marginal MP Distribution Cost				
Capital-related Charge: MPD Regression Coefficient \$/MCFD x RECC Factor	\$2,135.4 8.57%			
<ul> <li>Annualized Capital-related Charge (\$/MCFD)</li> <li>+ Direct O&amp;M</li> </ul>	\$183.00 \$9.98			
+ A&G + GP	\$4.17 \$3.01			
+ M&S = Marginal MP Distribution Cost(\$/MCFD)	\$0.21 <b>\$200.38</b>			

## Table 7 Marginal HP Distribution Cost

Table 7	
Table Marginal HP Distribution Cost	
Capital-related Charge: HPD Regression Coefficient \$/MCF/month x RECC Factor = Annualized Capital-related Charge (\$/MCF/month)	\$20.391 8.56% \$1.75
+ Direct O&M + A&G + GP + M&S	\$0.08 \$0.03 \$0.02 \$0.04
= Marginal HP Distribution Cost(\$/MCF/month)	\$1.92

SoCalGas

2016 TCAP Phase II

**Section 3** 

**O&M Loaders Model for LRMC Studies** 

Workpapers to the Prepared Written Testimony of Sharim Chaudhury

### SCG 2016 TCAP Phase II LRMC O&M Loader Model

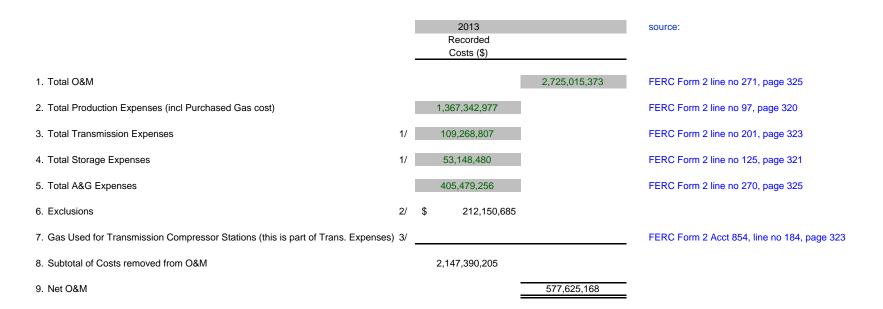
<u>Output</u>	Output	Source
Marginal A&G/Payroll Taxes Loading Factor as a % of O&M expenses	41.79%	A&G
General Plant Loading Factor as a % or O&M expenses	30.21%	Gen Plant
Customer Related Distribution M&S Costs 2013 \$000/yr	\$1,252,283	M&S
Demand Related Distribution M&S Costs 2013 \$000/yr	\$1,442,960	M&S
2013-17 Factor: Capital	1.0876	Escalation Factors
2013-17 Factor: O&M	1.0762	Escalation Factors

Input from EC Model:	
Transmission A&G	\$15.184
Storage A&G	\$7.613
Total A&G	\$365.432
Transmission General Plant Return	\$1.110
Transmission Gen Plant Dep	\$5.986
Transmission Gen Plant Taxes	\$0.046
Storage General Plant Return	\$0.557
Storage Gen Plant Dep	\$3.001
Storage Gen Plant Taxes	\$0.023
Total Gen Plant Return	\$26.715
Total Gen Plant Dep	\$144.061
Total Gen Plant Taxes	\$1.113

## Input from EC Model:

PBR Exclusion items	
814 UndStr Op-Supervision & Engineering	\$0.021
854&855 Tran Op-Gas From Comp Sta Fuel (PBR Excluded)	\$0.347
859 Tran Op-Other Expenses (PBR excl Haz Waste)	\$0.000
880 Dist Op-Other Expenses (PBR Ex Haz Waste)	\$0.831
901 Cus Acct-Supervision (PBR Ex CARE) + Payroll Taxes	\$6.899
903100 AMI	\$29.091
904 Cus Acct-Uncollectible Accounts	\$7.719
908 Cus Svc-Cust Assist Exp (PBR Ex DAP, DSM &Self-Gen)	\$167.610
927 AdmGen Op-Franchise Requirements	\$45.292
	\$257.810

#### 2017 TCAP A&G LOADER ANALYSIS O&M Costs Used in A&G Loader



#### 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 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 2013 Row (8) = Sum [ Row (2) : Row (7) ] Row (9) = Row (1) - Row (8)

Exclusions	2013
Hazardous Substance costs (dist acct 880)	831,288
Uncollectible Acct (acct 904)	7,719,077
Self Generation (acct 908)	14,328,729
Energy Efficiency (acct 908)	57,429,006
Low Income Energy Efficiency (acct 908)	95,852,610
CARE (acct 901)	6,899,171
AMI (acct 903100)	29,090,804
	212,150,685
O&M Main categories	2013
DISTRIBUTION EXPENSES	
870 Operation Supervision and Engineering	36,879,660
874 Mains and Services Expenses	25,597,541
875 Measuring and Regulating Station Expenses-General	1,751,723
878 Meter and House	62,728,978
879 Customer Installations Expense	67,070,852
880 Other Expenses	76,300,337
881 Rents	21,521
TOTAL Operation	270,350,612
885 Maintenance Supervision and Engineering	22,843,275
887 Maintenance of Mains	30,678,905
889 Maintenance of Mesuring and Regulating Station Equipment -General	2,101,196
892 Maintenance of Services	46,346,087
893 Maintenance of Meters and House Regulators	6,134,606
894 Maintenance of Other Equipment	17,805
TOTAL Maintenance	108,121,874
CUSTOMER ACCOUNTS EXPENSES	0.000.000
901 Supervision	6,626,386
902 Meter Reading Expenses	45,931,320
903 Customer Records and Collection Expenses	148,049,588
904 Uncollectible Accounts	7,719,077
905 Miscellaneous Customer Accounts Expenses	633
TOTAL Customer Accounts Expenses	208,327,004
CUSTOMER SERVICE AND INFORMATILNAL EXPENSES	620.442
907 Supervision	638,142
908 Customer Assistance Expenses	199,628,359
909 Informational and Instructional Expenses	934,864
910 Miscellaneous Customer Service and Informational Expenses	1,774,998
TOTAL Customer Service and Information expenses	202,976,363
Exclusions Net O&M	(212,150,685)
	577,625,168
Gas Used for Transmission Compressor Stations (this is part of Trans. Expenses)	577 625 168

577,625,168

### TABLE 2 A&G and Payroll Taxes Loading Factor

#### SOUTHERN CALIFORNIA GAS COMPANY

DESCRIPTION	2017 TCAP	source
	(\$)	
1. Total Marginal A&G Costs	\$192,407,699	A&G 1 tab
2. Total Payroll Taxes	49,005,527	(SS + Fed&CA
3. Marginal A&G and Payroll Taxes	241,413,226	Row 1 + Row 2
4. Net O&M Costs	577,625,168	O&M Costs tab
5. Marginal A&G/Payroll Taxes Loading Factor	41.79%	Row 3 / Row 4
6. Transmission and Storage adjustment	6.24%	EC study
6. Transmission and Storage adjustment	0.24%	EC study
Notes: Data Source: FERC Form 2		
Fed. Unemployment Insurance Tax	371,323	p. 263a (SS + Fed&CA Un
Social Security Tax	49,481,499	p. 263a (SS + Fed&CA Un

Fed. Unemployment Insurance Tax	371,323	p. 263a (SS + Fed&CA Unempl taxes)
Social Security Tax	49,481,499	p. 263a (SS + Fed&CA Unempl taxes)
State Unemployment Insurance Tax	2,413,192	p. 263a (SS + Fed&CA Unempl taxes)
Total	52,266,014	_

Chaudhury Section 3 Workpapers Page 4 of 22

#### 2016 TCAP Phase II A&G LOADER ANALYSIS Marginal vs Non-marginal Summary

(1)	(2)	(3)	(4)	(5)	(6)	(7)	<b>(8)</b> 2013 Recorded	
Account Title	PUC Account	Marginal Cost	Marginal Portion of Total	Non-Marginal Cost	Non-Marginal Portion of Total	Total Cost	Total Cost Per FERC Form 2	Source
		(\$)	(%)	(\$)	(%)	(\$)	(\$)	
1. A&G Salaries	920	\$2,329	0.00%	\$46,089,125	12.80%	\$46,091,454	\$46,091,454	FERC Form 2 line no 254, page 325
<ol><li>Office Supplies and Exp</li></ol>	921	1,039,979	0.29%	13,479,727	3.74%	14,519,706	\$14,519,705	FERC Form 2 line no 255, page 325
<ol><li>Admin Expenses Transferred</li></ol>	922	0	0.00%	(6,349,039)	-1.76%	(6,349,039)	(\$6,349,039)	FERC Form 2 line no 256, page 325
<ol><li>Outside Services Employed</li></ol>	923	0	0.00%	72,629,634	20.16%	72,629,634	\$72,629,634	FERC Form 2 line no 257, page 325
5. Property Insurance	924	3,256,461	0.90%	0	0.00%	3,256,461	\$3,256,461	FERC Form 2 line no 258, page 325
6. Injuries and Damages	925	34,068,221	9.46%	0	0.00%	34,068,221	\$34,068,221	FERC Form 2 line no 259, page 325
<ol><li>Employee Pensions &amp; Benefits</li></ol>	926	142,537,477	39.57%	0	0.00%	142,537,477	\$142,537,477	FERC Form 2 line no 260, page 325
8. Regulatory Commission Expenses	928	0	0.00%	5,315,629	1.48%	5,315,629	\$5,315,629	FERC Form 2 line no 262, page 325
9. Misc General Expenses	930	76,036	0.02%	9,315,330	2.59%	9,391,366	\$9,391,366	FERC Form 2 line no 265, page 325
10. Rents	931	2,985,666	0.83%	14,497,469	4.02%	17,483,135	\$17,483,135	FERC Form 2 line no 266, page 325
11. Maintenance of Gen Plant	932	21,242,999	5.90%	0	0.00%	21,242,999	\$21,242,999	FERC Form 2 line no 269, page 325
12. Total		205,209,167	56.97%	154,977,874	43.03%	360,187,042	360,187,042	

Franchise Requirements

927

\$45,292,214

Updated: Reflects 2013 FERC Form 2 data.

Color Key: Input Data, Source Data from other tab, calculation Col (1) & Col (2) account description Col (3) contains data from 'Marginal - Nonmarginal' tab Col (4) = Col (3) / Col (7) Col (5) contains data from 'Marginal - Nonmarginal' tab Col (6) = Col (5) / Col (7) Col (7) = Col (3) + Col (5) Col (8) data from FERC Form 2 for 2013

#### 2016 TCAP Phase II A&G LOADER ANALYSIS

2013 RECORDED COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7) (5) + (6)	(8)	(9)
FERC Cost Center Description	PUC Account Number	FERC Account No.	Marginal Y/N	2010 Recorded Costs Direct	Reassigned	Total	Marginal	Non-Marginal
				(\$)	(\$)	(\$)	(\$)	(\$)
1. BLDG OPER OTH THAN CLEANING SV	920	920.601	Y	\$ 1,182	\$ 236	\$ 1,418	\$ 1,418	\$-
2. PROCUREMENT & LOGISTICS CONSULT	920	920.630	Y			-	-	-
3. REAL ESTATE	920	920.604	Y			-		
4. BUILDING CLEANING SERVICES	920	920.600	Y		912	912	912	-
5. RETURN TO WORK EXAMINATIONS	920	920.212	Y		-			
6. SUPPLIER MANAGEMENT	920	920.632	Y		-			
ACCOUNT 920 MARGINAL TOTAL				1,182	1,148	2,329	2,329	-
7. ADMINISTRATIVE & GENERAL SALARIES	920	920.000	Ν	32,220,044	2,981,629	35,201,673	-	35,201,673
8. HUMAN RESOURCES OPER SALARIES	920	920.200	N	5,800,919	1,610,837	7,411,756		7,411,756
9. REGIONAL AFFAIRS	920	920.570	N	2,755,416	520,706	3,276,122	-	3,276,122
10. END USER SUPPORT COMM	920	920.372	N		-	-	-	-
11. COMPUTER END USER SUPPORT	920	920.371	N	-	15	15	-	15
12. REGION MANAGER SALARIES	920	920.047	N		-	-		
13. PUBLIC AFFAIRS ADMINISTRATION	920	920.570	N		-	-	-	-
14. OPERATE MAINFRAME COMPUTERS GEN 15. STANDARD & CODES	920 920	920.360 920.561	N	-	-	-	-	- 115.982
15. STANDARD & CODES 16. INFORMATION SYS GENL SUPERVISION	920 920		N	87,961	28,021	115,982	-	- /
17. INFORMATION SYS GENE SUPERVISION	920	920.301 920.302	N N	(0)	5,948	5,948		5,948
18. INFORMATION SYSTEMS	920	920.300	N					
19. GOVERNMENTAL AFFAIRS SALARIES	920	920.560	N					
20. PSEP - A&G SALARIES	920	920.850	N	54,788	22,840	77,628		77,628
21. Reassignment Only	920	920.010	N	-	-	-		-
ACCOUNT 920 NÓN-MARGINAL TOTAL				40,919,128	5,169,997	46,089,125		46,089,125
22. BLDG OPER OTH THAN CLEANING SV	921	921.601	Y	983,818	(18,350)	965,468	965,468	-
23. BUILDING CLEANING SERVICES	921	921.600	Ŷ	68,881	2,777	71,658	71,658	
24. PROCUREMENT & LOGISTICS CONSULT	921	921.630	Y			· · · ·	· · · ·	
25. REAL ESTATE	921	921.604	Y	2,688	164	2,852	2,852	-
ACCOUNT 921 MARGINAL TOTAL				1,055,387	(15,408)	1,039,979	1,039,979	-
27. ADMINISTRATIVE & GENERAL SALARIES	921	921.000	Ν	10,951,501	(70,178)	10,881,323		10,881,323
28. HUMAN RESOURCES OPER SALARIES	921	921.200	N	4,206	(104)	4,101	-	4,101
29. COMPUTER END USER SUPPORT	921	921.371	N	11,491	65	11,556		11,556
30. REGIONAL AFFAIRS	921	921.571	N	956,632	(23,614)	933,018		933,018
31. PUBLIC AFFAIRS ADMINISTRATION	921	921.563	N	(2,854)	81	(2,773)		(2,773)
32. REGION MANAGER SALARIES	921	921.047	N	31	(1)	30	-	30
33. STANDARD & CODES	921	921.561	N	11,934	(335)	11,598		11,598
34. INFORMATION SYS GENL SUPERVISION	921	921.301	N	(18,573)	66,597	48,024		48,024
35. PSEP-A&G OFFICE SUPL	921	921.850	N	1,570,107	40,037	1,610,143	-	1,610,143
36. FERC B/S ERRORS	921	921.999	N		(17,294)	(17,294)		(17,294)
ACCOUNT 921 NON-MARGINAL TOTAL				13,484,474	(4,747)	13,479,727	-	13,479,727
37. ADMINISTRATIVE EXPENSES TRANSFERRED-CRED	922	922.000	N	-	(4,000,057)	(4,000,057)		(4,000,057)
38. HR-CAP A&G TRANS CR	922	922.200	N		(875,844)	(875,844)	-	(875,844)
39. IS GEN SUP-CAP AG CR	922	922.301	N	-	1,729	1,729		1,729
40. PA ADM-CAP A&G TR CR	922	922.563	N	-	1,111	1,111		1,111
41. REG AF-CAP A&G TR CR	922	922.570	N	-	(1,470,904)	(1,470,904)		(1,470,904)
42. BLD CLNG-CP AG TR CR	922	922.600	N	-	(4,590)	(4,590)		(4,590)
43. RE - CAP A&G TRN CR	922	922.604	N		(483)	(483)		(483)
ACCOUNT 922 NON-MARGINAL TOTAL				-	(6,349,039)	(6,349,039)	-	(6,349,039)
44. OUTSIDE SERVICES EMPLOYED	923	923.000	Ν	286,775	72,368,016	72,654,791	-	72,654,791
45. PSEP -OUTSIDE SERVICES	923	923.850	N		(25,158)	(25,158)		(25,158)
ACCOUNT 923 NON-MARGINAL TOTAL				286,775	72,342,859	72,629,634	-	72,629,634

(1)	(2)	(3)	(4)	(5)	(6)	(7) (5) + (6)	(8)	(9)
FERC Cost Center Description	PUC Account Number	FERC Account No.	Marginal Y/N	2010 Recorded Costs Direct	Reassigned	Total	Marginal	Non-Marginal
	004	004.000		0.000 570	(00,400)	0.050.404	0.050.404	
46. INSURANCE EXPENSE ACCOUNT 924 MARGINAL TOTAL	924	924.000	Y	3,292,570 3,292,570	(36,109)	3,256,461	3,256,461 3,256,461	
ACCOUNT 924 MARGINAL TOTAL				3,292,370	(30,109)	3,230,401	3,230,401	-
47. INJURIES AND DAMAGES	925	925.000	Y	(6,823,552)	(1,245,260)	(8,068,812)	(8,068,812)	
48. ACCIDENT PREV & SAFE	925	925.160	Ý	2,987,748	669,638	3,657,386	3,657,386	
49. A&G EMERGENCY PREP	925	925,180	Y	1,277,896	346,769	1.624.665	1.624.665	
50. COLL WORKERS COMP	925	925.300	Y	19,855,696	2,090,987	21,946,683	21,946,683	-
51. COLL PLPD	925	925.310	Y	14,725,446	(731,545)	13,993,901	13,993,901	
52. PSEP - INJUR & DAMAG	925	925.850	Y	521,661	392,735	914,397	914,397	-
ACCOUNT 925 MARGINAL TOTAL				32,544,897	1,523,324	34,068,221	34,068,221	-
53. EMPLOYEE PENSIONS AND BENEFITS	926	926.000	Y	29.793.585	(936,786)	28.856.799	28,856,799	-
54. TRANSPORTATION PROGRAM	926	926.239	Y	162,063	(162,063)	(0)	(0)	-
55. EMPLOYEE RECOGNITION PROGRAM	926	926.200	Y	8,171,904	(8,171,547)	357	357	-
56.	926	926.207	Y	19,518	(23,800)	(4,281)	(4,281)	-
57. DISABILITY BENEFIT EXPENSE	926	926.300	Y	166,594,251	(52,909,649)	113,684,602	113,684,602	
ACCOUNT 926 MARGINAL TOTAL				204,741,322	(62,203,845)	142,537,477	142,537,477	-
58. BLDG SUPPORT CANTEEN GASCO TWR	926	926.202	N		_	-	-	-
ACCOUNT 926 NON-MARGINAL TOTAL							-	-
59. INTERVENOR COMPENSATION	928	928.500	Ν	111.034		111,034		111,034
60. REGULATORY COMMISSION EXPENSES	928	928.000	N	3.022.420	2,182,175	5,204,595		5,204,595
ACCOUNT 928 NON-MARGINAL TOTAL	320	320.000		3,133,454	2,182,175	5,315,629		5,315,629
				0,100,101	2,102,110	0,010,020		0,010,020
61. DIVISION STATIONERY EXPENSE	930	930.625	Y	19,632	183	19,816	19,816	-
62. DUPLICATING EQUIP DIST & TRANS	930	930.600	Y	55,697	523	56,220	56,220	-
ACCOUNT 930 MARGINAL TOTAL				75,330	706	76,036	76,036	-
63. MISCELLANEOUS GENERAL EXPENSES	930	930.200	Ν	10,965,473	(1,651,884)	9,313,589	-	9,313,589
64. MISC DIV OFFICE EXPENSES	930	930.046	N	1,730	11	1,741		1,741
ACCOUNT 930 NON-MARGINAL TOTAL				10,967,203	(1,651,873)	9,315,330	-	9,315,330
65. RENTS DISTRIB AND TRANSM REGIONS	931	931.602	Y	3,079,057	(93,391)	2,985,666	2,985,666	-
ACCOUNT 931 MARGINAL TOTAL				3,079,057	(93,391)	2,985,666	2,985,666	-
66. GAS COMPANY TOWER RENTS	931	931.600	Ν	15,335,034	(1,119,993)	14,215,041		14,215,041
67. RENTS GENERAL	931	931.000	N	-	282.428	282,428		282,428
ACCOUNT 931 NON-MARGINAL TOTAL	001	0011000		15,335,034	(837,565)	14,497,469	-	14,497,469
68. BLDG YARD & EQUIP MAINTENANCE	935	935.600	Y	15,505,641	537,128	16,042,769	16,042,769	
69. MAINTENANCE FURN OFFICE EQUIP	935	935.601	Y	160.036	(5,828)	154,208	154,208	
70. MEAS SHOP EQUIP	935	935.601	Y Y	342.106	(5,828) 11,543	353.649	154,208 353.649	-
70. MEAS SHOP EQUIP 71. GARAGE/FUEL ISLAND MAINTENANCE	935	935.606	Ý	844,115	297,096	1,141,211	1,141,211	
72. COMPR MTC CNG VEHICLES	935	935.605	Ý	44,517	(84,929)	(40,412)	(40,412)	
73. TESTRACK MAINTENANCE	935	935.680	Ý	53,104	3,351	56,455	56,455	-
74. MAINTENANCE OF GENERAL PLANT	935	935.000	Ý	1.288.176	2.246.943	3,535,119	3,535,119	
ACCOUNT 935 MARGINAL TOTAL	300	333.000	'	18,237,695	3,005,304	21,242,999	21,242,999	
				247 152 507	12 022 524	260 197 042	205 200 167	154 077 974
TOTAL A&G				347,153,507	13,033,534	360,187,042	205,209,167	154,977,874

	-				
FERC Account	LABOR	NON_LABOR	TOTAL DIRECT	REASSIGNME NTS	TOTAL COSTS
920.000 Total	\$32,220,044	\$0	\$32,220,044	\$ 2,981,629	\$35,201,673
920.010 Total	\$ 0	\$ 0	\$0	\$ 0	\$0
920.047 Total	\$0	\$0	\$0	\$ 0	\$0
920.200 Total	\$5,800,919	\$0	\$5,800,919	\$ 1,610,837	\$7,411,756
920.212 Total	\$0	\$0	\$0	\$ 0	\$0
920.300 Total	\$0	\$0	\$0	\$ 0	\$0
920.301 Total	\$0	\$0	\$0	\$ 5,948	\$ 5,948
920.302 Total	\$0	\$0	\$0	\$ 0	\$0
920.360 Total	\$0	\$0	\$0	\$ 0	\$0
920.371 Total	\$0	\$0	\$0	\$ 15	\$15
920.372 Total	\$0	\$0	\$0	\$ 0	\$0
920.560 Total	\$0	\$0	\$0	\$ 0	\$0
920.561 Total	\$87,961	\$0	\$87,961	\$ 28,021	\$115,982
920.563 Total	\$0	\$0	\$0	\$ 0	\$0
920.570 Total	\$2,755,416	\$0	\$2,755,416	\$ 520,706	\$3,276,122
920.600 Total	\$0	\$0	\$0	\$ 912	\$912
920.601 Total	\$1,182	\$0	\$1,182	\$ 236	\$1,418
920.604 Total	\$0	\$0	\$0	\$ 0	\$0
920.630 Total	\$0	\$0	\$0	\$ 0	\$0
920.632 Total	\$0	\$0	\$0	\$ 0	\$0
920.850 Total	\$54,788	\$0	\$54,788	\$ 22,840	\$ 77,628
	\$ 40,865,521	\$ 0	\$ 40,865,521	\$ 5,148,305	\$ 46,013,826
921.000 Total	\$0	\$10,951,501	\$10,951,501	-\$ 70,178	\$10,881,323
921.047 Total	\$0 \$0	\$ 31	\$31	-\$ 1	\$ 30
921.200 Total	\$0 \$0	\$ 4,206	\$4,206	-\$ 104	\$4,101
921.301 Total	\$0	-\$ 18,573	-\$18,573	\$ 66,597	\$48,024
921.371 Total	\$0	\$ 11,491	\$11,491	\$ 65	\$11,556
921.561 Total	\$0	\$ 11,934	\$11,934	-\$ 335	\$11,598
921.563 Total	\$0	-\$ 2,854	-\$2,854	\$81	(\$2,773)
921.570 Total	\$0	\$ 956,632	\$956,632	-\$ 23,614	\$933,018
921.600 Total	\$0	\$ 68,881	\$68,881	\$ 2,777	\$71,658
921.601 Total	\$0	\$ 983,818	\$983,818	-\$ 18,350	\$965,468
921.604 Total	\$0	\$ 2,688	\$2,688	\$ 164	\$2,852
921.630 Total	\$0	0	\$0	\$ 0	\$0
921.850 Total	\$0	\$ 1,570,107	\$1,570,107	\$ 40,037	\$1,610,143
921.999 Total	\$0	\$ 0	\$0	-\$ 17,294	(\$17,294)
	\$ 0	\$ 14,539,861	\$ 14,539,861	-\$ 20,155	\$ 14,519,706

FERC Account	LABOR	NON_LABOR	TOTAL DIRECT	REASSIGNME NTS	TOTAL COSTS
922.000 Total	\$0	\$0	\$0	-\$ 4,000,057	(\$4,000,057)
922.200 Total	\$0	\$0	\$0	-\$ 875,844	(\$875,844)
922.301 Total	\$0	\$0	\$0	\$ 1,729	\$1,729
922.563 Total	\$0	\$0	\$0	\$ 1,111	\$1,111
922.570 Total	\$0	\$0	\$0	-\$ 1,470,904	(\$1,470,904)
922.600 Total	\$0	\$0	\$0	-\$ 4,590	(\$4,590)
922.604 Total	\$0	\$0	\$0	-\$ 483	(\$483)
	\$ 0	\$ 0	\$ 0	-\$ 6,349,039	(\$6,349,039)
923.000 Total	\$338,717	(\$51,942)	\$286,775	\$ 72,368,016	\$72,654,791
923.850 Total	\$ 0		\$0	-\$ 25,158	(\$25,158)
	\$ 338,717	(\$51,942)	\$ 286,775	\$ 72,342,859	\$72,629,634
924.000 Total	\$0	\$3,292,570	\$3,292,570	-\$ 36,109	\$3,256,461
925.000 Total	\$1,206,824	(\$8,030,375)	(\$6,823,552)	(\$1,245,260)	(\$8,068,812)
925.160 Total	\$1,892,737	\$1,095,011	\$2,987,748	\$669,638	\$3,657,386
925.180 Total	\$536,674	\$741,222	\$1,277,896	\$346,769	\$1,624,665
925.300 Total		\$19,855,696	\$19,855,696	\$2,090,987	\$21,946,683
925.310 Total		\$14,725,446	\$14,725,446	(\$731,545)	\$13,993,901
925.850 Total		\$521,661	\$521,661	\$392,735	\$914,397
	\$3,636,236	\$28,908,662	\$32,544,897	\$1,523,324	\$34,068,221
926.000 Total	\$844,773	\$28,948,812	\$29,793,585	(\$936,786)	\$28,856,799
926.200 Total	\$3,000	\$8,168,904	\$8,171,904	(\$8,171,547)	\$357
926.202 Total	\$0	\$0	\$0	\$0	\$0
926.207 Total	\$19,434	\$84	\$19,518	(\$23,800)	(\$4,281)
926.239 Total		\$162,063	\$162,063	(\$162,063)	(\$0)
926.300 Total	\$17,308	\$166,576,943	\$166,594,251	(\$52,909,649)	\$113,684,602
	\$884,515	\$203,856,807	\$204,741,322	(\$62,203,845)	\$142,537,477

FERC Account	LABOR	NON_LABOR	TOTAL DIRECT	REASSIGNME NTS	TOTAL COSTS
928.000 Total	\$2,681,744	\$340,677	\$3,022,420	\$2,182,175	\$5,204,595
928.500 Total		\$111,034	\$111,034	\$0	\$111,034
-	\$2,681,744	\$451,711	\$3,133,454	\$2,182,175	\$5,315,629
930.046 Total		\$1,730	\$1,730	\$11	\$1,741
930.200 Total	\$1,048,086	\$9,917,387	\$10,965,473	(\$1,651,884)	\$9,313,589
930.600 Total		\$55,697	\$55,697	\$523	\$56,220
930.625 Total		\$19,632	\$19,632	\$183	\$19,816
=	\$1,048,086	\$9,994,447	\$11,042,533	(\$1,651,167)	\$9,391,366
004 000 <b>T</b> + 1				<b>*</b> ****	<b>*</b> ****
931.000 Total		\$0	\$0	\$282,428	\$282,428
931.600 Total		\$15,335,034	\$15,335,034	(\$1,119,993)	\$14,215,041
931.602 Total	•	\$3,079,057	\$3,079,057	(\$93,391)	\$2,985,666
-	\$0	\$18,414,091	\$18,414,091	(\$930,956)	\$17,483,135
935.000 Total	(\$2,501)	\$1,290,678	\$1,288,176	\$2,246,943	\$3,535,119
935.600 Total	\$4,161,940	\$11,343,702	\$15,505,641	\$537,128	\$16,042,769
935.601 Total	¢ 1,101,010	\$160,036	\$160,036	(\$5,828)	\$154,208
935.605 Total	\$34.851	\$9.666	\$44,517	(\$84,929)	(\$40,412)
935.606 Total	\$400.517	\$443.598	\$844.115	\$297,096	\$1,141,211
935.675 Total	\$249,704	\$92,402	\$342,106	\$11,543	\$353,649
935.680 Total	\$53,104		\$53,104	\$3,351	\$56,455
•	\$4,897,614	\$13,340,081	\$18,237,695	\$3,005,304	\$21,242,999

\$13,010,694	\$360,109,413

### Weighted Average RECC Calculation

	Account		Gas Plant In Service Year End 2010			Weighted Average	
	<u>No.</u>	General Plant Accounts	Balance (\$)	Percent	RECC	RECC	Source
1.	390	Structures and Improvements	182,425,698	22.09%	12.506%	2.762%	FERC Form 2 line no 112, page 209
2.	391	Office Furniture and Equipment		0.00%		0.000%	
3.	391.1	Office Furniture and Equipment	12,178,664	1.47%	12.283%	0.181%	
4.	391.2	Computer Equipment	71,295,924	8.63%	25.752%	2.223%	
5.	391.3	Software Programs - 3yr ASL	11,667,250	1.41%	39.220%	0.554%	
6.	391.4	Software Programs - 6yr ASL	42,357,799	5.13%	21.486%	1.102%	
7.	391.5	Software Programs - 10yr ASL	280,682,742	33.98%	15.477%	5.259%	
8.	391.55	Software Programs - 15yr ASL	6,538,810	0.79%	12.205%	0.097%	
9.	391.6	Software Programs - 20yr ASL	6,767,828	0.82%	10.690%	0.088%	
10.	392	Transportation Equipment	574,058	0.07%	11.542%	0.008%	FERC Form 2 line no 114, page 209
11.	393	Stores Equipment	100,772	0.01%	11.542%	0.001%	FERC Form 2 line no 115, page 209
12.	394	Tools, Shop, and Garage Equipment	54,236,587	6.57%	10.614%	0.697%	FERC Form 2 line no 116, page 209
13.	394.2	Shop and Garage Equipment	5,498,120	0.67%	9.860%	0.066%	
14.	395	Laboratory Equipment	5,469,356	0.66%	10.435%	0.069%	FERC Form 2 line no 117, page 209
15.	396	Power Operated Equipment	11,957	0.00%	11.542%	0.000%	FERC Form 2 line no 118, page 209
16.	397	Communication Equipment	142,888,452	17.30%	11.937%	2.065%	FERC Form 2 line no 119, page 209
17.	398	Miscellaneous Equipment	3,305,056	0.40%	11.542%	0.046%	FERC Form 2 line no 120, page 209
18.			825,999,073	100.00%		15.218%	

### Reflects 2013 FERC Form 2 data. RECC factors updated.

Gas Plant updated to 2013 FERC Form 2 data

RECC factors updated to 2014 values (note: reflects updates to property taxes and salvage values)

## **General Plant Loading Factor**

		2017 TCAP
1.	Total General Plant Transmission and Storage adjustment Net Total General Plant after Storage adj.	\$1,223,112,252 <b>6.24%</b> \$1,146,811,405
1.	Weighted Average RECC for General Plant	15.22%
2.	Annualized General Plant Costs	\$174,517,748
3.	Net Recorded O&M Costs	\$577,625,168
4.	General Plant Loading Factor	30.21%
6.	Transmission and Storage adjustment	6.24%

# Notes:

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

Reflects 2013 FERC Form 2 data for total General Plant.

#### 2013FERC 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	Storage	\$801,151,032	7.94%		FERC form 2, p. 207, line 57	
2	Transmission - Total	\$1,739,318,771	17.24%		FERC form 2, p. 209, line 92	
3	Distribution - Total	\$7,548,301,124	74.82%		from Allocation of Investment tab	
4	Customer Related	\$3,487,469,004	34.57%		from Allocation of Investment tab	
5	Load Related	\$4,060,832,120	40.25%		from Allocation of Investment tab	
6	General Plant	\$0	0.00%			
7	Total	\$10,088,770,927	100.00%			
	II. Total M&S To Be Functionalized					
8	Total Material and Supplies	\$27,215,623			2013 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				(non iver hand investment i age i of 2, the is)	
9	Storage	\$2,161,197	7.94%			
10	Transmission - Total	\$4,692,013	17.24%			
11	Distribution - Total	\$20,362,413	74.82%			
12	Customer Related	\$9,407,850	34.57%			
13	Load Related	\$10,954,563	40.25%			
14	General Plant	\$0	0.00%			
15	Total	\$27,215,623	100.00%			
16	IV. M&S Annual Cost factor	12.24%			from Annual Cost Factor tab	
	V. M&S Annual Costs					
		2013 \$		2017 \$		
17	Storage	\$264,514	7.94%	\$287,678		
18	Transmission - Total	\$574,267	17.24%	\$624,556		
19	Distribution - Total	\$2,492,204	74.82%	\$2,710,449		
20	Customer Related	\$1,151,449	34.57%	\$1,252,283	@ O&M Esclation 2013 to 2017	
21	Load Related	\$1,340,755	40.25%	\$1,458,167	1	1.0
22	General Plant	\$0	0.00%	\$0		
23	Total	\$3,330,985	100.00%	\$3,622,683		
	*escalated by capital factor: 2013\$ to 2017\$			1 088		

# tment Page 1 of 2, Line 13)

## tor tab

\$1,442,960

\*escalated by capital factor: 2013\$ to 2017\$

1.088

#### Updated to FERC Form 2 data for 2013

	Customer Related		
		\$	Percent
1.	380 Services	2,210,344,367	
2.	381 Meters	560,594,850	
3.	382 Meter Installations	341,939,837	
4.	383 House Regulators	134,133,589	
5.	386 Other Property	0	
6.	Sub-Total	3,247,012,643	46.20%
	388 ARO - Customer Related	240,456,361	
	Customer Related Total	3,487,469,004	

# Load Related

		\$	Percent
7.	374 Land & Land Rights	31,685,415	
8.	375 Structures & Improvements	243,598,808	
9.	376 Mains	3,385,952,692	
10.	378 Measurement & Reg Stations	87,964,359	
11.	387 Other Equipment	31,641,858	
12.	Sub-Total	3,780,843,132	53.80%
	388 ARO - Load Related	279,988,988	
	Load Related Total	4,060,832,120	

13.	Total Distribution Plant	7,548,301,124	100.000%
		, , , ·	

# source: 2013 FERC Form 2, p. 208-9

# 2016 TCAP Phase II 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>	After Tax <u>Wt. Cost</u>
1.	Long Term Debt	45.60%	5.77%	2.63%	1.0000	2.63%
2.	Preferred Stock	2.40%	6.00%	0.14%	1.7806	0.26%
3.	Common Equity	52.00%	10.10%	5.25%	1.7806	9.35%
4.				8.027%		12.24%

sources:

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

# SOUTHERN CALIFORNIA GAS

# 2013 Economic Assumptions Update LEVELIZED ANNUAL CAPITAL COST AND RECC FACTORS

	utility socal	Auth ROR ===> 8.03% Fed Tax Ra			Tax Rate	) ====>	35.00%	•	State Tax Rate ===> 8			8.84% \d Valorum Rate ===>			1.236%					
FERC			1	Fed	State		Normlzd	Normlzd		Deprecia	ation Method	ł		LACC Corr	ponents	(in percent)			PVCC	Sum of
Account	Account Name	Boo		Tax Life	Tax Life	Percent Salvage			Fede	ral Tax	al Tax State Ta		Book Depr	Return on Capital	Income Taxes	Property Taxes	Total LACC	RECC Factors		Rev Req
GAS GE	NERAL PLANT																			
G-391.5	Software Programs - 10yr ASL	10	)	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	10.00	3.50	1.35	0.63	15.48	14.49	103.73	149.87
G-391.55	Software Programs - 15yr ASL	15	5	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	6.67	3.54	1.31	0.69	12.21	11.08	104.30	172.03
G-391.6	Software Programs - 20yr ASL	20	)	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	5.00	3.64	1.32	0.74	10.69	9.46	104.75	194.20
G-391.3	Software Programs - 3yr ASL	3		3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	33.33	4.15	1.94	0.43	39.85	39.22	102.66	118.84
G-391.4	Software Programs - 6yr ASL	6		3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	16.67	3.61	1.49	0.56	22.33	21.49	103.16	132.14

# SOUTHERN CALIFORNIA GAS

# 2013 Economic Assumptions Update LEVELIZED ANNUAL CAPITAL COST AND RECC FACTORS

	utility socal	Auth ROR ===> 8.03%		Fed Tax Rate ====> 35.00%		State Tax Rate ===> 8.84% d Valorum Rate ===>				> 1.236%									
			Fed	State		Normlzd	Normlzd	Г	Depreciat	ion Metho	bd		LACC Com	ponents (i	in nercent)				
FERC Account	Account Name	Book Life	Tax Life	Tax Life	Percent Salvage	Federal Taxes ?	State Taxes ?		al Tax	State		Book Depr	Return on Capital			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	29	15	22	-45%	TRUE	FALSE	db/sl	150%	db/sl	200%	5.00	3.98	1.61	0.62	11.21	9.55	124.72	216.67
G-353	Lines	45	15	22	-40%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.11	4.50	1.91	0.77	10.29	8.42	124.22	263.83
G-354	Compressor Station Equipment	45	15	22	-5%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.33	4.97	2.10	0.89	10.30	8.42	124.28	320.86
G-356	Purification Equipment	37	15	22	-20%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.24	4.59	1.95	0.79	10.57	8.80	124.15	268.05
GAS TR	ANSMISSION PLANT																		
G-365.1	Land	0	0	0	0%	FALSE	FALSE	none	0%	none	0%	0.00	8.03	3.75	1.24	13.01	n/a	162.04	1336.72
G-365.2	Land Rights	0	40	40	0%	FALSE	FALSE	none	0%	sl	0%	0.00	8.03	2.09	1.24	11.35	n/a	141.41	1267.96
G-366	Structures & Improvements	51	39	45	-20%	TRUE	FALSE	sl	0%	db/sl	0%	2.35	5.71	2.66	0.87	11.60	9.40	141.67	367.64
G-367	Mains	57	15	22	-30%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.28	4.89	2.06	0.88	10.11	8.13	124.38	317.36
G-368	Compressor Station Equipment	43	15	22	-10%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.56	4.86	2.06	0.86	10.35	8.50	124.23	304.74
G-369	Measuring & Regulating Equipment	40	15	22	-15%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.88	4.73	2.01	0.83	10.44	8.63	124.17	285.73
G-371	Other Equipment	20	15	22	-5%	TRUE	FALSE	db/sl	150%	db/sl	200%	5.25	4.57	2.05	0.71	12.59	11.14	123.33	215.59
	STRIBUTION PLANT	_																	
G-374.1		0	0	0	0%	FALSE	FALSE	none	0%	db/sl	0%	0.00	8.03	3.75	1.24	13.01	n/a	162.04	1336.72
	Land Rights	0	40	40	0%	FALSE	FALSE	none	0%	db/sl	0%	0.00	8.03	2.09	1.24	11.35	n/a	141.41	1267.96
G-375	Structures & Improvements	31	39	45	0%	TRUE	FALSE	sl	0%	db/sl	150%	3.23	5.66	2.69	0.82	12.40	10.50	140.37	313.11
G-376	Mains	55	20	35	-55%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.82	4.78	2.14	0.79	10.53	8.49	129.30	268.88
G-378	Measuring & Regulating Equipment	31	20	35	-85%	TRUE	FALSE	db/sl	150%	db/sl	200%	5.97	3.60	1.48	0.47	11.52	9.76	130.42	190.73
G-380	Services	51	20	35	-95%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.82	4.19	1.91	0.65	10.57	8.57	129.08	185.08
G-381	Meters	32	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.13	5.04	2.30	0.83	11.30	9.54	128.90	280.94
G-382	Meter & Regulator Installations	41	20	35	-10%	TRUE	FALSE	db/sl	150%	db/sl	200%	2.68	5.05	2.26	0.85	10.84	8.94	129.29	306.31
G-383	House Regulators	32 12	20 20	35 35	0% 15%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.13	5.04	2.30	0.83	11.30	9.54	128.90	280.94
G-387	Other Equipment	12	20	35	15%	TRUE	FALSE	db/sl	150%	db/sl	200%	7.08	5.35	3.02	0.75	16.20	14.97	121.90	187.37
GAS GE	NERAL PLANT																		
G-390	Structures & Improvements	20	39	45	-25%	TRUE	FALSE	sl	0%	db/sl	0%	6.25	5.00	2.27	0.62	14.14	12.51	138.51	235.09
G-391.1	Office Furniture & Equipment	14	7	10	0%	TRUE	FALSE	db/sl	200%	db/sl	200%	7.14	3.93	1.69	0.68	13.45	12.28	110.72	174.26
G-391.2	Computer Equipment	5	5	6	0%	TRUE	FALSE	db/sl	200%	db/sl	200%	20.00	4.12	1.92	0.53	26.57	25.75	106.02	130.75
G-393	Stores Equipment	20	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	5.00	4.95	2.36	0.74	13.05	11.54	127.83	227.66
G-394.1	Shop & Garage Equipment	29	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	3.45	5.00	2.31	0.81	11.56	9.86	128.72	267.64
G-394.3	Large Portable Tools	24	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	4.17	4.95	2.32	0.77	12.21	10.61	128.31	245.48
G-395	Laboratory Equipment	25	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	4.00	4.96	2.32	0.78	12.06	10.43	128.41	249.91
G-397	Communications Equipment	15	7	10	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	6.67	4.06	1.73	0.69	13.15	11.94	112.34	180.76
	Miscellaneous Equipment	20	20	35	0%	TRUE	FALSE	db/sl	150%	db/sl	200%	5.00	4.95	2.36	0.74	13.05	11.54	127.83	227.66
	Software Programs - 10yr ASL	10	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	10.00	3.50	1.35	0.63	15.48	14.49	103.73	149.87
	Software Programs - 15yr ASL	15	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	6.67	3.54	1.31	0.69	12.21	11.08	104.30	172.03
	Software Programs - 20yr ASL	20	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	5.00	3.64	1.32	0.74	10.69	9.46	104.75	194.20
	Software Programs - 3yr ASL	3	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	33.33	4.15	1.94	0.43	39.85	39.22	102.66	118.84
G-391.4	Software Programs - 6yr ASL	6	3	3	0%	TRUE	FALSE	sl	0%	db/sl	0%	16.67	3.61	1.49	0.56	22.33	21.49	103.16	132.14

Capital and	d O&M Escalators	5			
	2013 \$s	to	2017 \$s	2013-17 Factor: Capital	1.0876
	2013 \$s	to	2017 \$s	2013-17 Factor: O&M	1.0762

factor used to escalate most capital forecasts (e.g., dis factor used to escalate M&S\$ factor used to escalate transmission and storage capit:

factor used to escalate 2013 FERC Form 2 data to 201



# Cost Escalators, for use in SoCalGas 2016 TCAP Phase II calculations

	Non-L O&M		Gas Plant JUG@PCF
1997	0.6380677	0.6379513	0.462778
1998	0.6655134	0.6492513	0.468579
1999	0.6825024	0.6635053	0.479536
2000	0.7049392	0.6871605	0.496938
2001	0.7306292	0.706323	0.503706
2002	0.7422995	0.7202038	0.514019
2003	0.7673956	0.7426406	0.531099
2004	0.7934987	0.7704604	0.611666
2005	0.8271514	0.8051507	0.717693
2006	0.8489943	0.8359244	0.747019
2007	0.8634014	0.8650195	0.732839
2008	0.8934549	0.9092216	0.825395
2009	0.9133769	0.9058645	0.816371
2010	0.9306654	0.9293644	0.851434
2011	0.954956	0.9634951	0.932001
2012	0.9792414	0.9847569	1.005865
2013	1	1	1
2014	1.0186414	1.0155562	1.01386
2015	1.037446	1.0206129	1.034689
2016	1.0680248	1.0413145	1.058162
2017	1.1002594	1.0669359	1.087571
2018	1.1308902	1.09426	1.113044
2019	1.1617184	1.1185726	1.141873
2020	1.1926672	1.1431039	1.171979
2021	1.2232451	1.1675446	1.198564
2022	1.2541974	1.1910625	1.226486
2023	1.2859615	1.215779	1.255697
2024	1.3180467	1.2409887	1.282335

### Values from EC study

<u>Transmissio</u>	on and Storage		
EC study allo	ocation of A&G and (	Gen Plant to transm	ission and storage function
A&G			-
	Transmission	Storage	<u>Total</u>
	15.2	7.6	365.4
	4.16%	2.08%	% A&G allocated to Tran/Storage
		4.34% Old	
Gen Plant			
	Transmission	Storage	<u>Total</u>
	1.110	0.557	26.715 Gen Plant Return
	5.986	3.001	144.061 Gen Plant Depreciation
	0.046	0.023	1.113 Gen Plant Taxes
	7.142	3.581	171.889
	4.16%	2.08%	% Gen Plant allocated to Tran/Storage

Exclusions/ Adjustments			
	Exclusion Items		M excl in MC study
Storage			
814 UndStr Op-Supervision & Engineering	0.021	\$	20,681
Transmission: 854&855 Tran Op-Gas From Comp Sta Fuel (PBR Excluded)	0.347	¢	346,647
859 Tran Op-Other Expenses (PBR excl Haz Waste)	0.000		340,047
039 Trail Op-Other Expenses (FBR exci haz waste)	0.347	φ	-
Distribution 880 Dist Op-Other Expenses (PBR Ex Haz Waste)	0.831	\$	831,288
Customer Accounts			
901 Cus Acct-Supervision (PBR Ex CARE) + Payroll Taxes	6.899	\$	6,899,171
903100 AMI	29.091	\$	29,090,804
904 Cus Acct-Uncollectible Accounts	7.719	\$	7,719,077
	43.709		
Customer Services & Information			
908 Cus Svc-Cust Assist Exp (PBR Ex DAP, DSM &Self-Gen)	167.610 167.610	\$	167,610,345
A&G			
927 AdmGen Op-Franchise Requirements	45.292	\$	45,292,214

F	Real Economic Carry Charge (RECC) Fa	ctors
FERC	Account	RECC
Account	Name	Factors
G-376	Mains	8.5%
G-378	Measuring & Regulating Equipment	9.8%
G-380	Services	8.6%
G-381	Meters	9.5%
G-382	Meter Installations	8.9%
G-383	House Regulators	9.5%

Table 8 A&G Factor	
Total Marginal A&G Costs \$000's + Total Payroll Taxes \$000 = Marginal A&G and Payroll Taxes \$000 / Net O&M Costs \$000	\$192,408 <u>\$49,006</u> \$241,413 \$577,625
= Marginal A&G Loading Factor as a % of O&M	41.79%

Table 9 General Plant Factor	
Total General Plant \$000 * Weighted Average RECC for General Plant = Annualized General Plant Costs	\$1,146,811 <u>15.22%</u> \$174,518
/ Net Recorded O&M Costs \$000	\$577,625
= General Plant Loading Factor as a % of O&M	30.21%

Table 10	
M&S Annual Costs	
Function	
Customer Related \$000	\$1,252
Load Related \$000	\$1,443
Total	\$2,695

SoCalGas

2016 TCAP Phase II

Section 4

**Cost Allocation Model** 

Workpapers to the Prepared Written Testimony of Sharim Chaudhury

			Residential	CCI	G-AC	G-GEN
	Customer Costs					
	Per Unit LRMC, \$/Cust/Year		\$223.60	\$711.30	\$5,865.16	\$5,084.52
	Number of Customers		5,617,809	207,317	9	745
	Customer Costs Rental Method \$000	\$1,454,838	\$1,256,152	\$147,464	\$53	\$3,788
	Medium Pressure Distribution costs					
	Medium Pressure Distribution costs (MPD)					
	Per Unit LRMC, \$/mcfd		\$200.38	\$200.38	\$200.38	\$200.38
	MPD Peak Day Demand (mmcfd)	**** ***	2,345	529	0	4
	Medium Pressure Distribution Costs \$000	\$601,252	\$469,949	\$106,015	\$12	\$717
	High Pressure Distribution costs					
	High Pressure Distribution costs (HPD)		<b>0</b> / <b>0</b> 0	<b>A</b> ( <b>A A</b>		
	Per Unit LRMC, \$/mcf		\$1.92	\$1.92	\$1.92	\$1.92
5	HPD Peak Month Demand (mmcf) High Presure Distribution Costs \$000	\$118,480	39,076 \$75,171	11,426 \$21,981	4 \$7	134 \$257
	nigh Presure Distribution Costs \$000	\$118,480	\$75,171	\$21,981	\$7	\$207
7 3	Customer Service & Information costs					
)	Customer Service & Information Costs		58.0%	29.5%	0.0%	0.0%
)	Customer Service & Information \$000	\$0	\$0	\$0	\$0	\$0
		<b>40</b>	<b>40</b>	<b>\$</b> 0	40	ψŪ
	Unscaled LRMC Based Costs \$000	\$2,174,570	\$1,801,273	\$275,461	\$72	\$4,763
					•	
	Calculation of Scalar:					
	Authorized Revenue Requirement in Rates Base Margin \$000	\$1,975,458				
	Adjustment to Storage for Honor Rancho \$000	\$0				
	Target Base Margin \$000	\$1,975,458	-			
	Less items not allocated per LRMC method:		=			
	Transmission Cost per EC \$000	\$214,896				
	Storage Costs per EC \$000	\$83,585				
	Uncollectibles	\$5,492				
	NGV Compression Adder Costs per EC \$000	\$2,440				
	Target Scaled Costs \$000	\$1,669,045	-			
	Unscaled LRMC Based Costs \$000	\$2,174,570				
	amount to scale \$000	(\$505,526)	-			
	Scalar (as a % of unscaled)	77%	77%	77%	77%	77%
			=			
	Scaled Customer Costs \$000 LRMC/Rental Method		\$964,133	\$113.183	\$41	\$2,908
	Scaled Medium Pressure Distribution Costs \$000 LRMC		\$360,700	\$81,370	\$9	\$550
	Scaled High Presure Distribution Costs \$000 LRMC		\$57,696	\$16,871	\$5 \$5	\$198
	Scaled Fight Freshe Distribution Costs \$000 LRMC		\$07,090 \$0	\$10,071	\$0 \$0	\$198
	Scaled LRMC Based Costs \$000	\$1,669,045	\$1,382,528	\$211,424	\$55	\$3,656
		ψ1,003,045	ψ1,002,020	Ψ <b>2</b>   1 <sub>3</sub> <b>4</b> 24	400	ψ0,000
	NGV Compression Costs:					
	Compression Adder Costs \$000	\$2.440				
	Compression Adder Costs \$000	əz,440				

			Residential	CCI	G-AC	G-GEN
Uncollectibles:						
Target Base Margin \$000		\$1,975,458				
System Average Uncollectible Rate		0.27800%				
Uncollectibles		\$5,492				
Allocation of Uncollectibles:						
All Costs excl. NGV Adder, EOR, Int, WS, and UBS		\$1,918,642	\$1,500,785	\$248,044	\$75	\$4,230
% All Costs excl. NGV Adder, EOR, Int, WS, and UBS		¢5.400	78.2%	12.9% \$710	0.0%	0.2%
Uncollectibles		\$5,492	\$4,296	\$710	\$0	\$12
Transmisison Costs per Embedded Cost Method:						
Embedded Transmission Costs \$000		\$214.896				
Calculate BBT/Local-T Transmission Split:		φ214,000				
	BBT \$	\$148,148				
	LT \$	\$66,748				
Allocation of BBT Costs:						
CYTP Mth		10,002,651	2,686,467	1,073,031	772	20,699
% CYTP BBT Costs per EC method		\$148,148	26.9% \$39,789	10.7% \$15,893	0.0%	0.2%
BBT Costs per EC method		\$140,140	\$39,769	\$15,695	φΠ	\$307
Allocation of LT Costs:						
CYPM Mth		1,091,535	402,503	118,547	37	1,437
% CYPM		-	36.87%	10.86%	0.00%	0.13%
LT Costs per EC method Total Transmission Costs per EC method		\$66,748 \$214,896	\$24,613 \$64,402	\$7,249 \$23,142	\$2 \$14	\$88 \$394
Total Transmission Costs per EC method	incremental HR INV consist beyond that	\$214,896				
Total Transmission Costs per EC method Storage Costs per EC Method (this includes HR RRQ, but does not include)	incremental HR INV capcity beyong that	\$214,896 adopted in 2013TCAP)				
Total Transmission Costs per EC method Storage Costs per EC Method (this includes HR RRQ, but does not include Embedded Storage Costs \$000	incremental HR INV capcity beyong that	\$214,896				
Total Transmission Costs per EC method Storage Costs per EC Method (this includes HR RRQ, but does not include)	incremental HR INV capcity beyong that	\$214,896 adopted in 2013TCAP) \$83,585				
Total Transmission Costs per EC method Storage Costs per EC Method (this includes HR RRQ, but does not include Embedded Storage Costs \$000 Honor Rancho Revenue Requirement		\$214,896 adopted in 2013TCAP) \$83,585 \$0 \$83,585	\$64,402	\$23,142	\$14	\$394
Total Transmission Costs per EC method Storage Costs per EC Method (this includes HR RRQ, but does not include: Embedded Storage Costs \$000 Honor Rancho Revenue Requirement Core Storage	incremental HR INV capcity beyong that	\$214,896 adopted in 2013TCAP \$83,585 \$0 \$83,585 \$65,731	\$64,402 \$46,830	\$23,142 \$10,526	<b>\$14</b> \$4	\$394 \$120
Total Transmission Costs per EC method Storage Costs per EC Method (this includes HR RRQ, but does not include Embedded Storage Costs \$000 Honor Rancho Revenue Requirement Core Storage Load Balancing		\$214,896 adopted in 2013TCAP \$83,585 \$0 \$83,585 \$65,731 \$27,834	\$64,402 \$46,830 \$7,025	\$23,142 \$10,526 \$2,952	\$14 \$4 \$2	\$394 \$120 \$60
Total Transmission Costs per EC method Storage Costs per EC Method (this includes HR RRQ, but does not include: Embedded Storage Costs \$000 Honor Rancho Revenue Requirement Core Storage		\$214,896 adopted in 2013TCAP \$83,585 \$0 \$83,585 \$65,731	\$64,402 \$46,830	\$23,142 \$10,526	<b>\$14</b> \$4	<b>\$394</b> \$120
Total Transmission Costs per EC method         Storage Costs per EC Method (this includes HR RRQ, but does not include)         Embedded Storage Costs \$000         Honor Rancho Revenue Requirement         Core Storage         Load Balancing         Unbundled Storage         Total Storage Costs \$000         ALLOCATED BASE MARGIN (net of misc revenue & broker fee)		\$214,896 adopted in 2013TCAP) \$33,585 \$83,585 \$83,585 \$65,731 \$27,834 \$17,020 \$110,585 \$2,002,458	\$64,402 \$46,830 \$7,025 \$0 \$53,855 \$1,505,081	\$23,142 \$10,526 \$2,952 \$0 \$13,478 \$248,754	\$14 \$4 \$2 \$0 \$6 \$75	\$394 \$120 \$60 \$0 \$180 \$4,242
Total Transmission Costs per EC method         Storage Costs per EC Method (this includes HR RRQ, but does not include)         Embedded Storage Costs \$000         Honor Rancho Revenue Requirement         Core Storage         Load Balancing         Unbundled Storage         Total Storage Costs \$000         ALLOCATED BASE MARGIN (net of misc revenue & broker fee)         Percentage		\$214,896 adopted in 2013TCAP \$83,585 \$0 \$83,585 \$0 \$83,585 \$0 \$83,585 \$0 \$83,585 \$0 \$83,585 \$0 \$83,585 \$0 \$83,585 \$0 \$10,020 \$110,585 \$2,002,458 100.0%	\$64,402 \$46,830 \$7,025 \$0 \$53,855 \$1,505,081 75.2%	\$23,142 \$10,526 \$2,952 \$0 \$13,478 \$248,754 12,4%	\$14 \$4 \$2 \$0 \$6 \$75 0.0%	\$394 \$120 \$60 \$180 \$180 \$4,242 0.2%
Total Transmission Costs per EC method         Storage Costs per EC Method (this includes HR RRQ, but does not include.         Embedded Storage Costs \$000         Honor Rancho Revenue Requirement         Core Storage         Load Balancing         Unbundled Storage         Total Storage Costs \$000         ALLOCATED BASE MARGIN (net of misc revenue & broker fee)         Percentage         Average Year Throughput Mth		\$214,896 adopted in 2013TCAP] \$0 \$83,585 \$65,731 \$27,834 \$17,020 \$110,585 \$2,002,458 100,0% 9,648,574	\$64,402 \$46,830 \$7,025 \$0 \$53,855 \$1,505,081 75,2% 2,435,160	\$23,142 \$10,526 \$2,952 \$0 \$13,478 \$248,754 12,4% 1,023,186	\$14 \$4 \$2 \$0 \$6 \$75 0.0% 772	\$394 \$120 \$60 \$0 <b>\$180</b> \$4,242 0.2% 20,699
Total Transmission Costs per EC method         Storage Costs per EC Method (this includes HR RRQ, but does not include)         Embedded Storage Costs \$000         Honor Rancho Revenue Requirement         Core Storage         Load Balancing         Unbundled Storage         Total Storage Costs \$000         ALLOCATED BASE MARGIN (net of misc revenue & broker fee)         Percentage		\$214,896 adopted in 2013TCAP \$83,585 \$0 \$83,585 \$0 \$83,585 \$0 \$83,585 \$0 \$83,585 \$0 \$83,585 \$0 \$83,585 \$0 \$83,585 \$0 \$10,020 \$110,585 \$2,002,458 100.0%	\$64,402 \$46,830 \$7,025 \$0 \$53,855 \$1,505,081 75.2%	\$23,142 \$10,526 \$2,952 \$0 \$13,478 \$248,754 12,4%	\$14 \$4 \$2 \$0 \$6 \$75 0.0%	\$394 \$120 \$60 \$180 \$180 \$4,242 0.2%
Total Transmission Costs per EC method         Storage Costs per EC Method (this includes HR RRQ, but does not include.         Embedded Storage Costs \$000         Honor Rancho Revenue Requirement         Core Storage         Load Balancing         Unbundled Storage         Total Storage Costs \$000         ALLOCATED BASE MARGIN (net of misc revenue & broker fee)         Percentage         Average Year Throughput Mth average rate \$/therm         Calculation of Customer Service & Information Costs (CSI Costs):		\$214,896 adopted in 2013TCAP] \$83,585 \$0 \$65,731 \$27,834 \$17,020 \$110,585 \$2,002,458 100.0% 9,648,574 \$0.208	\$64,402 \$46,830 \$7,025 \$0 \$53,855 \$1,505,081 75,2% 2,435,160	\$23,142 \$10,526 \$2,952 \$0 \$13,478 12,4% 1,023,186 \$0,243 2013 Costs	\$14 \$4 \$2 \$0 <b>\$6</b> <b>\$75</b> 0.0% 772 \$0.097 PBR Exclusion Items	\$394 \$120 \$60 \$0 \$180 \$4,242 0.2% 20,699 \$0.205 Other Adjustm
Total Transmission Costs per EC method         Storage Costs per EC Method (this includes HR RRQ, but does not include.         Embedded Storage Costs \$000         Honor Rancho Revenue Requirement         Core Storage         Load Balancing         Unbundled Storage         Total Storage Costs \$000         ALLOCATED BASE MARGIN (net of misc revenue & broker fee)         Percentage         Average Year Throughput Mth average rate \$/therm         Calculation of Customer Service & Information Costs (CSI Costs):         907 Cus Svc-Supervision + Payroll Taxes		\$214,896 adopted in 2013TCAP] \$0 \$83,585 \$65,731 \$27,834 \$17,020 \$110,585 \$2,002,458 100.0% 9,648,574 \$0.208 NON-DSM CUST. INFO	\$64,402 \$46,830 \$7,025 \$0 \$53,855 \$1,505,081 75,2% 2,435,160	\$23,142 \$10,526 \$2,952 \$0 \$13,478 \$248,754 12,4% 1,023,186 \$0,243 2013 Costs \$549	\$14 \$4 \$2 \$0 \$6 \$75 0.0% 772 \$0.097 PBR Exclusion Items \$0	\$394 \$120 \$60 \$0 <b>\$180</b> \$4,242 0.2% 20,699 \$0.205 Other Adjustm \$0
Total Transmission Costs per EC method         Storage Costs per EC Method (this includes HR RRQ, but does not include.         Embedded Storage Costs \$000       Honor Rancho Revenue Requirement         Core Storage       Unbundled Storage         Load Balancing       Unbundled Storage         Total Storage Costs \$000       Example         ALLOCATED BASE MARGIN (net of misc revenue & broker fee)       Percentage         Average Year Throughput Mth average rate \$/therm       Storage Costs (CSI Costs):         907 Cus Svo-Supervision + Payroll Taxes       908 Cus Svo-Cust Assite Exp (PBR Ex DAP, DSM &Self-Gen)		\$214,896 adopted in 2013TCAP) \$83,585 \$0 \$83,585 \$65,731 \$27,834 \$17,020 \$110,585 \$2,002,458 100.0% 9,648,574 \$0.208 NON-DSM CUST. INFO NON-DSM CUST. INFO	\$64,402 \$46,830 \$7,025 \$0 \$53,855 \$1,505,081 75,2% 2,435,160	\$23,142 \$10,526 \$2,952 \$0 \$13,478 \$246,754 12.4% 1,023,186 \$0.243 2013 Costs \$649 \$156,687	\$14 \$4 \$2 \$0 \$6 \$75 0.0% 772 \$0.097 PBR Exclusion Items \$0 (\$131,242)	\$394 \$120 \$60 \$0 <b>\$180</b> \$4,242 0.2% 20,699 \$0.205 Other Adjustm \$0 \$0
Storage Costs per EC Method (this includes HR RRQ, but does not include.         Embedded Storage Costs \$000         Honor Rancho Revenue Requirement         Core Storage         Load Balancing         Unbundled Storage         Total Storage Costs \$000         Autorage Year Throughput Mth average rate \$/therm         Sync Cust Assist Exp (PBR Ex DAP, DSM &Self-Gen)         907 Cus Svo-Ind & Instruction Exp         Sucs vo-Inds Masterize Exp (PBR Ex DAP, DSM &Self-Gen)         909 Cus Svo-Inds Mastruction Exp		\$214,896 adopted in 2013TCAP] \$33,585 \$0 \$83,585 \$65,731 \$27,834 \$17,020 \$110,585 \$2,002,458 100.0% 9,648,574 \$0.208 NON-DSM CUST. INFO NON-DSM CUST. INFO NON-DSM CUST. INFO	\$64,402 \$46,830 \$7,025 \$0 \$53,855 \$1,505,081 75,2% 2,435,160	\$23,142 \$10,526 \$2,952 \$0 \$13,478 \$248,754 12.4% 1,023,186 \$0.243 2013 Costs \$649 \$156,687 \$2,147	\$14 \$4 \$2 \$0 \$6 \$75 0.0% 772 \$0.097 PBR Exclusion Items \$0 (\$131,242) \$0	\$394 \$120 \$60 \$0 \$180 \$4,242 0,699 \$0,205 Other Adjustm \$0 \$0 \$0 \$0
Total Transmission Costs per EC method         Storage Costs per EC Method (this includes HR RRQ, but does not include.         Embedded Storage Costs \$000       Honor Rancho Revenue Requirement         Core Storage       Unbundled Storage         Load Balancing       Unbundled Storage         Total Storage Costs \$000       Example         ALLOCATED BASE MARGIN (net of misc revenue & broker fee)       Percentage         Average Year Throughput Mth average rate \$/therm       Storage Costs (CSI Costs):         907 Cus Svo-Supervision + Payroll Taxes       908 Cus Svo-Cust Assite Exp (PBR Ex DAP, DSM &Self-Gen)		\$214,896 adopted in 2013TCAP) \$83,585 \$0 \$83,585 \$65,731 \$27,834 \$17,020 \$110,585 \$2,002,458 100.0% 9,648,574 \$0.208 NON-DSM CUST. INFO NON-DSM CUST. INFO	\$64,402 \$46,830 \$7,025 \$0 \$53,855 \$1,505,081 75,2% 2,435,160	\$23,142 \$10,526 \$2,952 \$0 \$13,478 \$246,754 12.4% 1,023,186 \$0.243 2013 Costs \$649 \$156,687	\$14 \$4 \$2 \$0 \$6 \$75 0.0% 772 \$0.097 PBR Exclusion Items \$0 (\$131,242)	\$394 \$120 \$60 \$0 <b>\$180</b> \$4,242 0.2% 20,699 \$0.205 Other Adjustm \$0 \$0
Storage Costs per EC method         Embedded Storage Costs \$000         Honor Rancho Revenue Requirement         Core Storage         Load Balancing         Unbundled Storage         Total Storage Costs \$000         ALLOCATED BASE MARGIN (net of misc revenue & broker fee)         Percentage         Average Year Throughput Mth average rate \$/therm         S07 Cus Svo-Supervision + Payroll Taxes         908 Cus Svo-Ind & Instruction Exp (PBR Ex DAP, DSM &Self-Gen)         909 Cus Svo-Misc CSI Exp (PBR Ex DSM & NGV)		\$214,896 adopted in 2013TCAP] \$33,585 \$0 \$83,585 \$65,731 \$27,834 \$17,020 \$110,585 \$2,002,458 100.0% 9,648,574 \$0.208 NON-DSM CUST. INFO NON-DSM CUST. INFO NON-DSM CUST. INFO	\$64,402 \$46,830 \$7,025 \$0 \$53,855 \$1,505,081 75,2% 2,435,160	\$23,142 \$10,526 \$2,952 \$0 \$13,478 1,2.4% 1,023,186 \$0.243 2013 Costs \$649 \$156,687 \$2,147 \$2,049	\$14 \$4 \$2 \$0 \$6 \$75 0.0% 772 \$0.097 PBR Exclusion Items \$0 (\$131,242) \$0 (\$278)	\$394 \$120 \$60 \$0 <b>\$180</b> \$4,242 0.2% 20,699 \$0.205 Other Adjustm \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
Storage Costs per EC Method (this includes HR RRQ, but does not include.         Embedded Storage Costs \$000         Honor Rancho Revenue Requirement         Core Storage         Load Balancing         Unbundled Storage         Total Storage Costs \$000         Autorage Costs \$000         Autorage Costs \$000         Autorage Costs \$000         Autorage Costs \$000         Core Storage         Calculation Storage Costs \$000         Calculation of Customer Service & Information Costs (CSI Costs):         907 Cus Svo-Supervision + Payroll Taxes         908 Cus Svo-Info & Instruction Exp         Post Cost Assist Exp (PBR Ex DAP, DSM &Self-Gen)         909 Cus Svo-Info & Instruction Exp		\$214,896 adopted in 2013TCAP] \$33,585 \$0 \$83,585 \$65,731 \$27,834 \$17,020 \$110,585 \$2,002,458 100.0% 9,648,574 \$0.208 NON-DSM CUST. INFO NON-DSM CUST. INFO NON-DSM CUST. INFO	\$64,402 \$46,830 \$7,025 \$0 \$53,855 \$1,505,081 75,2% 2,435,160	\$23,142 \$10,526 \$2,952 \$0 \$13,478 1,2.4% 1,023,186 \$0.243 2013 Costs \$649 \$156,687 \$2,147 \$2,049	\$14 \$4 \$2 \$0 \$6 \$75 0.0% 772 \$0.097 PBR Exclusion Items \$0 (\$131,242) \$0 (\$278)	\$394 \$120 \$60 \$0 <b>\$180</b> \$4,242 0.2% 20,699 \$0.205 Other Adjustme \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0

			R	esidential	CCI	G-AC	G-GEN
96							
97	Calculation of CSI Cost Allocator:						
98	Energy Markets Costs:						
99	Major Markets Staff FTE by Class (mgmnt estimate)				0.4	0.0	0.0
100	Energy Markets			0.0%	2.8%	0.0%	0.0%
101	Energy Markets	\$1,601		\$0	\$45	\$0	\$0
102	Large C&I:						
103	# Large C&I Customers			0	206,028	0	0
104	% Large C&I only			0.0%	99.7%	0.0%	0.0%
105	Large C&I	\$6,410		\$0	\$6,391	\$0	\$0
106	NGV	\$1,385		\$0	\$0	\$0	\$0
107	Residential	\$11,964		\$11,964	\$0	\$0	\$0
108	Small Business						
109	# G10, G-AC, G-GE Customers only			0	206,028	12	708
110	Small Business			0.0%	99.7%	0.0%	0.3%
111	Small Business	\$548		\$0	\$546	\$0	\$2
112	Econ Development						
113	# Large C&I Customers			0	206,028	0	0
14	% Large C&I only			0.0%	99.7%	0.0%	0.0%
115	Econ Development	\$41		\$0	\$41	\$0	\$0
116	Other Residential	\$1,840		\$1,840	\$0	\$0	\$0
117	Total	\$23,788		\$13,803	\$7,022	\$0	\$2
118	Allocator %			58.0%	29.5%	0.0%	0.0%
119							
120							
21							
22							
23	Model Results RD Format for RD Models						
24	Customer Related Costs		9	\$964,133	\$113,183	\$41	\$2,908
25	Medium Pressure Distribution Costs		9	\$360,700	\$81,370	\$9	\$550
26	High Pressure Distribution Costs			\$57,696	\$16,871	\$5	\$198
27	Backbone Transmission Costs			\$39,789	\$15,893	\$11	\$307
28	Local Transmission Costs			\$24,613	\$7,249	\$2	\$88
29	Storage - Seasonal			\$46,830	\$10,526	\$4	\$120
30	Storage - Load Balancing			\$7,025	\$2,952	\$2	\$60
31	Storage - TBS			\$0	\$0	\$0	\$0
32	Non-DSM Related Marketing			\$0	\$0	\$0	\$0
33	Uncolletctibles			\$4,296	\$710	\$0	\$12
134	NGV Compression Costs:			\$0	\$0	\$0 \$0	\$0
135	Total Margin Allocation pre-SI & Unbundle FAR	\$2	002,458 \$ <sup>r</sup>	1,505,081	\$248,754	\$75	\$4,242
35	% Allocation			75.2%	12.4%	0.0%	0.2%

EC Method (this includes HR RRQ, but does not include incremental H e costs to Inventory/Inject/Withdrawal w/HR RRQ w/o incrementalHR Caps age costs rage costs torage costs torage costs orage costs torage costs orage costs torage costs orage costs torage costs orage costs torage costs orage costs torage costs orage costs o	IR INV capcity beyong that a acity % of Embedded Storage Costs 33.333% 33.333% 33.333% 100.0% Allocation Method Inv per Inj Day % Excess Wints % Core Peak E	\$000/yr \$27,862 \$27,862 \$27,862 \$83,585 214 388 83,000 2,225 \$14,039	2. however effrective rate w/ Honor Rancho RRQ \$000/yr \$0 \$0 \$0 73.4% 285 83.4% 60,942 79.4% 1,569	Total Storage Costs w/HR RRQ\$000/yr \$27,862 \$27,862 \$27,862 \$83,585 13.3% 51 15.1% 11,011 19.1%		Rate w/HR RRQ \$/mcf \$36.18 \$0.20 \$8.78 0.3% 1 0.4% 269
age costs rage costs torage costs <u>cities:</u> n Days Demand in-35 Core) Core Only MTh Day	% of Embedded Storage Costs 33.333% 33.333% 33.333% 100.0% Allocation Method Inv per Inj Day % Excess Wints	\$27,862 \$27,862 \$27,862 \$83,585 214 388 83,000 2,225 \$14,039	\$000/yr \$0 \$0 \$0 \$0 73.4% 285 83.4% 60,942 79.4%	RRC\$000/yr \$27,862 \$27,862 \$27,862 \$83,585 13.3% 51 15.1% 11,011 19.1%	Capacity MMcfd or MMCF 770 138,100 3,175 0.0% 0	\$/mcf \$36.18 \$0.20 \$8.78 0.3% 1 0.4%
rage costs torage costs <u>cities:</u> n Days Demand in-35 Core) Core Only MTh Day	Storage Costs 33.333% 33.333% 100.0% Allocation Method Inv per Inj Day % Excess Winte	\$27,862 \$27,862 \$27,862 \$83,585 214 388 83,000 2,225 \$14,039	\$000/yr \$0 \$0 \$0 \$0 73.4% 285 83.4% 60,942 79.4%	RRC\$000/yr \$27,862 \$27,862 \$27,862 \$83,585 13.3% 51 15.1% 11,011 19.1%	Capacity MMcfd or MMCF 770 138,100 3,175 0.0% 0	\$/mcf \$36.18 \$0.20 \$8.78 0.3% 1 0.4%
rage costs torage costs <u>cities:</u> n Days Demand in-35 Core) Core Only MTh Day	33,333% 33,333% 33,333% 100.0% <u>Allocation Method</u> Inv per Inj Day % Excess Winte	\$27,862 \$27,862 \$27,862 \$83,585 214 388 83,000 2,225 \$14,039	\$0 \$0 \$0 \$0 73.4% 285 83.4% 60,942 79.4%	\$27,662 \$27,862 \$27,862 \$83,585 13.3% 51 15.1% 11,011 19.1%	770 136,100 3,175 0.0% 0	\$36.18 \$0.20 \$8.78 0.3% 1 0.4%
rage costs torage costs <u>cities:</u> n Days Demand in-35 Core) Core Only MTh Day	33.333% 33.333% 100.0% Allocation Method Inv per Inj Day % Excess Winte	\$27,862 \$27,862 \$83,585 214 388 83,000 2,225 \$14,039	\$0 \$0 73.4% 285 83.4% 60,942 79.4%	\$27,862 \$27,862 \$83,585 13,3% 51 15,1% 11,011 19,1%	136,100 3,175 0.0% 0	\$0.20 \$8.78 0.3% 1 0.4%
torage costs <u>otities:</u> n Days Demand in-35 Core) Core Only MTh Day	33.333% 100.0% Allocation Method Inv per Inj Day % Excess Wints	\$27.862 \$83,585 214 388 83,000 2,225 \$14,039	\$0 \$0 73.4% 285 83.4% 60,942 79.4%	\$27,862 \$83,585 13.3% 51 15.1% 11,011 19.1%	0.0% 0 0.0%	\$8.78 0.3% 1 0.4%
n Days Demand in-35 Core) Core Only MTh Day	<u>Allocation Method</u> Inv per Inj Day % Excess Winte	214 388 83,000 2,225 \$14,039	73.4% 285 83.4% 60,942 79.4%	13.3% 51 15.1% 11,011 19.1%	0	1 0.4%
n Days Demand in-35 Core) Core Only MTh Day	Inv per Inj Day % Excess Winte	388 83,000 2,225 \$14,039	285 83.4% 60,942 79.4%	51 15.1% 11,011 19.1%	0	1 0.4%
n Days Demand in-35 Core) Core Only MTh Day	Inv per Inj Day % Excess Winte	388 83,000 2,225 \$14,039	285 83.4% 60,942 79.4%	51 15.1% 11,011 19.1%	0	1 0.4%
in-35 Core) Core Only MTh Day	% Excess Winte	83,000 2,225 \$14,039	83.4% 60,942 79.4%	15.1% 11,011 19.1%	0.0%	0.4%
in-35 Core) Core Only MTh Day		2,225 \$14,039	60,942 79.4%	11,011 19.1%		
in-35 Core) Core Only MTh Day		2,225 \$14,039	60,942 79.4%	11,011 19.1%		
Day		2,225 \$14,039	79.4%	19.1%	12	205
Day	% Core Peak [	\$14,039				
	% Core Peak L	\$14,039				
	% Core Peak [	\$14,039	1,569		0.0%	0.2%
				377	0	3
			\$10,308	\$1,862	\$2	\$45
		\$16,991	\$12,476	\$2,254	\$2	\$55
		\$19,525	\$13,765	\$3,311	\$1	\$26
		\$50,556	\$36,549	\$7,428	\$5	\$127
rage Capacities:	%AYTP (incl EO)	200	50	21	0	0
	%AYTP Noncore	5,100	0	0	0	0
	%AYTP (incl EO)	525	133	56	0	1
		\$7,237	\$1,826	\$767	\$1	\$16
		\$1,044	\$0	\$0	\$0	\$0
		\$4,607 \$12,888	\$1,163 \$2,989	\$489 \$1,256	\$0 \$1	\$10 \$25
Capacities:		φ12,000	ψ2,505	φ1,230	ψī	φ20
	100% UBS	182	0	0	0	0
	100% UBS	48,000	0	0	0	0
	100% UBS	425	0 \$0	0	0 \$0	0
		\$6,585 \$9,826	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0
		\$3,730	\$0 \$0	\$0	\$0	\$0
		\$20,141	\$0	\$0	\$0	\$0
		770	335 60.942	73	0 12	2
		136,100 3,175	60,942	11,011 433	12	269 4
		\$27.862	\$12,135	\$2,630	\$3	\$61
		\$27,862	\$12,476	\$2,254	\$2	\$55
		\$27,862	\$14,927	\$3,800	\$1	\$36
s per EC Method w/HR RRQ		\$83,585	\$39,538	\$8,684	\$6	\$152
MA Allocator (allocated inventory Pre- Incremental HR & Aliso)			Residential	CCI	G-AC	G-GEN
			60,942	11,011	12	269 0.2%
entory, pre-HR capacity and pre-Aliso MMCF			44.8%	6.1%	0.0%	0.2%
ntory, pre-HR capacity and pre-Aliso MMCF cator (based on total allocated inventory as % of total inventory)	atorming allocated PDO	ist the effective rate w	with the incremental HR INV	capacity)		
cator (based on total allocated inventory as % of total inventory)						<b>-</b>
cator (based on total allocated inventory as % of total inventory)	Total Storage			Conversion Mbtu/of	Storage Capacities Meth	Effective Storage F w/HR \$/dth
cator (based on total allocated inventory as % of total inventory)	Total Storage Costs w/HR St					\$35.13
cator (based on total allocated inventory as % of total inventory)	Total Storage Costs w/HR St RRQ\$000/yr	BCF & mmcfd	MMcfd		142,243	\$0.196
cator (based on total allocated inventory as % of total inventory)	Total Storage Costs w/HR St			1.03		
cator (based on total allocated inventory as % of total inventory)	Total Storage Costs w/HR St RRQ\$000/yr \$27,862	BCF & mmcfd 770	MMcfd		3,270	\$8.52
		rage Rates w/ Incremental Honor Rancho Capacity (this does not determine allocated RRQ, ju Total Storage	rage Rates w/ Incremental Honor Rancho Capacity (this does not determine allocated RRQ, just the effective rate w Total Storage Costs w/HR Storage Capacities w/H	rage Rates w/ Incremental Honor Rancho Capacity (this does not determine allocated RRQ, just the effective rate with the incremental HR INV Total Storage Costs w/HR Storage Capacities w/HR RR05000/yr BCF & mmcfd Units	rage Rates w/ Incremental Honor Rancho Capacity (this does not determine allocated RRQ, just the effective rate with the incremental HR INV capacity) Total Storage Costs w/HR Storage Capacities w/HR RRQ\$000/yr BCF & mmcrfd Units Conversion Mbtu/cf \$27,862 770 MMcfd 1.03	rage Rates w/ Incremental Honor Rancho Capacity (this does not determine allocated RRQ, just the effective rate with the incremental HR INV capacity) Total Storage Costs w/HR RRQ\$0000/yr BCF & mmcfd Units Conversion Mbtu/cf Storage Capacities w/HR \$27,862 770 MMcfd 1.03 793 \$27,862 138.1 Bcf 1.03 142,243

				Residential	CCI	G-AC	G-GEN
		Embedded					
		Costs w/ HR					
		RRQ\$000			Storage Capacities w/ HR		
198		w/FFU	ACTR \$000's w/FFU	ACTR \$000 w/FFU	& Aliso BCF & mmcfd		Conversion Mbtu/cf
199	Injection	\$27,862	\$0	\$27,862	915.0	MMcfd	1.03
200	Inventory	\$27,862	\$0	\$27,862	138.1	Bcf	1.03
201	Withdrawal	\$27,862	\$0	\$27,862	3,175	MMcfd	1.03
202	Total	\$83,585	\$0	\$83,585			
203							
		TOAD					
		TCAP Injection		Post ACTR Injection		Pre ACTR Injection w/FFU	
204	Allocation of Aliso Canyon Injection Capacity & Costs to Storage Classes:	mmcfd	ACTR Injection mmcfd	mmcfd	Post ACTR allocation	\$000	
205	Core	341.7	0.0	341.7	37.3%	\$12,364	
206	SDGE	46.3	0.0	46.3	5.1%	\$1,676	
207		388.0	0.0	388.0	42.4%	\$14,039	
208	Les IB-les des	000.0		000.0	04.00/	<b>#7</b> 00 <b>7</b>	
209	Load Balancing UBS	200.0	0.0	200.0	21.9%	\$7,237	
210 211	UBS	<u>182.0</u> 770.0	145.0 145.0	327.0 915.0	35.7% 100.0%	\$6,585 \$27,862	
211	Notes:	770.0	145.0	915.0	100.0%	\$27,862	
214 215 216	(2) Transportation rates are calculated on 12-month basis, while in-service date is 1/1/2016. The Calculation of ACTR Allocation% for allocation to Rate Classes		ACTR w/oFFU \$000	Residential	CCI	G-AC	G-GEN
216	SCG Core Storage:		ACTR W/OFFU \$000	Residential	CCI	G-AC	G-GEN
217	Core Injection Allocation adjusted for SCG Core only			83.4%	15.1%	0.0%	0.4%
210	SCG Core Storage \$000 w/o FFU		\$8.157	\$6,801	\$1,229	\$1	\$30
219	SDGE Core Storage \$000 w/o FFU		\$8,157 <u>\$1,106</u>	\$0,801	\$1,229	φı	
220			31,100				<b>\$55</b>
			¢0.262				¢00
	total core storage w/o FFU		\$9,263				¢cc
222	·						ţ
222 223	UBS \$000 w/oFFU		\$9,263 \$12,962				ţ
222 223 224	UBS \$000 w/oFFU Load Balancing:			25.2%	10.6%	0.0%	
222 223 224 225	UBS \$000 w/oFFU Load Balancing: ECPT incl EOR		\$12,962	25.2% \$1 205	10.6% \$506	0.0% \$0	0.2%
222 223 224 225 226	UBS \$000 w/oFFU Load Balancing: ECPT incl EOR Load Balancing \$000 w/oFFU		\$12,962 \$4,775	\$1,205	\$506	\$0	0.2% \$10
222 223 224 225 226 227	UBS \$000 w/oFFU Load Balancing: ECPT incl EOR Load Balancing \$000 w/oFFU ACTR w/o FFU \$000		\$12,962	\$1,205 \$8,006	\$506 \$1,735	\$0 \$2	0.2% \$10 \$40
222 223 224 225 226 227 228	UBS \$000 w/oFFU Load Balancing: ECPT incl EOR Load Balancing \$000 w/oFFU		\$12,962 \$4,775	\$1,205	\$506	\$0	0.2% \$10
222 223 224 225 226 227	UBS \$000 w/oFFU Load Balancing: ECPT incl EOR Load Balancing \$000 w/oFFU ACTR w/o FFU \$000 ACTR allocation %		\$12,962 \$4,775	\$1,205 \$8,006	\$506 \$1,735	\$0 \$2	0.2% \$10 \$40
222 223 224 225 226 227 228	UBS \$000 w/oFFU Load Balancing: ECPT incl EOR Load Balancing \$000 w/oFFU ACTR w/o FFU \$000 ACTR allocation % Summary of Storage Costs for RATE TABLES under old method;		\$12,962 \$4,775 \$27,000	\$1,205 \$8,006	\$506 \$1,735	\$0 \$2	0.2% \$10 \$40
222 223 224 225 226 227 228	UBS \$000 w/oFFU Load Balancing: ECPT incl EOR Load Balancing \$000 w/oFFU ACTR w/o FFU \$000 ACTR allocation % Summary of Storage Costs for RATE TABLES_under old method: Core \$000		\$12,962 \$4,775 \$27,000 \$59,819	\$1,205 \$8,006	\$506 \$1,735	\$0 \$2	0.2% \$10 \$40
222 223 224 225 226 227 228	UBS \$000 w/oFFU Load Balancing: ECPT incl EOR Load Balancing \$000 w/oFFU ACTR w/o FFU \$000 ACTR allocation % Summary of Storage Costs for RATE TABLES under old method: Core \$000 Load Balancing \$000		\$12,962 \$4,775 \$27,000 \$59,819 \$17,663	\$1,205 \$8,006	\$506 \$1,735	\$0 \$2	0.2% \$10 \$40
222 223 224 225 226 227 228	UBS \$000 w/oFFU Load Balancing: ECPT incl EOR Load Balancing \$000 w/oFFU ACTR w/o FFU \$000 ACTR allocation % Summary of Storage Costs for RATE TABLES_under old method: Core \$000		\$12,962 \$4,775 \$27,000 \$59,819	\$1,205 \$8,006	\$506 \$1,735	\$0 \$2	0.2% \$10 \$40

1

			Residential	CCI	G-AC	G-GEN
230						
231						
232	DIRECT (%'s Load or Cust/Mtrs Sum to 100%)					
233	Transmission					
234	Average Year Throughput (MTh)		121	7,372	0	851
235	Cold Year Throughput (1-in-35) (MTh)		134	7,731	0	851
236	Cold Year Peak Month (December) (MTh)		20	854	0	59
237	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)		1	42	0	2
238	Number of Customers		23	70	0	19
239	High Pressure					
240	Average Year Throughput (MTh)		11,469	60,825	384	3,397
241	Cold Year Throughput (1-in-35) (MTh)		12,652	63,788	384	3,397
242	Cold Year Peak Month (December) (MTh)		1,896	7,047	19	236
243	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)		114	347	1	8
244	Number of Customers		7,148	2,582	3	160
245	Medium Pressure					
246	Average Year Throughput (MTh)		2,423,570	954,989	388	16,451
247	Cold Year Throughput (1-in-35) (MTh)		2,673,681	1,001,512	388	16,451
248	Cold Year Peak Month (December) (MTh)		400,588	110,646	19	1,142
249	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)		24,156	5,449	1	37
250	Number of Customers		5,610,637	204,666	6	566
251	CUMULATIVE (Calc'd from DIRECT %'s)			· · · · · ·		
252	Transmission					
253	Average Year Throughput (MTh)		2,435,160	1,023,186	772	20,699
254	Cold Year Throughput (1-in-35) (MTh)		2,686,467	1,073,031	772	20,699
255	Cold Year Peak Month (December) (MTh)		402,503	118.547	37	1,437
256	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)		24,272	5,839	1	46
257	Number of Customers		5,617,809	207,317	9	745
258	High Pressure					
259	Average Year Throughput (MTh)		2,435,038	1,015,814	772	19.848
260	Cold Year Throughput (1-in-35) (MTh)		2,686,333	1,065,299	772	19,848
261	Cold Year Peak Month (December) (MTh)		402,483	117,693	37	1,378
262	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)		24.271	5.797	1	44
263	Number of Customers		5,617,785	207,248	9	726
264	Medium Pressure		0,011,100	2011210	0	.20
265	Average Year Throughput (MTh)		2.423.570	954,989	388	16.451
266	Cold Year Throughput (1-in-35) (MTh)		2,673,681	1,001,512	388	16,451
267	Cold Year Peak Month (December) (MTh)		400,588	110,646	19	1,142
267	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)		24,156	5,449	19	37
268 269	reak Day (1-11-00 COLE, 1-11-10 NOTCOLE) (NTTT)	Number of Customers	5,610,637	204,666	6	566
269 270			5,010,037	204,000	0	500

					Residential	CCI	G-AC	G-GEN
	Toggle 2	(1=Old, 2=Nev	w)					
	2017TCAP Phase 1 Storage Allocation Proposal							
1	Core Storage Capacities:		Allocation Method					
2	Number of Injection Days			214	73.4%	13.3%	0.0%	0.3%
3	Injection MMcfd		Inv per Inj Day	388	285	51	0	1
2 3 4 5 6 7								
5	% Excess Winter Demand				83.4%	15.1%	0.0%	0.4%
6	Inventory MMCF		% Excess Winte	83,000	60,942	11,011	12	269
8	MPD Peak Day (1-in-35 Core) Core Only MTh				1,569	377	0	3
9	% Excess Winter Demand				79.4%	19.1%	0.0%	0.2%
10	Withdrawal MMcfd		% Core Peak L	2,225	1,569	377	0	3
11					70%	17%	0%	0%
12	Injection \$000			\$9,638	\$7,077	\$1,279	\$1	\$31
13	Inventory \$000			\$7,160	\$5,257	\$950	\$1	\$23
14	Withdrawal \$000			\$48,933	\$34,496	\$8,298	\$2	\$66
15		65731		\$65,731	\$46,830	\$10,526	\$4	\$120
16	Load Balancing Storage Capacities:	27834						
17	Injection MMcfd	17020	%AYTP (incl EO)	100%	25%	11%	0%	0%
18	Inventory MMCF	110585	%AYTP (incl EO)	100%	25%	11%	0%	0%
19	Withdrawal MMcfd		%AYTP (incl EO)	100%	25%	11%	0%	0%
20	Injection \$000			\$10,863	\$2,742	\$1,152	\$1	\$23
21	Inventory \$000			\$440	\$111	\$47	\$0	\$1
22	Withdrawal \$000			\$16,531	\$4,172	\$1,753	\$1	\$35
23				\$27,834	\$7,025	\$2,952	\$2	\$60
24	Unbundled Storage Capacities:							
25	Injection MMcfd		100% UBS	1	0%	0%	0%	0%
26	Inventory MMCF		100% UBS	1	0%	0%	0%	0%
27	Withdrawal MMcfd		100% UBS	1	0%	0%	0%	0%
28	Injection \$000			\$3,360	\$0	\$0	\$0	\$0
29	Inventory \$000			\$4,313	\$0	\$0	\$0	\$0
30	Withdrawal \$000			\$9,347	\$0	\$0	\$0	\$0
31				\$17,020	\$0	\$0	\$0	\$0
32	Total Storage:							
33	Injection MMcfd			390	285	52	0	1
34	Inventory MMCF			83,002	60,942	11,011	12	269
35	Withdrawal MMcfd			2,227	1,569	377	0	3
36	Injection \$000			\$23,861	\$9,818	\$2,431	\$2	\$55
37	Inventory \$000			\$11,914	\$5,368	\$997	\$1	\$24
38	Withdrawal \$000			\$74,810	\$38,668	\$10,051	\$3	\$101
39	Total Storage Costs per EC Method w/HR RRQ			\$110,585	\$53,855	\$13,478	\$6	\$180
	Summers of Standard Costs for DATE TADLES, under summitted							
	Summary of Storage Costs for RATE TABLES under new method: Core \$000			<b>CC 704</b>				
				\$65,731				
	Load Balancing \$000			\$27,834				
	Unbundled Storage \$000			\$17,020	_			
	total storage \$000			\$110,585	_			

			Residential	CCI	G-AC	G-GEN
Starsen Care Allegation, and Druge Weterlin testimony.						
Storage Core Allocation, per Bruce Wetzel's testimony Present						
Inventory %			84.0%	15.4%	0.0%	0.0%
Inventory MMCF	% Excess Winte	83,000	61,844	11,363	0	0
Peak Day (1-in-35 Core) Core Only MTh						
% Core MPD Peak Day			64.7%	34.2%	0.0%	0.0%
Withdrawal MMcfd	% Core MPD Pe	2,225	1,288	680	0	0
Proposed						
% Excess Winter Demand			83.4%	15.1%	0.0%	0.4%
Inventory MMCF	% Excess Winte	83,000	60,942	11,011	12	269
MPD Peak Day (1-in-35 Core) Core Only MTh						
% Core MPD Peak Day			79.4%	19.1%	0.0%	0.2%
Withdrawal MMcfd	% Core Peak L	2,225	1,573	374	0	3

	NGV	Total Core
Customer Costs		
Per Unit LRMC, \$/Cust/Year	\$22,281.38	\$242.94
Number of Customers	359	5,826,239
Customer Costs Rental Method \$000	\$7,993	\$1,415,451
Medium Pressure Distribution costs		
Medium Pressure Distribution costs (MPD)		
Per Unit LRMC, \$/mcfd	\$200.38	\$200.38
MPD Peak Day Demand (mmcfd)	13	2,891
Medium Pressure Distribution Costs \$000	\$2,546	\$579,240
High Pressure Distribution costs		
High Pressure Distribution costs (HPD)		
Per Unit LRMC. \$/mcf	\$1.92	\$1.92
HPD Peak Month Demand (mmcf)	936	51.576
High Presure Distribution Costs \$000	\$1,801	\$99,217
Tigh Presure Distribution Costs 4000	\$1,001	\$33,217
Customer Service & Information costs		
Customer Service & Information Allocator	5.8%	93.4%
Customer Service & Information \$000	\$0	\$0
Unscaled LRMC Based Costs \$000	\$12,340	\$2,093,908
Calculation of Scalar:		
Authorized Revenue Requirement in Rates Base Margin \$000		
Adjustment to Storage for Honor Rancho \$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)	77%	77%
Scalar (as a % of unscaled)	11%	11%
Scaled Customer Costs \$000 LRMC/Rental Method	\$6.135	\$1,086,399
Scaled Medium Pressure Distribution Costs \$000 LRMC	\$1,954	\$444,583
Scaled High Presure Distribution Costs \$000 LRMC	\$1,382	\$76,152
Scaled Customer Service & Information Costs \$000 LRMC	\$0	\$0
Scaled LRMC Based Costs \$000	\$9,471	\$1,607,134
NGV Compression Costs: Compression Adder Costs \$000	\$2.440	\$2.440
Compression Adder Costs \$000	\$2,440	φ <b>∠</b> ,440

	NGV	Total Core
ncollectibles:		
Target Base Margin \$000		
System Average Uncollectible Rate		
ncollectibles		
llocation of Uncollectibles:		
All Costs excl. NGV Adder, EOR, Int, WS, and UBS	\$13,814	\$1,766,949
% All Costs excl. NGV Adder, EOR, Int, WS, and UBS	0.7%	92.1%
ncollectibles	\$40	\$5,058
ransmisison Costs per Embedded Cost Method:		
mbedded Transmission Costs \$000		
alculate BBT/Local-T Transmission Split:		
Ilocation of BBT Costs: CYTP Mth	157.095	3.938.064
CYTP	157,095	3,938,064 39.4%
BT Costs per EC method	\$2,327	\$58,326
	\$Z,3Z1	\$30,320
Ilocation of LT Costs: CYPM Mth	12.982	535.507
% CYPM	1.19%	49.06%
T Costs per EC method	\$794	\$32,747
otal Transmission Costs per EC method	\$3,121	\$91,073
torage Costs per EC Method (this includes HR RRQ, but does not include increment	a	
mbedded Storage Costs \$000	<b>-</b>	
onor Rancho Revenue Requirement		
ore Storage	\$769	\$58,250
oad Balancing	\$453	\$10,492
nbundled Storage	\$0	\$0
	\$1,222	\$68,742
otal Storage Costs \$000		
LLOCATED BASE MARGIN (net of misc revenue & broker fee)	\$16,294	\$1,774,447
LLOCATED BASE MARGIN (net of misc revenue & broker fee) ercentage	0.8%	88.6%
LLOCATED BASE MARGIN (net of misc revenue & broker fee)		

2013 Costs in Transport Rates
\$649
\$25,445
\$2,147
\$1,772
\$30,013
\$14,614
\$7,342
\$51,969

	NGV	Total Core
Calculation of CSI Cost Allocator:		
Energy Markets Costs:		
Major Markets Staff FTE by Class (mgmnt estimate)	0.0	0
Energy Markets	0.0%	2.8%
Energy Markets	\$0	\$45
Large C&I:		
# Large C&I Customers	0	206,028
% Large C&I only	0.0%	99.7%
arge C&I	\$0	\$6,391
NGŇ	\$1,385	\$1,385
Residential	\$0	\$11,964
Small Business		
# G10, G-AC, G-GE Customers only	0	206,748
Small Business	0.0%	100.0%
Small Business	\$0	\$548
Econ Development		
# Large C&I Customers	0	206,028
% Large C&I only	0.0%	99.7%
Econ Development	\$0	\$41
Other Residential	\$0	\$1,840
Total	\$1,385	\$22,212
Allocator %	5.8%	93.4%

tal Margin Allocation pre-SI & Unbundle FAR 6 Allocation	\$16,294 0.8%	\$1,774,447 88.6%
NGV Compression Costs:	\$2.440	\$2,440
Uncolletctibles	\$40	\$5,058
Non-DSM Related Marketing	\$0	\$0
Storage - TBS	\$0	\$0
Storage - Load Balancing	\$453	\$10,492
Storage - Seasonal	\$769	\$58,250
Local Transmission Costs	\$794	\$32,747
Backbone Transmission Costs	\$2,327	\$58,326
High Pressure Distribution Costs	\$1,382	\$76,152
Medium Pressure Distribution Costs	\$1,954	\$444,583
Customer Related Costs	\$6,135	\$1,086,399

	NGV	Total Core
Storage Costs per EC Method (this includes HR RRQ, but does not include increi		
Allocation of Storage Costs to Inventory/Inject/Withdrawal w/HR RRQ w/o incrementa		
		Rate w/HR RRQ \$/dth or
	mbtu/cf	\$/dth/d
Injection as % storage costs	1.03	\$35.13
Inventory as % storage costs Withdrawal as % storage costs	1.03 1.03	\$0.199 \$8.52
	1.03	\$6.5Z
Core Storage Capacities:		
Number of Injection Days Injection MMcfd	1.0% 4	88.1% 342
injection Minicia	4	342
% Excess Winter Demand	1.2%	100%
Inventory MMCF	860	73,093
MDD Dately Days (4 in 25 Care) Care Only, MTh		
MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day	1.4%	100%
Withdrawal MMcfd	27	1,976
		· · ·
Injection \$000	\$145	\$12,364
Inventory \$000	\$176	\$14,963
Withdrawal \$000	\$237 \$559	\$17,340 \$44,667
Load Balancing Storage Capacities:	ψ009	\$ <del>44</del> ,007
Injection MMcfd	3	75
Inventory MMCF	0	0
Withdrawal MMcfd	9	198
Injection \$000 Inventory \$000	\$118 \$0	\$2,728 \$0
Withdrawal \$000	\$0 \$75	\$0 \$1,737
	\$193	\$4,464
Unbundled Storage Capacities:		
Injection MMcfd	0	0
Inventory MMCF Withdrawal MMcfd	0	0
Injection \$000	\$0	\$0
Inventory \$000	\$0	\$0
Withdrawal \$000	\$0	\$0
	\$0	\$0
Total Storage: Injection MMcfd	7	417
Injection Minicia Inventory MMCF	860	73.093
Withdrawal MMcfd	36	2,174
Injection \$000	\$263	\$15,091
Inventory \$000	\$176	\$14,963
Withdrawal \$000	\$312 \$752	\$19,077 <b>\$49,131</b>
Total Storage Costs per EC Method w/HR RRQ	φijz	\$ <del>4</del> 3,131
Calculation of HRSMA Allocator (allocated inventory Pre- Incremental HR & Alisc	NGV	Total Core
Totall allocated Inventory, pre-HR capacity and pre-Aliso MMCF	860	73,093
TCAP HRSMA Allocator (based on total allocated inventory as % of total inventor	0.6%	53.7%
Calculate Effective Storage Rates w/ Incremental Honor Rancho Capacity (this do		
Injection		
Injection		
Withdrawal		
Total		

Calculate Effective Storage Rates w/HR Capacity AND Aliso RRQ & Capacities

	NGV	Total Core
	Storage Capacities Mdth	Effective Storage Rates w/HR & Aliso \$/dth
Injection	942	\$29.56
Inventory	142,243	\$0.196
Withdrawal	3,270	\$8.52
Total		
	Pre ACTR Injection w/o FFU \$000	
Allocation of Aliso Canyon Injection Capacity & Costs to Storage Classes:	(1)	w/o FFU
Core	\$12,149	\$20,307
SDGE	\$1,647	\$2,752
	\$13,796	\$23,059
Load Balancing	\$7,111	\$11,886
UBS	\$6,471	\$19,434
	\$27,379	\$54,379
Notes: (1) FFU Gross to Net Factor (2) Transportation rates are calculated on 12-month basis, while in-service date is	1/	
Calculation of ACTR Allocation% for allocation to Rate Classes	NGV	Total Core
SCG Core Storage:	1.00/	100.00/
Core Injection Allocation adjusted for SCG Core only	1.2%	100.0%
SCG Core Storage \$000 w/o FFU	\$96	\$8,157
SDGE Core Storage \$000 w/o FFU		\$0
total core storage w/o FFU		

UBS \$000 w/oFFU

Load Balancing: ECPT incl EOR Load Balancing \$000 w/oFFU ACTR w/o FFU \$000 ACTR allocation %

Summary of Storage Costs for RATE TABLES under old method: Core \$000 Load Balancing \$000 Unbundled Storage \$000 total storage \$000

\$0

37.7% \$1,800

\$9,957 **36.9%** 

1.6% \$78

\$174 **0.6%** 

	NGV	Total Core
DIRECT (%'s Load or Cust/Mtrs Sum to 100%)		
Transmission		
Average Year Throughput (MTh)	40,433	48,777
Cold Year Throughput (1-in-35) (MTh)	40,433	49,148
Cold Year Peak Month (December) (MTh)	3,341	4,274
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	108	153
Number of Customers	15	127
High Pressure		
Average Year Throughput (MTh)	67,562	143,636
Cold Year Throughput (1-in-35) (MTh)	67,562	147,783
Cold Year Peak Month (December) (MTh)	5,583	14,780
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	180	650
Number of Customers	59	9,952
Medium Pressure		
Average Year Throughput (MTh)	49,101	3,444,499
Cold Year Throughput (1-in-35) (MTh)	49,101	3,741,133
Cold Year Peak Month (December) (MTh)	4,058	516,452
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	131	29,774
Number of Customers	285	5,816,160
CUMULATIVE (Calc'd from DIRECT %'s)		
Transmission		
Average Year Throughput (MTh)	157,095	3,636,911
Cold Year Throughput (1-in-35) (MTh)	157,095	3,938,064
Cold Year Peak Month (December) (MTh)	12.982	535.507
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	419	30.577
Number of Customers	359	5,826,239
High Pressure		
Average Year Throughput (MTh)	116.663	3,588,135
Cold Year Throughput (1-in-35) (MTh)	116.663	3,888,915
Cold Year Peak Month (December) (MTh)	9.641	531,232
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	311	30,424
Number of Customers	344	5,826,112
Medium Pressure		-,,
Average Year Throughput (MTh)	49.101	3,444,499
Cold Year Throughput (1-in-35) (MTh)	49.101	3,741,133
Cold Year Peak Month (December) (MTh)	4,058	516,452
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	131	29,774
	285	5,816,160
	200	0,0.0,000

	NGV	Total Core
2 017TCAP Phase 1 Storage Allocation Proposal		
ore Storage Capacities:		
Number of Injection Days	1.0%	88.1%
Injection MMcfd	4	342
% Excess Winter Demand	1.2%	100%
Inventory MMCF	860	73,093
MPD Peak Day (1-in-35 Core) Core Only MTh	27	
% Excess Winter Demand	1.4%	100%
Withdrawal MMcfd	27	1.976
	1%	89%
Injection \$000	\$100	\$8,488
Inventory \$000	\$70	\$6,306
	\$74	
Withdrawal \$000	\$769	\$43,457 \$58,250
oad Balancing Storage Capacities:	\$109	φ <b>30,2</b> 30
Injection MMcfd	2%	38%
Inventory MMCF	2%	38%
Withdrawal MMcfd	2%	38%
Injection \$000	\$177	
	\$177 \$7	\$4,095
Inventory \$000		\$166
Withdrawal \$000	\$269	\$6,231 \$10,492
Inbundled Storage Capacities:	\$453	\$10,492
Injection MMcfd	0%	0%
Inventory MMCF	0%	0%
	0%	
Withdrawal MMcfd		0%
Injection \$000	\$0	\$0
Inventory \$000	\$0	\$0
Withdrawal \$000	\$0	\$0
	\$0	\$0
otal Storage: Injection MMcfd	4	342
Inventory MMCF	4 860	73.094
Withdrawal MMcfd	27	1.976
	\$277	
Injection \$000		\$12,582
Inventory \$000	\$81	\$6,471
Withdrawal \$000 Total Storage Costs per EC Method w/HR RRQ	\$864	\$49,688
	\$1,222	\$68,742

File = SoCalGas 2016TCAP Phase II Cost Allocation model .xlsx

NGV	Total Core

Storage Core Allocation, per Bruce Wetzel's testimony Present		
Inventory %	0.6%	100%
Inventory MMCF	459	73,666
Peak Day (1-in-35 Core) Core Only MTh		
% Core MPD Peak Day	1.1%	100%
Withdrawal MMcfd	22	1,990
Proposed		
% Excess Winter Demand	1.2%	100%
Inventory MMCF	860	73,093
MPD Peak Day (1-in-35 Core) Core Only MTh		
% Core MPD Peak Day	1.4%	100%
Withdrawal MMcfd	27	1,976

	NCCI	EG Tier 1	EG Tier 2	EOR	Total Retail NonCore	Long Beach	SDG&E	South West Gas	Vernon	Total Whole sale
ustomer Costs										
Per Unit LRMC, \$/Cust/Year	\$30,178.82	\$25,258.28	\$128,643.87	\$83,028.54	\$37,886.45	\$886,337.07	\$1,513,038.54	\$797,252.41	\$539,223.46	\$933,962.87
Number of Customers	622	216	68	29	935	1	1	1	1	4
Customer Costs Rental Method \$000	\$18,758	\$5,463	\$8,806	\$2,408	\$35,435	\$886	\$1,513	\$797	\$539	\$3,736
ledium Pressure Distribution costs										
edium Pressure Distribution costs (MPD)										
Per Unit LRMC. \$/mcfd	\$200.38	\$200.38	\$200.38	\$200.38	\$200.38	\$200.38	\$200.38	\$200.38	\$200.38	\$200.38
APD Peak Day Demand (mmcfd)	86	14	9	0	113	0	0	0	0	0
edium Pressure Distribution Costs \$000	\$17,273	\$2,816	\$1,863	\$60	\$22,012	\$0	\$0	\$0	\$0	\$0
gh Pressure Distribution costs gh Pressure Distribution costs (HPD)										
er Unit LRMC. \$/mcf	\$1.92	\$1.92	\$1.92	\$1.92	\$1.92	\$1.92	\$1.92	\$1.92	\$1.92	\$1.92
IPD Peak Month Demand (mmcf)	\$1.92 6.643	597	\$1.92	1,135	10.314	\$1.92 0	\$1.92 0	\$1.92 0	\$1.92 0	\$1.92 0
igh Presure Distribution Costs \$000	\$12.779	\$1.148	\$3.152	\$2.183	\$19.263	\$0	\$0	\$0	\$0	\$0
gir riesure Distribution Costs \$000	\$12,775	φ1,140	φ <b>3</b> ,1 <b>3</b> 2	φ2,105	φ13,203	φŪ	ΨU	φu	ψU	φU
ustomer Service & Information costs										
Customer Service & Information Allocator	0.6%	0.2%	2.4%	1.6%	4.7%	0.4%	0.4%	0.5%	0.4%	1.7%
customer Service & Information \$000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
scaled LRMC Based Costs \$000	\$48,810	\$9,427	\$13,821	\$4,651	\$76,710	\$886	\$1,513	\$797	\$539	\$3,736
Iculation of Scalar:										
uthorized Revenue Requirement in Rates Base Margin \$000										
Adjustment to Storage for Honor Rancho \$000										
arget Base Margin \$000										
ess items not allocated per LRMC method:										
Transmission Cost per EC \$000										
Storage Costs per EC \$000										
Uncollectibles										
NGV Compression Adder Costs per EC \$000										
rget Scaled Costs \$000										
scaled LRMC Based Costs \$000										
amount to scale \$000										
Scalar (as a % of unscaled)	77%	77%	77%	77%	77%	77%	77%	77%	77%	77%
Scaled Customer Costs \$000 LRMC/Rental Method	\$14,397	\$4.193	\$6,759	\$1,848	\$27.197	\$680	\$1.161	\$612	\$414	\$2,867
Scaled Medium Pressure Distribution Costs \$000 LRMC	\$13,258	\$2,162	\$1,430	\$46	\$16.895	\$000	\$0	\$0	\$0	\$2,007 \$0
Scaled High Presure Distribution Costs \$000 LRMC	\$9,808	\$881	\$2,419	\$1,676	\$14,785	\$0	\$0	\$0 \$0	\$0	\$0 \$0
Scaled Customer Service & Information Costs \$000 LRMC	\$9,000	\$0	\$0	\$0	\$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0
aled LRMC Based Costs \$000	\$37,463	\$7.236	\$10.608	\$3.570	\$58.877	\$680	\$1,161	\$612	\$414	\$2.867

Compression Adder Costs \$000

	Total Retail									
	NCCI	EG Tier 1	EG Tier 2	EOR	NonCore	Long Beach	SDG&E	South West Gas	Vernon	Total Whole sale
ncollectibles:										
Target Base Margin \$000										
System Average Uncollectible Rate										
Incollectibles										
Ilocation of Uncollectibles:										
All Costs excl. NGV Adder, EOR, Int, WS, and UBS	\$72,154	\$9,428	\$70,112	\$0	\$151,693	\$0	\$0	\$0	\$0	\$0
% All Costs excl. NGV Adder, EOR, Int, WS, and UBS	3.8%	0.5%	3.7%	0.0%	7.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Incollectibles	\$207	\$27	\$201	\$0	\$434	\$0	\$0	\$0	\$0	\$0
ransmisison Costs per Embedded Cost Method:										
mbedded Transmission Costs \$000										
alculate BBT/Local-T Transmission Split:										
llocation of BBT Costs:										
CYTP Mth	1,529,668	97,212	2,580,583	231,570	4,439,033	80,110	1,293,181	65,748	95,137	1,534,176
% CYTP	15.3%	1.0%	25.8%	2.3%	44.4%	0.8%	12.9%	0.7%	1.0%	15.3%
BT Costs per EC method	\$22,656	\$1,440	\$38,221	\$3,430	\$65,746	\$1,186	\$19,153	\$974	\$1,409	\$22,722
Ilocation of LT Costs:										
CYPM Mth	124,850	7,715	226,295	19,668	378,528	10,024	141,015	10,598	8,180	169,818
% CYPM	11.44%	0.71%	20.73%	1.80%	34.68%	0.92%	12.92%	0.97%	0.75%	15.56%
T Costs per EC method	\$7,635	\$472	\$13,838	\$1,203	\$23,147	\$613	\$8,623	\$648	\$500	\$10,384
otal Transmission Costs per EC method	\$30,290	\$1,912	\$52,059	\$4,632	\$88,893	\$1,799	\$27,776	\$1,622	\$1,909	\$33,107
torage Costs per EC Method (this includes HR RRQ, but does not include increment										
mbedded Storage Costs \$000	<u>c</u>									
Ionor Rancho Revenue Requirement										
onor kancho kevenue kequirement										
ore Storage	\$0	\$0	\$0	\$0	\$0	\$0	\$7,481	\$0	\$0	\$7,481
oad Balancing	\$4,400	\$280	\$7,444	\$668	\$12,793	\$212	\$3,610	\$189	\$274	\$4,286
Inbundled Storage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
otal Storage Costs \$000	\$4,400	\$280	\$7,444	\$668	\$12,793	\$212	\$11,092	\$189	\$274	\$11,767
LLOCATED BASE MARGIN (net of misc revenue & broker fee)	\$72,360	\$9,455	\$70,312	\$8,870	\$160,998	\$2,692	\$40,029	\$2,422	\$2,598	\$47,741
	3.6%	0.5%	3.5%	0.4%	8.0%	0.1%	2.0%	0.1%	0.1%	2 /0/

ALLOCATED BASE MARGIN (net of misc revenue & broker fee)	\$72,360	\$9,455	\$70,312	\$8,870	\$160,998	\$2,692	\$40,029	\$2,422	\$2,598	\$47,741
Percentage	3.6%	0.5%	3.5%	0.4%	8.0%	0.1%	2.0%	0.1%	0.1%	2.4%
Average Year Throughput Mth	1,525,339	97,212	2,580,583	231,570	4,434,704	73,520	1,251,556	65,367	95,137	1,485,580
average rate \$/therm	\$0.047	\$0.097	\$0.027	\$0.038	\$0.036	\$0.037	\$0.032	\$0.037	\$0.027	\$0.032

Calculation of Customer Service & Information Costs (CSI Costs): 907 Cus Svc-Supervision + Payroll Taxes 908 Cus Svc-Cust Assist Exp (PBR Ex DAP, DSM &Self-Gen) 909 Cus Svc-Info & Instruction Exp 910 Cus Svc-Misc CSI Exp (PBR Ex DSM & NGV)

A&G loader Gen Plant Loader Total CS&I O&M, 2013 \$000's

					Total Retail					
	NCCI	EG Tier 1	EG Tier 2	EOR	NonCore	Long Beach	SDG&E	South West Gas	Vernon	Total Whole sale
Calculation of CSI Cost Allocator:										
Energy Markets Costs:										
Major Markets Staff FTE by Class (mgmnt estimate)	1.1	0.4	5.2	3.4	10.1	0.9	0.9	1.0	0.8	3.6
Energy Markets	7.3%	2.4%	36.1%	23.5%	69.3%	6.5%	6.1%	7.1%	5.3%	25.0%
Energy Markets	\$117	\$39	\$578	\$376	\$1,110	\$104	\$98	\$114	\$84	\$400
Large C&I:	\$117	455	<i>4</i> 570	4570	φ1,110	\$104	490	\$114	<i>4</i> 04	\$400
# Large C&I Customers	624	0	0	0	624	0	0	0	0	0
% Large C&I only	0.3%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Large C&I	\$19	\$0	\$0	\$0	\$19	\$0	\$0	\$0	\$0	\$0
NGV	\$19	\$0 \$0	\$0 \$0	\$0 \$0	\$19 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0
Residential	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0
Small Business	\$0	\$0	\$U	\$U	<b>\$</b> U	\$U	<b>\$</b> U	\$0	\$U	\$0
	<u> </u>	<u> </u>	•	<u> </u>	0	•	•		•	â
# G10, G-AC, G-GE Customers only Small Business	0	0	0 0.0%	0 0.0%	0 0.0%	0	0 0.0%	0 0.0%	0	0 0.0%
	0.0%	0.0%		0.0% \$0		0.0%		0.0% \$0	0.0%	
Small Business	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Econ Development										
# Large C&I Customers	624	0	0	0	624	0	0	0	0	0
% Large C&I only	0.3%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Econ Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Other Residential	\$0	\$0	\$0	\$0	\$0	\$0	\$0	<b>\$0</b> \$114	\$0 \$84	\$0
Total	\$137 <b>0.6%</b>	\$39	\$578	\$376	\$1,129	\$104	\$98			\$400
Allocator %	0.6%	0.2%	2.4%	1.6%	4.7%	0.4%	0.4%	0.5%	0.4%	1.7%
Model Results RD Format for RD Models										
Customer Related Costs	\$14,397	\$4,193	\$6,759	\$1,848	\$27,197	\$680	\$1,161	\$612	\$414	\$2,867
Medium Pressure Distribution Costs	\$13,258	\$2,162	\$1,430	\$46	\$16,895	\$0	\$0	\$0	\$0	\$0
High Pressure Distribution Costs	\$9,808	\$881	\$2,419	\$1,676	\$14,785	\$0	\$0	\$0	\$0	\$0
Backbone Transmission Costs	\$22,656	\$1,440	\$38,221	\$3,430	\$65,746	\$1,186	\$19,153	\$974	\$1,409	\$22,722
Local Transmission Costs	\$7,635	\$472	\$13,838	\$1,203	\$23,147	\$613	\$8,623	\$648	\$500	\$10,384
Storage - Seasonal	\$0	\$0	\$0	\$0	\$0	\$0	\$7,481	\$0	\$0	\$7.481
Storage - Load Balancing	\$4,400	\$280	\$7,444	\$668	\$12,793	\$212	\$3,610	\$189	\$274	\$4,286
Storage - TBS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non-DSM Related Marketing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Uncolletctibles	\$207	\$27	\$201	\$0	\$434	\$0	\$0	\$0	\$0	\$0
NGV Compression Costs:	\$0	\$0	\$0	\$0 \$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Margin Allocation pre-SI & Unbundle FAR	\$72,360	\$9,455	\$70,312	\$8,870	\$160,998	\$2.692	\$40,029	\$2,422	\$2,598	\$47.741
% Allocation	3.6%	0.5%	3.5%	0.4%	8.0%	0.1%	2.0%	0.1%	0.1%	2.4%

injection as % storage costs 20 inventory as % storage costs 20	NCCI ource D16TCAP Phase I D16TCAP Phase I D16TCAP Phase I	EG Tier 1	EG Tier 2	EOR	NonCore	Long Beach	SDG&E	South West Gas	Vernon	Total Whole sale
Ilocation of Storage Costs to Inventory/Inject/Withdrawal w/HR RRQ w/o incrementa Injection as % storage costs 20 Inventory as % storage costs 20	016TCAP Phase I 016TCAP Phase I									
injection as % storage costs 20 inventory as % storage costs 20	016TCAP Phase I 016TCAP Phase I									
njection as % storage costs 20 nventory as % storage costs 20	016TCAP Phase I 016TCAP Phase I									
njection as % storage costs 20 nventory as % storage costs 20	016TCAP Phase I 016TCAP Phase I									
Inventory as % storage costs 20	016TCAP Phase I		-							
	JIDICAF FIIASE I									
			-							
ore Storage Capacities:										
lumber of Injection Days	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.9%	0.0%	0.0%	11.9%
njection MMcfd	0	0	0	0	0	0	46	0	0	46
6 Excess Winter Demand										
ventory MMCF	0	0	0	0	0	0	9,907	0	0	9,907
Wentory MINICP	0	U	0	0	0	0	9,907	U	0	9,907
IPD Peak Day (1-in-35 Core) Core Only MTh										
6 Core MPD Peak Day										
/ithdrawal MMcfd	0	0		0	0	0	249	0	0	249
	\$0	\$0	\$0	\$0	<b>\$</b> 0	\$0	¢4.070	<b>C</b> O	\$0	\$1,676
ijection \$000 iventory \$000	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$1,676 \$2,028	\$0 \$0	\$0 \$0	\$1,676 \$2,028
/ithdrawal \$000	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0	\$0 \$0	\$2,185	\$0 \$0	\$0	\$2,185
	\$0	\$0	\$0	\$0	\$0	\$0	\$5,889	\$0	\$0	\$5,889
ad Balancing Storage Capacities:	•		•••	•	• •	•	• • • • • •		•	
jection MMcfd	32	2	53	5	92	2	26	1	2	31
ventory MMCF	1,294	82	2,189	196	3,762	62	1,062	55	81	1,260
/ithdrawal MMcfd	83	5	140	13	241	4	68	4	5	81
jection \$000 ventory \$000	\$1,144 \$265	\$73 \$17	\$1,936 \$448	\$174 \$40	\$3,326 \$770	\$55 \$13	\$939 \$217	\$49 \$11	\$71 \$17	\$1,114 \$258
/ithdrawal \$000	\$728	\$46	\$1,232	\$40	\$2,118	\$35	\$598	\$31	\$45	\$709
	\$2,137	\$136	\$3,616	\$324	\$6,214	\$103	\$1,754	\$92	\$133	\$2,082
bundled Storage Capacities:	*=,		**,***	**= ·	<b>4-</b> , <b>-</b>		• .,. • .	**-		+=,=
jection MMcfd	0	0	0	0	0	0	0	0	0	0
ventory MMCF	0	0	0	0	0	0	0	0	0	0
/ithdrawal MMcfd	0	0	0	0	0	0	0	0	0	0
jection \$000 ventory \$000	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0
/ithdrawal \$000	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0	\$0 \$0
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
al Storage:										
jection MMcfd	32	2	53	5	92	2	72	1	2	77
ventory MMCF	1,294	82	2,189	196	3,762	62	10,969	55	81	11,167
lithdrawal MMcfd	83	5	140	13	241	4	317	4	5	330
jection \$000 ventory \$000	\$1,144 \$265	\$73 \$17	\$1,936 \$448	\$174 \$40	\$3,326 \$770	\$55 \$13	\$2,614 \$2,245	\$49 \$11	\$71 \$17	\$2,790 \$2,286
/ithdrawal \$000	\$205 \$728	\$17 \$46	\$448	\$40 \$111	\$2,118	\$35	\$2,245 \$2,783	\$31	\$17 \$45	\$2,280 \$2,894
tal Storage Costs per EC Method w/HR RRQ	\$2,137	\$136	\$3,616	\$324	\$6,214	\$103	\$7,643	\$92	\$133	\$7,970
Iculation of HRSMA Allocator (allocated inventory Pre- Incremental HR & Alisc	NCCI	EG Tier 1	EG Tier 2	EOR	Total Retail NonCore	Long Beach	SDG&E	South West Gas	Vernon	Total Whole sa
tall allocated Inventory, pre-HR capacity and pre-Aliso MMCF	1,294	82	2,189	196	3,762	62	10,969	55	81	11,167
AP HRSMA Allocator (based on total allocated inventory as % of total inventor	1.0%	0.1%	1.6%	0.1%	2.8%	0.0%	8.1%	0.0%	0.1%	8.2%

Calculate Effective Storage Rates w/ Incremental Honor Rancho Capacity (this de

Injection Inventory Withdrawal

Total

				Total Retail				
NCCI	EG Tier 1	EG Tier 2	EOR	NonCore	Long Beach	South West Gas	Vernon	Total Whole sale

Injection Inventory Withdrawal **Total** 

Allocation of Aliso Canyon Injection Capacity & Costs to Storage Classes: Core SDGE	ACTR \$000 w/o FFU \$8,157 \$1,106 \$9,263	Transport Rate Gross-to-Net factor 100% 100%	Net-to-Gross ACTR \$000 w/o FFU (2) \$8,157 \$1,106 \$9,263
Load Balancing UBS	\$4,775 \$12,962 \$27,000	100% 100%	\$4,775 \$12,962 \$27,000

 Notes:

 (1) FFU Gross to Net Factor
 (2) Transportation rates are calculated on 12-month basis, while in-service date is 1,

					Total Retail					
Calculation of ACTR Allocation% for allocation to Rate Classes	NCCI	EG Tier 1	EG Tier 2	EOR	NonCore	Long Beach	SDG&E	South West Gas	Vernon	Total Whole sale
SCG Core Storage: Core Injection Allocation adjusted for SCG Core only SCG Core Storage \$000 w/o FFU SDGE Core Storage \$000 w/o FFU total core storage w/o FFU	\$0	\$0	\$0	\$0	\$0 \$0	\$0	\$0 \$1,106	\$0	\$0	0.0% \$0 \$1,106
UBS \$000 w/oFFU Load Balancing:					\$0					\$0
ECPT incl EOR	15.8%	1.0%	26.7%	2.4%	46.0%	0.8%	13.0%	0.7%	1.0%	15.4%
Load Balancing \$000 w/oFFU	\$755	\$48	\$1,277	\$115	\$2,195	\$36	\$619	\$32	\$47	\$735
ACTR w/o FFU \$000	\$755	\$48	\$1,277	\$115	\$2,195	\$36	\$1,725	\$32	\$47	\$1,841
ACTR allocation %	2.8%	0.2%	4.7%	0.4%	8.1%	0.1%	6.4%	0.1%	0.2%	6.8%

# Summary of Storage Costs for RATE TABLES under old method: Core \$000 Load Balancing \$000 Unbundled Storage \$000 total storage \$000

					Total Retail					
	NCCI	EG Tier 1	EG Tier 2	EOR	NonCore	Long Beach	SDG&E	South West Gas	Vernon	Total Whole sale
DIRECT (%'s Load or Cust/Mtrs Sum to 100%)										
Transmission										
Average Year Throughput (MTh)	660.238	20,005	2.372.694	93,950	3,146,887	73,520	1.251.556	65.367	95,137	1,485,580
Cold Year Throughput (1-in-35) (MTh)	660,388	20,005	2,372,694	93,950	3,147,037	80,110	1,293,181	65,748	95,137	1,534,176
Cold Year Peak Month (December) (MTh)	56.427	1.567	209.418	7,979	275.391	10.024	141.015	10.598	8,180	169.818
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	1,826	81	8,381	257	10,546	530	6,308	516	264	7,618
Number of Customers	38	15	41	12	106	1	1	1	1	4
High Pressure										
Average Year Throughput (MTh)	571,574	21,258	170,790	136,497	900,119	0	0	0	0	0
Cold Year Throughput (1-in-35) (MTh)	572,981	21,258	170,790	136,497	901,525	0	0	0	0	0
Cold Year Peak Month (December) (MTh)	44,354	1,661	13,909	11,593	71,517	0	0	0	0	0
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	1,487	65	450	374	2,377	0	0	0	0	0
Number of Customers	225	37	22	15	299	0	0	0	0	0
Medium Pressure										
Average Year Throughput (MTh)	293,527	55,949	37,099	1,124	387,699	0	0	0	0	0
Cold Year Throughput (1-in-35) (MTh)	296,299	55,949	37,099	1,124	390,471	0	0	0	0	0
Cold Year Peak Month (December) (MTh)	24,069	4,488	2,968	95	31,620	0	0	0	0	0
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	888	145	96	3	1,131	0	0	0	0	0
Number of Customers	358	164	6	2	530	0	0	0	0	0
CUMULATIVE (Calc'd from DIRECT %'s)										
Transmission										
Average Year Throughput (MTh)	1,525,339	97,212	2,580,583	231,570	4,434,704	73,520	1,251,556	65,367	95,137	1,485,580
Cold Year Throughput (1-in-35) (MTh)	1,529,668	97,212	2,580,583	231,570	4,439,033	80,110	1,293,181	65,748	95,137	1,534,176
Cold Year Peak Month (December) (MTh)	124,850	7,715	226,295	19,668	378,528	10,024	141,015	10,598	8,180	169,818
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	4,201	291	8,927	634	14,054	530	6,308	516	264	7,618
Number of Customers	622	216	68	29	935	1	1	1	1	4
High Pressure										
Average Year Throughput (MTh)	865,102	77,207	207,889	137,620	1,287,818	0	0	0	0	0
Cold Year Throughput (1-in-35) (MTh)	869,280	77,207	207,889	137,620	1,291,996	0	0	0	0	0
Cold Year Peak Month (December) (MTh)	68,423	6,149	16,877	11,688	103,137	0	0	0	0	0
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	2,375	210	546	377	3,508	0	0	0	0	0
Number of Customers	584	201	28	17	830	0	0	0	0	0
Medium Pressure										
Average Year Throughput (MTh)	293,527	55,949	37,099	1,124	387,699	0	0	0	0	0
Cold Year Throughput (1-in-35) (MTh)	296,299	55,949	37,099	1,124	390,471	0	0	0	0	0
Cold Year Peak Month (December) (MTh)	24,069	4,488	2,968	95	31,620	0	0	0	0	0
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	888	145	96	3	1,131	0	0	0	0	0
	358	164	6	2	530	0	0	0	0	0

	NCCI	EG Tier 1	EG Tier 2	EOR	Total Retail NonCore	Long Beach	SDG&E	South West Gas	Vernon	Total Whole sa
2	11001	Lonicit	LO HEI Z	LON	Nonoore	Long Deach	ODOUL	ooddii Meat Oda	Venion	Total Whole Sa
TTCAP Phase 1 Storage Allocation Proposal										
ore Storage Capacities:										
lumber of Injection Days	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.9%	0.0%	0.0%	11.9%
njection MMcfd	0	0	0	0	0	0	46	0	0	46
Excess Winter Demand										
nventory MMCF	0	0	0	0	0	0	9,907	0	0	9,907
IPD Peak Day (1-in-35 Core) Core Only MTh										
Excess Winter Demand										
Vithdrawal MMcfd	0	0	0	0	0	0	249	0	0	249
	0%	0%	0%	0%	0%	0%	11%	0%	0%	11%
njection \$000	\$0	\$0	\$0	\$0	\$0	\$0	\$1,150	\$0	\$0	\$1,150
ventory \$000	\$0	\$0	\$0	\$0	\$0	\$0	\$855	\$0	\$0	\$855
Vithdrawal \$000	\$0	\$0	\$0	\$0	\$0	\$0	\$5,476	\$0	\$0	\$5,476
	\$0	\$0	\$0	\$0	\$0	\$0	\$7,481	\$0	\$0	\$7,481
ad Balancing Storage Capacities:										
iection MMcfd	16%	1%	27%	2%	46%	1%	13%	1%	1%	15%
ventory MMCF	16%	1%	27%	2%	46%	1%	13%	1%	1%	15%
ithdrawal MMcfd	16%	1%	27%	2%	46%	1%	13%	1%	1%	15%
jection \$000	\$1,717	\$109	\$2,905	\$261	\$4,993	\$83	\$1,409	\$74	\$107	\$1,673
ventory \$000	\$70	\$4	\$118	\$11	\$202	\$3	\$57	\$3	\$4	\$68
/ithdrawal \$000	\$2.613	\$167	\$4.421	\$397	\$7.598	\$126	\$2,144	\$112	\$163	\$2,545
	\$4,400	\$280	\$7,444	\$668	\$12,793	\$212	\$3,610	\$189	\$274	\$4,286
bundled Storage Capacities:	• .,	+	*.,		*.=,	*				+ .,===
jection MMcfd	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
iventory MMCF	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
/ithdrawal MMcfd	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
jection \$000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
iventory \$000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
/ithdrawal \$000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ni lulawai 4000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
al Storage:	ψŪ	<b>\$</b> 0	<b>\$</b> 0	ψŪ	ψυ	ψυ	φU	40	ψυ	ψυ
iection MMcfd	0	0	0	0	0	0	46	0	0	46
ventory MMCF	0	0	0	0	0	0	9,907	0	0	9,907
ithdrawal MMcfd	0	0	0	0	0	0	249	0	0	249
jection \$000	\$1,717	\$109	\$2,905	\$261	\$4,993	\$83	\$2,559	\$74	\$107	\$2,823
ventory \$000	\$1,717 \$70	\$109	\$2,905 \$118	\$201 \$11	\$4,993 \$202	\$83 \$3	\$2,559 \$912	\$74 \$3		\$922
/ithdrawal \$000	\$70 \$2.613	\$4 \$167	\$118 \$4,421	\$11 \$397	\$202 \$7,598	\$3 \$126	\$912 \$7,620	\$3 \$112	\$4 \$163	\$922 \$8.021
			\$4,421				\$7,020		\$103	\$8,021 \$11,767
Total Storage Costs per EC Method w/HR RRQ	\$4,400	\$280	\$7,444	\$668	\$12,793	\$212	\$11,092	\$189	\$274	\$

# Summary of Storage Costs for RATE TABLES under new method: Core \$000 Load Balancing \$000 Unbundled Storage \$000 total storage \$000

	NCCI	EG Tier 1	EG Tier 2	EOR	Total Retail NonCore	Long Beach	SDG&E	South West Gas	Vernon	Total Whole sale
Storage Core Allocation, per Bruce Wetzel's testimony Present										
Inventory % Inventory MMCF	0	0	0	0	0	0	9,334	0	0	9,334
Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd	0	0	0	0	0	0	235	0	0	235
Proposed % Excess Winter Demand Inventory MMCF	0	0	0	0	0	0	9,907	0	0	9,907
MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd	0	0	0	0	0	0	249	0	0	249

Customer Costs Number of Customers         S216,480.37         \$0.00         \$41,888.23         \$249.66         SCG LRMC Customer Cost New Allocation Factors           Customer Costs Number of Customers         1         0         940         \$327,173         New Allocation Factors           Customer Costs New Allocation Factors         1         0         940         \$327,173         New Allocation Factors           Customer Costs Network Distribution costs Medium Pressure Distribution costs (MPD Peak Day Demand (mmd)         0         11         3.001         New Allocation Factors           Medium Pressure Distribution costs (MPD Peak Day Demand (mmd)         0         0         113         3.001         New Allocation Factors           High Pressure Distribution costs (MPD Peak Day Demand (mmd)         0         0         10.314         63.437         New Allocation Factors           High Presure Distribution Costs 5000         50         50         51.92         \$1.92         SCG LRMC Distribution Cost           Lustomer Service & Information Allocator         0.2%         0.0%         6.6%         100.0%         20           Customer Service & Information Allocator         0.2%         0.0%         6.6%         100.0%         21/14,570           Calculation Allocator         0.2%         0.0%         6.6%         100.0%		DGN	UBS	Total Noncore	SYSTEM TOTAL	Sources
Number of Customers         1         0         940         5.827,179         New Allocation Factors           Customer Costs         60         \$39,387         \$1454,838         Medium Pressure Distribution costs           Medium Pressure Distribution costs         (MPO)         Per Unit LRNC, Sindd         \$200,38         \$200,38         \$200,38         \$200,38         \$CG LRNC Distribution Cost           MPD Peak Day Demand (mmdd)         0         0         113         3.001         New Allocation Factors           Medium Pressure Distribution costs         600         \$0         \$122         \$1.02 <td>Customer Costs</td> <td>P040 400 07</td> <td>CO 00</td> <td>£44,000,00</td> <td>00.00</td> <td>SCC   PMC Customer Cost</td>	Customer Costs	P040 400 07	CO 00	£44,000,00	00.00	SCC   PMC Customer Cost
Customer Costs         Rental Method \$000         \$216         \$0         \$39,387         \$1,454,838           Medium Pressure Distribution costs Medium Pressure Distribution Costs \$000         \$200,38         \$216         \$20         \$20,35						
Medium Pressure Distribution costs         Medium Pressure Distribution costs (MPD)           Per Unit LRMC, Simcd         0         113         3,091         New Allocation Cost           MPD Peak Day Demand (mmch)         0         0         113         3,091         New Allocation Cost           Medium Pressure Distribution costs         0         0         113         3,091         New Allocation Cost           High Pressure Distribution costs         0         0         113         3,091         New Allocation Cost           High Pressure Distribution costs         0         0         10,314         63,437         New Allocation Cost           High Pressure Distribution costs         0         0         10,314         63,437         New Allocation Factors           High Pressure Distribution costs         0         0         10,314         63,437         New Allocation Factors           High Pressure Distribution costs         0         0         0         10,0%         Customer Service & Information Allocator         0,2%         0.0%         6,6%         100,0%         Customer Service & Information 5000         50         50         50         50         50         50         50         50         50         50         50         50         50         50 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
Indedium Pressure Distribution costs (MPD)         Per Unit IRMC, Simcd         S200.38         S20.31         S20.31 <ths20.31< th="">         S20.31         S20.31</ths20.31<>						
Per Unit LRMC, Simical         S200.38         S200.37         S20.38         S20.38 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
MPD Peak Day Demand (mmcd)         0         0         113         3.091         New Allocation Factors           Medium Pressure Distribution costs         \$0         \$0         \$22,012         \$601,252           High Pressure Distribution costs         High Pressure Distribution costs         \$1.92         \$1.92         \$1.92         \$51.92         \$52,012           High Pressure Distribution costs         0         0         10.314         \$63.437         New Allocation Costs           High Presure Distribution Costs \$000         \$0         \$0         \$1.92         \$1.92         \$1.92         New Allocation Costs           Lustomer Service & Information Roots         0         0         \$0						
Medium Pressure Distribution Costs \$000       \$0       \$0       \$22,012       \$601,252         High Pressure Distribution costs High Presure Distribution costs (HPD) Per Unit LRMC, \$/mcf       \$1.92       \$1.92       \$1.92       \$1.92       \$1.92       \$CG LRMC Distribution Costs HPD Peak Month Demand (mmcf)       0       0       10.314       63.437       New Allocation Factors         High Presure Distribution Costs \$000       \$0       \$0       \$19.263       \$1118,460         Customer Service & Information Costs Customer Service & Information Allocator       0.2%       0.0%       6.6%       100.0%         Customer Service & Information Allocator       0.2%       0.0%       6.6%       100.0%       Customer Service & Information S000         Customer Service & Information Allocator       0.2%       0.0%       6.6%       100.0%       Customer Service & Information Allocator       0						
High Pressure Distribution costs         High Pressure Distribution costs         High Pressure Distribution costs         High Pressure Distribution Costs \$000         PP Unit LRMC, Simet         High Pressure Distribution Costs \$000         State State         Customer Service & Information costs         Customer Service & Information Allocator         Outsomer Service & Information State         Customer Service & Information State         Calculation of Scalar:         Authorized Revenue Requirement in Rates Base Margin \$000         Agistrate Rate State         NGV Compressio						New Allocation Factors
Figh Pressure Distribution costs (HPD)           Per Unit IRMC, Smother Month Demand (mmcf)         0         0         10,314         63,437         New Allocation Factors           HDD Peak Month Demand (mmcf)         0         0         10,314         63,437         New Allocation Factors           HDD Peak Month Demand (mmcf)         0         0         10,314         63,437         New Allocation Factors           Lustome Service & Information costs         0         0.0%         6.6%         100.0%         Custome Service & Information S000         50         50         50         50           Custome Service & Information S000         50         50         50         50         50           Custome Service & Information S000         50         50         50         50           Custome Service & Information S000         \$216         \$0         \$80,662         \$2,174,570           Calculation of Scalar:         Authorized Revenue Requirement in Rates Base Margin \$000         Adjustment to Storage for Honor Rancho \$000         Transmission Cost per EC \$000           Target Scaled Costs \$000         Unscaled LRMC Reset Costs \$000         Transmission Cost per EC \$000         Transmission Cos		ΨŬ	¥.	<b>4</b> 22,012	<b>400</b> 1,202	
Per Unit LRMC, \$/mot         \$1.92 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
HPD Peak Month Demand (mmct)       0       0       10.314       63.437       New Allocation Factors         High Presure Distribution Costs \$000       \$0       \$0       \$19,263       \$118,480         Customer Service & Information Allocator       0.2%       0.0%       6.6%       100.0%         Customer Service & Information Allocator       0.2%       0.0%       6.6%       100.0%         Customer Service & Information Allocator       0.2%       0.0%       6.6%       100.0%         Customer Service & Information Allocator       0.2%       0.0%       6.6%       100.0%         Customer Service & Information Allocator       0.2%       0.0%       6.6%       100.0%         Customer Service & Information Allocator       0.2%       0.0%       6.6%       100.0%         Customer Service & Information Allocator       0.2%       0.0%       6.6%       100.0%         Unscaled LRMC Based Costs \$000       \$216       \$0       \$80.662       \$2.174.570         Calculation of Scalar.       Revenue Requirement in Rates Base Margin \$000       Adustination Scalar						
High Presure Distribution Costs \$000       \$0       \$0       \$0       \$19,263       \$118,460         Customer Service & Information costs Customer Service & Information Allocator       0.2%       0.0%       6.6%       100.0%         Customer Service & Information \$000       \$0       \$0       \$0       \$0       \$0       \$0         Unscaled LRMC Based Costs \$000       \$216       \$0       \$80,662       \$2,174,570         Calculation of Scalar:       Authorized Revenue Requirement in Rates Base Margin \$000       Adjustment to Storage for Honor Rancho \$000       Target Base Margin \$000         Less items not allocated per LRMC method:       Transmission Cost per EC \$000       Storage Costs per EC \$000         Unscaled LRMC Based Costs \$000       Unscaled LRMC Based Costs \$000       Unscaled LRMC Based Costs \$000         Unscaled LRMC Based Costs \$000       Target Base Margin \$00       Target Base Margin \$00         Less items not allocated per LRMC method:       Transmission Cost per EC \$000       Target Base Margin \$00         Unscaled LRMC Based Costs \$000       Unscaled LRMC Based Costs \$000       Unscaled LRMC Based Costs \$000         Unscaled LRMC Based Costs \$000 LRMC/Rental Method       \$166       \$0       \$30,231       \$1,116,630         Scaled defuil Pressure Distribution Costs \$000 LRMC       \$0       \$0       \$166       \$0       \$0 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
Customer Service & Information acosts Customer Service & Information Allocator       0.2%       0.0%       6.6%       100.0%         Customer Service & Information Allocator       0.2%       0.0%       6.6%       100.0%         Customer Service & Information Allocator       \$0       \$0       \$0       \$0         Unscaled LRMC Based Costs \$000       \$216       \$0       \$80,662       \$2,174,570         Calculation of Scalar:       Authorized Revenue Requirement in Rates Base Margin \$000       Adjustment to Storage for Honor Rancho \$000         Target Base Margin \$000       Less tiems not allocated per LRMC method:       Transmission Cost per EC \$000         Storage Costs per EC \$000       Uncollectibles       NGV Compression Adder Costs \$000         NGV Compression Adder Costs \$000       T7%       77%       77%         Scaled Customer Costs \$000 LRMC/Rental Method       \$166       \$0       \$30,231       \$1,116,630         Scaled High Presure Distribution Costs \$000 LRMC       \$0       \$0       \$166       \$0       \$30,937         Scaled High Presure Distribution Costs \$000 LRMC       \$0       \$0       \$0       \$0       \$0         Scaled High Presure Distribution Costs \$000 LRMC       \$0       \$0       \$0       \$0       \$0         Scaled LRMC Based Costs \$000       \$166       <						New Allocation Factors
Customer Service & Information Allocator       0.2%       0.0%       6.6%       100.0%         Customer Service & Information \$2000       \$0       \$0       \$0       \$0       \$0       \$0         Unscaled LRMC Based Costs \$000       \$216       \$0       \$80.662       \$2,174,570         Calculation of Scalar:       Authorized Revenue Requirement in Rates Base Margin \$000       Adjustment to Storage for Honor Rancho \$000       Tarasmission Cost per EC \$000         Transmission Cost per EC \$000       Storage Costs per EC \$000       Storage Costs per EC \$000       Unscaled LRMC Based Costs \$000         NGV Compression Adder Costs per EC \$000       Target Scaled Costs \$000       Target Scaled Costs \$000       T7%       T7%       T7%       T7%         Scaled Customer Costs \$000 LRMC/Rental Method       \$166       \$0       \$30.231       \$1,116,630       \$20       \$20       \$20       \$20       \$20       \$20       \$20       \$20       \$20       \$20       \$20       \$20       \$20       \$20       \$21       \$2	High Presure Distribution Costs \$000	\$0	şυ	\$19,203	\$116,460	
Customer Service & Information Allocator       0.2%       0.0%       6.6%       100.0%         Customer Service & Information \$2000       \$0       \$0       \$0       \$0       \$0       \$0         Unscaled LRMC Based Costs \$000       \$216       \$0       \$80.662       \$2,174,570         Calculation of Scalar:       Authorized Revenue Requirement in Rates Base Margin \$000       Adjustment to Storage for Honor Rancho \$000       Tarasmission Cost per EC \$000         Transmission Cost per EC \$000       Storage Costs per EC \$000       Storage Costs per EC \$000       Unscaled LRMC Based Costs \$000         NGV Compression Adder Costs per EC \$000       Target Scaled Costs \$000       Target Scaled Costs \$000       T7%       T7%       T7%       T7%         Scaled Customer Costs \$000 LRMC/Rental Method       \$166       \$0       \$30.231       \$1,116,630       \$20       \$20       \$20       \$20       \$20       \$20       \$20       \$20       \$20       \$20       \$20       \$20       \$20       \$20       \$21       \$2	Customer Service & Information costs					
Unscaled LRMC Based Costs \$000       \$216       \$0       \$80,662       \$2,174,570         Calculation of Scalar:       Authorized Revenue Requirement in Rates Base Margin \$000       Adjustment to Storage for Honor Rancho \$000         Target Base Margin \$000       Less items not allocated per LRMC method:       Transmission Cost per EC \$000         Storage Costs per EC \$000       Uncollectibles       Voltage Costs \$000         NGV Compression Adder Costs per EC \$000       Target Scaled Costs \$000         Unscaled LRMC Based Costs \$000       77%       77%         Scaled Costs \$000       \$166       \$0       \$30,231       \$1,116,630         Scaled Gustomer Costs \$000 LRMC/Rental Method       \$166       \$0       \$30,231       \$1,116,630         Scaled High Presure Distribution Costs \$000 LRMC       \$0       \$0       \$16,895       \$461,478         Scaled LRMC Based Costs \$000       \$166       \$0       \$30       \$1       \$166       \$0       \$0       \$0         Scaled LRMC Based Costs \$000 LRMC       \$0       \$0       \$16,895       \$461,478       \$20,937       \$20       \$0       \$166       \$0       \$0       \$0       \$0       \$0       \$0       \$0       \$0       \$0       \$0       \$0       \$0       \$0       \$0       \$0       \$0	Customer Service & Information Allocator	0.2%	0.0%	6.6%	100.0%	
Calculation of Scalar:         Authorized Revenue Requirement in Rates Base Margin \$000         Adjustment to Storage for Honor Rancho \$000         Target Base Margin \$000         Less items not allocated per LRMC method:         Transmission Costs per EC \$000         Storage Costs per EC \$000         Uncollectibles         NGV Compression Adder Costs per EC \$000         Uncollectibles         NGV Compression Adder Costs \$000         Unscaled LRMC Based Costs \$000         Scalar (as % of unscaled)         77%       77%         Scalar (as % of unscaled)         Scalar (big)         Scalar (big)         Scalar (as % of unscaled)         Scalar (as % of unscaled)         Scalar (big)         Scalar (big)         Scalar (as % of unsca	Customer Service & Information \$000	\$0	\$0	\$0	\$0	
Authorized Revenue Requirement in Rates Base Margin \$000         Adjustment to Storage for Honor Rancho \$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 \$000         Discaled LRMC Based Costs \$000         Scaled Midum Pressure Distribution Costs \$000 LRMC         \$0       \$0         \$0       \$0         Scaled LRMC Based Costs \$000         Market Costs \$000 LRMC         \$0       \$0         \$16       \$0         \$2         Scaled LRMC Based Costs \$000 LRMC         \$0       \$0         \$0       \$0         \$0       \$0         \$16       \$0         \$2       \$1,669,045	Unscaled LRMC Based Costs \$000	\$216	\$0	\$80,662	\$2,174,570	
Authorized Revenue Requirement in Rates Base Margin \$000         Adjustment to Storage for Honor Rancho \$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 \$000         Discaled LRMC Based Costs \$000         Scaled Midum Pressure Distribution Costs \$000 LRMC         \$0       \$0         \$0       \$0         Scaled LRMC Based Costs \$000         Market Costs \$000 LRMC         \$0       \$0         \$16       \$0         \$2         Scaled LRMC Based Costs \$000 LRMC         \$0       \$0         \$0       \$0         \$0       \$0         \$16       \$0         \$2       \$1,669,045	Only Julies of Orelan					
Adjustment to Storage for Honor Rancho \$000         Target Base Margin \$000         Less items not allocated per LRMC method:         Transmission Costs per EC \$000         Storage Costs per EC \$000         Uncollectibles         NGV Compression Adder Costs per EC \$000         Unscaled LRMC Based Costs \$000         Unscaled LRMC Based Costs \$000         Scalar (as % of unscaled)         77%       77%         Scaled Customer Costs \$000 LRMC/Rental Method         Scaled High Pressure Distribution Costs \$000 LRMC         \$0       \$0         Scaled High Pressure Distribution Costs \$000 LRMC         \$0       \$0         \$166       \$0         \$200       \$1666         \$200       \$1,669,045						
Target Base Margin \$000         Less items not allocated per LCMC method:         Transmission Cost per EC \$000         Storage Costs per EC \$000         Uncollectibles         NGV Compression Adder Costs \$000         Juncaled LRMC Based Costs \$000         Scaled Vestomer Solo \$000 LRMC/Rental Method         \$166       \$0       \$30,231         \$1,116,630         Scaled Costs \$000 LRMC/Rental Method       \$166         \$0       \$30,231       \$1,116,630         Scaled Customer Costs \$000 LRMC/Rental Method       \$166       \$0       \$30,231       \$1,116,630         Scaled High Presure Distribution Costs \$000 LRMC       \$0       \$0       \$461,478       \$2614,785         Scaled LRMC Based Costs \$000       LRMC       \$0       \$0       \$10       \$10         Scaled LRMC Based Costs \$000 LRMC       \$0       \$0       \$0       \$0       \$0         Scaled LRMC Based Costs \$000 LRMC       \$0       \$0       \$1,669,045       \$0         Scaled LRMC Based Costs \$000 LRMC       \$166       \$0       \$1,669,045       \$1         Scaled LRMC Based Costs \$000 LRMC       \$166       \$0       \$1,669,045       \$1         NGV Compression Costs:       \$10       \$1,669,045       \$1						
Less items not allocated per LRMC method: Transmission Costs per EC \$000 Uncollectibles NGV Compression Adder Costs \$000 Unscaled LRMC Based Costs \$000 Scalar (as a % of unscaled) Scaled Customer Costs \$000 LRMC/Rental Method Scaled Customer Costs \$000 LRMC/Rental Method Scaled Medium Pressure Distribution Costs \$000 LRMC Scaled High Pressure Distribution Costs \$000 LRMC Scaled High Pressure Distribution Costs \$000 LRMC Scaled LRMC Based Costs \$000 LRMC Scaled LRMC Based Costs \$000 LRMC Scaled LRMC Based Costs \$000 LRMC States Customer Service & Information Costs \$000 LRMC States Customer Service & Information Costs \$000 LRMC Scaled LRMC Based Costs \$000 LRMC States Customer Service & Information Customer						
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 Scalar (as a % of unscaled) Scalar (as a % of						
Uncollectibles NGV Compression Adder Costs per EC \$000 Target Scaled Costs \$000 Unscaled LRMC Based Costs \$000 Scalar (as a % of unscaled) Scaled Customer Costs \$000 LRMC/Rental Method Scaled Customer Costs \$000 LRMC/Rental Method Scaled Medium Pressure Distribution Costs \$000 LRMC Scaled High Pressure Distribution Costs \$000 LRMC Scaled High Pressure Distribution Costs \$000 LRMC Scaled LRMC Based Scale S						
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)         77%       77%         Scaled Customer Costs \$000 LRMC/Rental Method         \$166       \$0       \$30,231         Scaled Medium Pressure Distribution Costs \$000 LRMC       \$0       \$0         Scaled Heigh Presure Distribution Costs \$000 LRMC       \$0       \$0         Scaled High Presure Distribution Costs \$000 LRMC       \$0       \$0         Scaled LRMC Based Costs \$000       \$166       \$0       \$1,669,045	Storage Costs per EC \$000					
Target Scaled Costs \$000         Unscaled LRMC Based Costs \$000         amount to scale \$000         Scalar (as a % of unscaled)         77%       77%         Scaled Customer Costs \$000 LRMC/Rental Method       \$166       \$0       \$30,231       \$1,116,630         Scaled Medium Pressure Distribution Costs \$000 LRMC       \$0       \$0       \$16,895       \$461,478         Scaled High Pressure Distribution Costs \$000 LRMC       \$0       \$0       \$14,785       \$90,937         Scaled Customer Service & Information Costs \$000 LRMC       \$0       \$0       \$0       \$0         Scaled LRMC Based Costs \$000       \$166       \$0       \$61,910       \$1,669,045						
Unscaled LRMC Based Costs \$000 amount to scale \$000         77%         77%         77%         77%           Scalar (as % of unscaled)         77%         77%         77%         77%           Scaled Customer Costs \$000 LRMC/Rental Method         \$166         \$0         \$30,231         \$1,116,630           Scaled Medium Pressure Distribution Costs \$000 LRMC         \$0         \$0         \$16,895         \$461,478           Scaled High Pressure Distribution Costs \$000 LRMC         \$0         \$0         \$14,785         \$90,937           Scaled LRMC Based Costs \$000         \$166         \$0         \$0         \$0         \$0           Scaled LRMC Based Costs \$000         \$166         \$0         \$61,910         \$1,669,045						
amount to scale \$000         Scalar (as a % of unscaled)         77%         77%         77%         77%           Scalar (as a % of unscaled)         77%         77%         77%         77%         77%           Scaled Customer Costs \$000 LRMC/Rental Method         \$166         \$0         \$30,231         \$1,116,630           Scaled Medium Pressure Distribution Costs \$000 LRMC         \$0         \$0         \$16,895         \$461,478           Scaled Light Pressure Distribution Costs \$000 LRMC         \$0         \$0         \$14,785         \$90,937           Scaled Customer Service & Information Costs \$000 LRMC         \$0         \$0         \$0         \$0           Scaled LRMC Based Costs \$000         \$166         \$0         \$61,910         \$1,669,045						
Scalar (as a % of unscaled)         77%         77%         77%         77%           Scaled Customer Costs \$000 LRMC/Rental Method         \$166         \$0         \$30,231         \$1,116,630           Scaled Medium Pressure Distribution Costs \$000 LRMC         \$0         \$0         \$16,895         \$461,478           Scaled High Pressure Distribution Costs \$000 LRMC         \$0         \$0         \$14,785         \$90,937           Scaled Customer Service & Information Costs \$000 LRMC         \$0         \$0         \$10         \$1,669,045           Scaled LRMC Based Costs \$000         \$166         \$0         \$61,910         \$1,669,045						
Scaled Customer Costs \$000 LRMC/Rental Method         \$166         \$0         \$30,231         \$1,116,630           Scaled Guidnum Pressure Distribution Costs \$000 LRMC         \$0         \$0         \$16,895         \$461,478           Scaled High Presure Distribution Costs \$000 LRMC         \$0         \$0         \$14,785         \$90,937           Scaled LXBORDer Service & Information Costs \$000 LRMC         \$0         \$0         \$10         \$0           Scaled LRMC Based Costs \$000         \$166         \$0         \$61,910         \$1,669,045		77%	77%	77%	77%	
Scaled Medium Pressure Distribution Costs \$000 LRMC         \$0         \$0         \$16,895         \$461,478           Scaled High Pressure Distribution Costs \$000 LRMC         \$0         \$0         \$14,785         \$90,937           Scaled LRMC Based Costs \$000 LRMC         \$0         \$0         \$10         \$10           Scaled LRMC Based Costs \$000 LRMC         \$0         \$0         \$10         \$10           Scaled LRMC Based Costs \$000         \$166         \$0         \$61,910         \$1,669,045		1170	1170	1170	1170	
Scaled High Presure Distribution Costs \$000 LRMC         \$0         \$14,785         \$90,937           Scaled Customer Service & Information Costs \$000 LRMC         \$0         \$0         \$0         \$0           Scaled LRMC Based Costs \$000         \$166         \$0         \$61,910         \$1,669,045           NGV Compression Costs:         \$166         \$16         \$16         \$16	Scaled Customer Costs \$000 LRMC/Rental Method	\$166	\$0	\$30,231	\$1,116,630	
Scaled Customer Service & Information Costs \$000 LRMC         \$0         \$0         \$0         \$0           Scaled LRMC Based Costs \$000         \$166         \$0         \$61,910         \$1,669,045           NGV Compression Costs:         \$166         \$0         \$1,669,045         \$1,669,045						
Scaled LRMC Based Costs \$000         \$166         \$0         \$61,910         \$1,669,045           NGV Compression Costs:         NGV Compression Costs:         \$1,669,045						
NGV Compression Costs:						
	Scaled LRMC Based Costs \$000	\$166	<b>\$</b> 0	\$61,910	\$1,669,045	
	NGV Compression Costs:					
					\$2,440	

System Average Uncollectible Rate					
ICOIIECTIDIES					
location of Uncollectibles:					
All Costs excl. NGV Adder, EOR, Int, WS, and UBS	<mark>\$0</mark> 0.0%	<b>\$0</b>	\$151,693 7.9%	\$1,918,642 100.0%	
% All Costs excl. NGV Adder, EOR, Int, WS, and UBS	0.0% \$0	0.0%	7.9% \$434	\$5,492	
nconectiones	φu	ψŪ	9404 	\$3,4 <u>3</u> 2	
ransmisison Costs per Embedded Cost Method:					
mbedded Transmission Costs \$000					
alculate BBT/Local-T Transmission Split:					
lleastics of DDT Costs.					
Illocation of BBT Costs: CYTP Mth	91,378	0	6,064,587	10,002,651	
% CYTP	0.9%	0.0%	60.6%	100.0%	
BT Costs per EC method	\$1.353	\$0	\$89.822	\$148.148	
	. ,			,	
Ilocation of LT Costs:					
CYPM Mth	7,682	0	556,028	1,091,535	
% CYPM	0.70%	0.00%	50.94%	100.00%	
T Costs per EC method	\$470 \$1.823	\$0 \$0	\$34,002 \$123.823	\$66,748 \$214.896	
otal Transmission Costs per EC method	\$1,823	\$U	\$123,823	\$214,690	
torage Costs per EC Method (this includes HR RRQ, but does not include incrementa					
mbedded Storage Costs \$000					
lonor Rancho Revenue Requirement					
ore Storage	\$0	\$0	\$7,481	\$65.731	
oad Balancing	\$264	\$0	\$17,342	\$27,834	
Inbundled Storage	\$0	\$17,020	\$17,020	\$17,020	
otal Storage Costs \$000	\$264	\$17,020	\$41,843	\$110,585	
LLOCATED BASE MARGIN (net of misc revenue & broker fee)	\$2,253	\$17,020	\$228,012	\$2,002,458	
ercentage	0.1%	0.8%	11.4%	100.0%	
verage Year Throughput Mth	91,378	0	6,011,663	9,648,574	New Allocation Factors
verage rate \$/therm	\$0.025		\$0.038	\$0.208	

### Calculation of Customer Service & Information Costs (CSI Costs):

907 Cus Svc-Supervision + Payroll Taxes	EC Study for 2016 TCAP Phase I
908 Cus Svc-Cust Assist Exp (PBR Ex DAP, DSM &Self-Gen)	EC Study for 2016 TCAP Phase I
909 Cus Svc-Info & Instruction Exp	EC Study for 2016 TCAP Phase I
910 Cus Svc-Misc CSI Exp (PBR Ex DSM & NGV)	EC Study for 2016 TCAP Phase I

A&G loader Gen Plant Loader Total CS&I O&M, 2013 \$000's

2013#'s SCG O&M Loaders for 2 2013#'s SCG O&M Loaders for 2

	DGN	UBS	Total Noncore	SYSTEM TOTAL	Sources
Calculation of CSI Cost Allocator:					
Energy Markets Costs:					
Major Markets Staff FTE by Class (mgmnt estimate)	0.4	0.0	14.1	14.5	
Energy Markets	2.9%	0.0%	97.2%	100.0%	
Energy Markets	\$46	\$0	\$1,556	\$1,601	_
Large C&I:					
# Large C&I Customers	0	0	624	206.652	2013 Customer Count from SCG
% Large C&I only	0.0%	0.0%	0.3%	100.0%	
Large C&I	\$0	\$0	\$19	\$6,410	_
NGV	\$0	\$0	\$0	\$1,385	
Residential	\$0	ŝo	\$0	\$11.964	
Small Business	**			*,**	
# G10, G-AC, G-GE Customers only	0	0	0	206.748	2013 Customer Count from SCG
Small Business	0.0%	0.0%	0.0%	100.0%	
Small Business	\$0	\$0	\$0	\$548	_
Econ Development	<b>\$</b> 0	<b>v</b> u	<b>v</b> •	<b>\$010</b>	
# Large C&I Customers	0	0	624	206.652	2013 Customer Count from SCG
% Large C&I only	0.0%	0.0%	0.3%	100.0%	
Econ Development	<u>\$0</u>	\$0	\$0	\$41	
Other Residential	ŝo	\$0	\$0	\$1,840	
Total	\$46	\$0	\$1,575	\$23,788	_
Allocator %	0.2%	0.0%	6.6%	100.0%	
Model Results RD Format for RD Models					
Customer Related Costs	\$166	\$0	\$30,231	\$1,116,630	
Medium Pressure Distribution Costs	\$0	\$0	\$16,895	\$461,478	
High Pressure Distribution Costs	\$0	\$0	\$14,785	\$90,937	
Backbone Transmission Costs	\$1,353	\$0	\$89,822	\$148,148	
Local Transmission Costs	\$470	\$0	\$34,002	\$66,748	
Storage - Seasonal	\$0	\$0	\$7,481	\$65,731	
Storage - Load Balancing	\$264	\$0	\$17,342	\$27,834	
Storage - TBS	\$0	\$17,020	\$17,020	\$17,020	
Non-DSM Related Marketing	\$0	\$0	\$0	\$0	
Uncolletctibles	\$0	\$0	\$434	\$5,492	
NGV Compression Costs:	\$0	\$0	\$0	\$2,440	
Total Margin Allocation pre-SI & Unbundle FAR	\$2,253	\$17,020	\$228.012	\$2,002,458	
% Allocation	0.1%	0.8%	11.4%	100.0%	

	DGN	UBS	Total Noncore	SYSTEM TOTAL	Sources
Storage Costs per EC Method (this includes HR RRQ, but does not include increi					
Allocation of Storage Costs to Inventory/Inject/Withdrawal w/HR RRQ w/o incrementa					
laisation on 0/ standard and					
Injection as % storage costs					
Inventory as % storage costs Withdrawal as % storage costs					
withdrawal as % storage costs					
ore Storage Capacities:					
Number of Injection Days	0.0%	0.0%	11.9%	100.0%	
Injection MMcfd	0.0 %	0.078	46	388	
njection minicia	0	0	40	500	
% Excess Winter Demand					Demand Forecast
Inventory MMCF	0	0	9.907	83.000	Demand Forecast
	Ū	°,	0,001	00,000	Bointana i brobabi
MPD Peak Day (1-in-35 Core) Core Only MTh					
% Core MPD Peak Day					
Withdrawal MMcfd	0	0	249	2,225	Demand Forecast
				_,	
Injection \$000	\$0	\$0	\$1,676	\$14,039	
Inventory \$000	\$0	\$0	\$2,028	\$16,991	
Withdrawal \$000	\$0	\$0	\$2,185	\$19,525	
	\$0	\$0	\$5,889	\$50,556	
oad Balancing Storage Capacities:					
Injection MMcfd	2	0	125	200	
Inventory MMCF	78	0	5,100	5,100	
Withdrawal MMcfd	5	0	327	525	
Injection \$000	\$69	\$0	\$4,509	\$7,237	
Inventory \$000	\$16	\$0	\$1,044	\$1,044	
Withdrawal \$000	\$44	\$0	\$2,870	\$4,607	
	\$128	\$0	\$8,423	\$12,888	
nbundled Storage Capacities:					
njection MMcfd	0	182	182	182	
Inventory MMCF	0	48,000	48,000	48,000	
Withdrawal MMcfd	0	425	425	425	
Injection \$000	\$0	\$6,585	\$6,585	\$6,585	
Inventory \$000	\$0	\$9,826	\$9,826	\$9,826	
Withdrawal \$000	\$0	\$3,730	\$3,730	\$3,730	
	\$0	\$20,141	\$20,141	\$20,141	
otal Storage:					
njection MMcfd	2	182	353	770	
Inventory MMCF	78	48,000	63,007	136,100	
Withdrawal MMcfd	5	425	1,001	3,175	
Injection \$000	\$69	\$6,585	\$12,770	\$27,862	
Inventory \$000	\$16	\$9,826	\$12,898	\$27,862	
Withdrawal \$000	\$44	\$3,730	\$8,785	\$27,862	
otal Storage Costs per EC Method w/HR RRQ	\$128	\$20,141	\$34,454	\$83,585	
Calculation of HRSMA Allocator (allocated inventory Pre- Incremental HR & Alisc	DGN	UBS	Total Noncore	SYSTEM TOTAL	Sources

Calculation of HRSMA Allocator (allocated inventory Pre- incremental HR & Allsc	DGN	065	Total Noncore	STSTEWTOTAL	Sour
Totall allocated Inventory, pre-HR capacity and pre-Aliso MMCF	78	48,000	63,007	136,100	_
TCAP HRSMA Allocator (based on total allocated inventory as % of total inventor	0.1%	35.3%	46.3%	100.0%	

Calculate Effective Storage Rates w/ Incremental Honor Rancho Capacity (this do

Injection Inventory Withdrawal

Total

Injection Inventory Withdrawal

Total

## Allocation of Aliso Canyon Injection Capacity & Costs to Storage Classes: Core SDGE

Load Balancing UBS

 Notes:

 (1) FFU Gross to Net Factor

 (2) Transportation rates are calculated on 12-month basis, while in-service date is 1/

SCG Core Storage:         0.0%         100.0%           Core Injection Allocation adjusted for SCG Core only         \$0         \$0         \$0         \$0.0%         100.0%           SCG Core Storage \$000 w/o FFU         \$0         \$0         \$0         \$1,106         \$1,106           SDGE Core Storage \$000 w/o FFU         \$1,106         \$1,106         \$1,106         \$1,06           UBS \$000 w/o FFU         \$12,962         \$12,962         \$12,962         \$12,962
SCG Core Storage \$000 w/o FFU         \$0         \$0         \$0         \$0         \$8,157           SDGE Core Storage \$000 w/o FFU         \$1,106         \$1,106         \$1,106         \$1,106           total core storage w/o FFU         \$12,962         \$12,962         \$12,962         \$12,962
SDGE Core Storage \$000 w/o FFU         \$1,106         \$1,106           total core storage w/o FFU         \$12,962         \$12,962           UBS \$000 w/oFFU         \$12,962         \$12,962
total core storage w/o FFU           UBS \$000 w/oFFU         \$12,962         \$12,962
UBS \$000 w/oFFU \$12,962 \$12,962 \$12,962
Land Delension
Load Balancing:
ECPT incl EOR 0.9% 0.0% 62.3% 100.0% Alloc Factors
Load Balancing \$000 w/oFFU \$45 \$0 \$2,975 \$4,775
ACTR w/o FFU \$000 \$45 \$12,962 \$17,043 \$27,000
ACTR allocation % 0.2% 48.0% 63.1% 100.0%

Unbundled Storage \$000 total storage \$000

	DGN	UBS	Total Noncore	SYSTEM TOTAL	Sources
	2011	020			500.000
DIRECT (%'s Load or Cust/Mtrs Sum to 100%)					
Transmission					
Average Year Throughput (MTh)	91.378		4.723.845	4,772,622	
Cold Year Throughput (1-in-35) (MTh)	91,378		4,772,591	4,821,740	
Cold Year Peak Month (December) (MTh)	7.682		452.891	457.165	
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	248		18.412	18,565	
Number of Customers	1		111	238	
High Pressure				200	
Average Year Throughput (MTh)	0		900.119	1.043.755	
Cold Year Throughput (1-in-35) (MTh)	ő		901,525	1,049,308	
Cold Year Peak Month (December) (MTh)	0		71.517	86.298	
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	0		2.377	3.026	
Number of Customers	0		2,377	10,251	
Medium Pressure	0		299	10,251	
Average Year Throughput (MTh)	0		387,699	3,832,198	
	0		390,471	4,131,603	
Cold Year Throughput (1-in-35) (MTh)					
Cold Year Peak Month (December) (MTh)	0		31,620	548,072	
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	0		1,131	30,906	
Number of Customers CUMULATIVE (Calc'd from DIRECT %'s)	0		530	5,816,690	_
Transmission	01.070			0.040 574	
Average Year Throughput (MTh)	91,378		6,011,663	9,648,574	
Cold Year Throughput (1-in-35) (MTh)	91,378		6,064,587	10,002,651	
Cold Year Peak Month (December) (MTh)	7,682		556,028	1,091,535	
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	248		21,920	52,497	
Number of Customers	1		940	5,827,179	
High Pressure					
Average Year Throughput (MTh)	0		1,287,818	4,875,953	
Cold Year Throughput (1-in-35) (MTh)	0		1,291,996	5,180,911	
Cold Year Peak Month (December) (MTh)	0		103,137	634,370	
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	0		3,508	33,932	
Number of Customers	0		830	5,826,941	
Medium Pressure					
Average Year Throughput (MTh)	0		387,699	3,832,198	
Cold Year Throughput (1-in-35) (MTh)	0		390,471	4,131,603	
Cold Year Peak Month (December) (MTh)	0		31,620	548,072	
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	0		1,131	30,906	
	0		530	5,816,690	

	DGN	UBS	Total Noncore	SYSTEM TOTAL	Sources
2 017TCAP Phase 1 Storage Allocation Proposal					
ore Storage Capacities:					
Number of Injection Days	0.0%	0.0%	11.9%	100.0%	
Injection MMcfd	0.070	0.070	46	388	
njection minicia	0	0	40	500	
% Excess Winter Demand					Demand Forecast
nventory MMCF	0	0	9,907	83,000	Demand Forecast
IPD Peak Day (1-in-35 Core) Core Only MTh					
6 Excess Winter Demand					Demand Forecast
Vithdrawal MMcfd	0	0	249	2.225	Demand Forecast
VIIIIdrawal Minicid	0%	0%	249 11%	2,225	Demand Forecast
1					
njection \$000	\$0	\$0	\$1,150	\$9,638	
nventory \$000	\$0	\$0	\$855	\$7,160	
Vithdrawal \$000	\$0	\$0	\$5,476	\$48,933	
ad Balancing Storage Capacities:	\$0	\$0	\$7,481	\$65,731	
njection MMcfd	1%	0%	62%	100%	TCAP 2016 Phase 1
	1%	0%	62%	100%	TCAP 2016 Phase 1 TCAP 2016 Phase 1
nventory MMCF					
Vithdrawal MMcfd	1%	0%	62%	100%	TCAP 2016 Phase 1
njection \$000	\$103	\$0	\$6,768	\$10,863	
nventory \$000	\$4	\$0	\$274	\$440	
Vithdrawal \$000	\$157 \$264	\$0 \$0	\$10,300 \$17,342	\$16,531	
nbundled Storage Capacities:	¢204	<b>Ф</b> О	\$17,342	\$27,834	
njection MMcfd	0%	100%	100%	100%	
nventory MMCF	0%	100%	100%	100%	
Vithdrawal MMcfd	0%	100%	100%	100%	
njection \$000	\$0	\$3,360	\$3,360	\$3,360	
nventory \$000	\$0 \$0	\$3,360 \$4,313	\$4,313	\$4,313	
Vithdrawal \$000	\$0 \$0	\$4,313 \$9,347	\$9,347	\$9.347	
Ningrawai 2000	\$0	\$9,347	\$9,347	\$9,347 \$17,020	
tal Storage:	φŪ	φ17,020	φ17,020	\$17,020	
njection MMcfd	0	1	48	390	
nventory MMCF	Ő	1	9,908	83.002	
Vithdrawal MMcfd	0	1	251	2.227	
njection \$000	\$103	\$3,360	\$11,279	\$23,861	
iventory \$000	\$4	\$4,313	\$5,442	\$11,914	
Vithdrawal \$000	\$4 \$157	\$4,313 \$9,347	\$25,123	\$74,810	
otal Storage Costs per EC Method w/HR RRQ	\$157	\$9,347 \$17,020	\$41,843	\$14,810	

Summary of Storage Costs Core \$000 Load Balancing \$000 Unbundled Storage \$000 total storage \$000

Storage Core Allocation, per Bruce Wetzel's testimony <u>Present</u> Inventory %				
Inventory MMCF	0	0	9,334	83,000
Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd	0	0	235	2,225
Proposed % Excess Winter Demand Inventory MMCF	0	0	9,824	83,000
MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day Withdrawal MMcfd	0	0	248	2,225

	NCCI-Total	NCCI-D	NCCI-T	EOR-Total	EOR-D	EOR-T	Total EG	EG Tier 1	EG Tier 1 Dist	EG Tier 1 Trans	EG Tier 2	EG Tier 2 Dist
Customer Costs												
Per Unit LRMC, \$/Cust/Year Number of Customers	622	584	20	20	47	40	285	216.2811238	204	45	<u>co</u>	00
Customer Costs Rental Method \$000	622 \$18,758	584 \$17,616	38 \$1,142	29 \$2.407.83	17 \$1,411.49	12 \$996.34	14269.261	5462.88865	201 \$5.082.26	15 \$380.63	68 8806.372349	28 \$3,545.32
	\$10,750	\$17,010	φ1,14Z	\$2,407.03	\$1,411.49	\$990.34	14209.201	3402.00003	\$3,062.20	\$360.03	0000.372349	\$3,040.3Z
Medium Pressure Distribution costs												
Medium Pressure Distribution costs (MPD)												
Per Unit LRMC, \$/mcfd												
MPD Peak Day Demand (mmcfd)			-			-	• • • • • •					• • • • •
Medium Pressure Distribution Costs \$000	\$17,273	\$17,273	0	\$60	\$60	0	\$4,679	\$2,816	\$2,816	0	\$1,863	\$1,863
High Pressure Distribution costs												
High Pressure Distribution costs (HPD)												
Per Unit LRMC, \$/mcf												
HPD Peak Month Demand (mmcf)												
High Presure Distribution Costs \$000	\$12,779	\$12,779	0	\$2,183	\$2,183	0	\$4,301	\$1,148	\$1,148	0	\$3,152	\$3,152
Customer Service & Information costs												
Customer Service & Information Allocator	1,525,339	865,102	660,238	231,570	137,620	93,950	2,677,795	97,212	77,207	20,005	2,580,583	207,889
Customer Service & Information \$000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0	\$0
Unscaled LRMC Based Costs \$000	\$48,810	\$47,669	\$1,142	\$4,651	\$3,654	\$996	\$23,249	\$9,427	\$9,047	\$381	\$13,821	\$8,560
	φ <del>1</del> 0,010	φ+7,000	ψ1,142	φ4,001	ψ0,004	ψ330	ψ20,240	ψ0,421	ψ <del>3,0</del> +1	400 I	φ10,021	ψ0,000
Calculation of Scalar:												
Authorized Revenue Requirement in Rates Base Margin \$000												
Adjustment to Storage for Honor Rancho \$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)	77%	77%	77%	77%	77%	77%	77%	77%	77%	77%	77%	77%
Scaled Customer Costs \$000 LRMC/Rental Method	\$14,397	\$13,521	\$876	\$1,848	\$1,083	\$765	\$10,952	\$4,193	\$3,901	\$292	\$6,759	\$2,721
Scaled Medium Pressure Distribution Costs \$000 LRMC	\$13,258	\$13,258	\$0	\$46	\$46	\$0	\$3,591	\$2,162	\$2,162	\$0	\$1,430	\$1,430
Scaled High Presure Distribution Costs \$000 LRMC	\$9,808	\$9,808	\$0	\$1,676	\$1,676	\$0	\$3,301	\$881	\$881	\$0	\$2,419	\$2,419
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Scaled Customer Service & Information Costs \$000 LRMC Scaled LRMC Based Costs \$000	\$0	\$36,587	\$876	\$3,570	\$2.805	\$765	\$17,844	\$7.236	\$6,944	\$292	\$10,608	\$6,570

Compression Adder Costs \$000

	NCCI-Total	NCCI-D	NCCI-T	EOR-Total	EOR-D	EOR-T	Tota	I EG	EG Tier 1	EG Tier 1 Dist	EG Tier 1 Trans	EG Tier 2	EG Tier 2 Dist
Uncollectibles:													
Target Base Margin \$000													
System Average Uncollectible Rate													
Uncollectibles													
Allocation of Uncollectibles:							_						
All Costs excl. NGV Adder, EOR, Int, WS, and UBS	\$72,154	\$56,142	\$16,012	\$8,870	\$0	\$0	\$79,		\$9,428	\$8,686	\$742	\$70,112	\$10,734
% All Costs excl. NGV Adder, EOR, Int, WS, and UBS	3.8% \$207	2.9%	0.8% \$46	0.5%	0.0%	0.0%	4.1		0.5%	0.5%	0.0%	3.7% \$201	0.6%
Uncollectibles	\$207	\$161	\$46	\$25	\$0	\$0	\$22	28	\$27	\$25	\$2	\$201	\$31
Transmisison Costs per Embedded Cost Method: Embedded Transmission Costs \$000													
Calculate BBT/Local-T Transmission Split:													
Allocation of BBT Costs: CYTP Mth	1.529.668	869,280	660.388	004 570	137.620	00.050	0.077	705	07.040	77.007	00.005	0 500 500	007 000
% CYTP	1,529,668	869,280 8.7%	6.6%	231,570 2.3%	137,620	93,950 0.9%	2,677 26.		97,212 1.0%	77,207 0.8%	20,005 0.2%	2,580,583 25.8%	207,889 2.1%
BBT Costs per EC method	\$22,656	\$12,875	\$9,781	\$3,430	\$2,038	\$1,391	\$39.		\$1,440	\$1,144	\$296	\$38,221	\$3,079
•												,	
Allocation of LT Costs:													
CYPM Mth	124,850	68,423	56,427	19,668	11,688	7,979	234,		7,715	6,149	1,567	226,295	16,877
% CYPM	11.44% \$7.635	6.27% \$4,184	5.17% \$3,451	1.80% \$1,203	1.07% \$715	0.73% \$488	21.4 \$14,		0.71% \$472	0.56%	0.14%	20.73% \$13,838	1.55% \$1,032
Total Transmission Costs per EC method	\$30.290	\$4,184	\$13,231	\$1,203	\$2.753	\$466 \$1.879	\$14,		\$472 \$1.912	\$376	\$96	\$52,059	\$1,032
Total Transmission Costs per LC method	<i><b>400</b>,200</i>	ψ11,000	\$10,201	ψ <del>1</del> ,002	ψ2,700	ψ1,013	<i>\</i> 000,	510	\$1,512	ψ1,010	<del>QUUE</del>	402,000	ψ <del>τ</del> ,τττ
Storage Costs per EC Method (this includes HR RRQ, but does not include incrementa													
Embedded Storage Costs \$000													
Honor Rancho Revenue Requirement													
Core Storage	\$0	\$0	\$0	\$0	\$0	\$0	\$0	)	\$0	\$0	\$0	\$0	\$0
Load Balancing	\$4,400	\$2,496	\$1,905	\$668	\$397	\$271	\$0 \$7,7		\$280	\$223	\$58	\$7,444	\$53
Unbundled Storage	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0		\$0	\$0	\$0	\$0	\$0
Total Storage Costs \$000	\$4,400	\$2,496	\$1,905	\$668	\$397	\$271	\$7,7	25	\$280	\$223	\$58	\$7,444	\$53
ALLOCATED BASE MARGIN (net of misc revenue & broker fee)	\$70,097	\$55,019	\$15,079	\$8,552	\$5,751	\$2,776	\$75,		\$9,311	\$8,596	\$714	\$66,484	\$11,003
Percentage	3.5%	2.7%	0.8%	0.4%	0.3%	0.1%	3.8	3%	0.5%	0.4%	0.0%	3.3%	0.5%
Average Year Throughput Mth													
average rate \$/therm													

Calculation of Customer Service & Information Costs (CSI Costs): 907 Cus Svc-Supervision + Payroll Taxes 908 Cus Svc-Cust Assist Exp (PBR Ex DAP, DSM &Self-Gen) 909 Cus Svc-Info & Instruction Exp 910 Cus Svc-Info & Instruction Exp 910 Cus Svc-Misc CSI Exp (PBR Ex DSM & NGV)

A&G loader	016TCAP
Gen Plant Loader	016TCAP
Total CS&I O&M, 2013 \$000's	

<u>Calculation of CSI Cost Allocator:</u> Energy Markets Costs: Major Markets Staff FTE by Class (mgmnt estimate) Energy Markets	
Energy Markets	
Large C&I:	
# Large C&I Customers	Cust Cost model "cust 2"
% Large C&I only	
Large C&I	
NGV	
Residential	
Small Business	
# G10, G-AC, G-GE Customers only	Cust Cost model "cust 2"
Small Business	
Small Business	
Econ Development	
# Large C&I Customers	Cust Cost model "cust 2"
% Large C&I only	
Econ Development	
Other Residential	
Total	
Allocator %	

Model Results RD Format for RD Models													
Customer Related Costs	\$14,397	\$13,521	\$876	\$1,848	\$1,083	\$765		\$10,952	\$4,193	\$3,901	\$292	\$6,759	\$2,721
Medium Pressure Distribution Costs	\$13,258	\$13,258	\$0	\$46	\$46	\$0		\$3,591	\$2,162	\$2,162	\$0	\$1,430	\$1,430
High Pressure Distribution Costs	\$9,808	\$9,808	\$0	\$1,676	\$1,676	\$0		\$3,301	\$881	\$881	\$0	\$2,419	\$2,419
Backbone Transmission Costs	\$22,656	\$12,875	\$9,781	\$3,430	\$2,038	\$1,391		\$39,660	\$1,440	\$1,144	\$296	\$38,221	\$3,079
Local Transmission Costs	\$7,635	\$4,184	\$3,451	\$1,203	\$715	\$488		\$14,310	\$472	\$376	\$96	\$13,838	\$1,032
Storage - Seasonal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Storage - Load Balancing	\$4,400	\$2,496	\$1,905	\$668	\$397	\$271	\$0	\$7,725	\$280	\$223	\$58	\$7,444	\$53
Storage - TBS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Non-DSM Related Marketing	\$0	\$0	\$0	\$0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
Uncolletctibles	\$207	\$161	\$46	\$25	\$0	\$0		\$228	\$27	\$25	\$2	\$201	\$31
NGV Compression Costs:	\$0	\$0	\$0	\$0	\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0
Total Margin Allocation pre-SI & Unbundle FAR	\$72,360	\$56,302	\$16,058	\$8,895	\$5,955	\$2,915		\$79,767	\$9,455	\$8,711	\$744	\$70,312	\$10,765
% Allocation	3.5%	2.7%	0.8%	0.4%	0.3%	0.1%		3.8%	0.5%	0.4%	0.0%	3.3%	0.5%

	NCCI-Total	NCCI-D	NCCI-T	EOR-Total	EOR-D	EOR-T	Total EG	EG Tier 1	EG Tier 1 Dist	EG Tier 1 Trans	EG Tier 2	EG Tier 2 Dist
Storage Costs per EC Method (this includes HR RRQ, but does not include incree Allocation of Storage Costs to Inventory/Inject/Withdrawal w/HR RRQ w/o incrementa												
Allocation of Storage Costs to inventory inject/withdrawar_write RRQ_wo incrementa												
Injection as % storage costs												
Inventory as % storage costs												
Withdrawal as % storage costs												
Core Storage Capacities:												
Number of Injection Days												
Injection MMcfd												
% Excess Winter 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												
-	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Load Balancing Storage Capacities:												
Injection MMcfd Inventory MMCF												
Withdrawal MMcfd												
Injection \$000												
Inventory \$000 Withdrawal \$000	1,525,339 100.0%	865,102 56,7%	660,238 43,3%	231,570 100.0%	137,620 59.4%	93,950 40.6%	2,677,795	97,212 100.0%	77,207 79.4%	20,005 20.6%	2,580,583 100.0%	207,889 8.1%
	\$2,137.29	\$1,212.17	\$925.12	\$324.47	\$192.83	\$131.64	\$3,752.11	\$136.21	\$108.18	\$28.03	\$3,615.89	\$291.29
Unbundled Storage Capacities:												
Injection MMcfd Inventory MMCF												
Withdrawal MMcfd												
Injection \$000												
Inventory \$000												
Withdrawal \$000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Storage:	ψu	ΨŬ	ψũ	ψu	ψŪ	ψũ	ψŬ	ψũ	ψu	ψŪ	ψū	<i>Q</i> O
Injection MMcfd												
Inventory MMCF Withdrawal MMcfd												
Injection \$000												
Inventory \$000												
Withdrawal \$000 Total Storage Costs per EC Method w/HR RRQ	\$2,137	\$1,212	\$925	\$324	\$193	\$132	\$3,752	\$136	\$108	\$28	\$3,616	\$291
Total otorage oosta per Lo meniou write title	¥=,	¥., <b>_</b>	<b>4020</b>	¥01.	<b></b>	<b></b>	¥0,102	<b></b>	<b></b>	¥20	<del>,</del> ,,,,,,	¥=•.
Calculation of HRSMA Allocator (allocated inventory Pre- Incremental HR & Alisc Totall allocated Inventory, pre-HR capacity and pre-Aliso MMCF												
TCAP HRSMA Allocator (based on total allocated inventory as % of total inventor												
Calculate Effective Storage Rates w/ Incremental Honor Rancho Capacity (this de												
Injection												
Inventory Withdrawal												
Total												

	EG Tier 2 Trans	D/T Split Allocator
Customer Costs		_
Per Unit LRMC, \$/Cust/Year		
Number of Customers	41	
Customer Costs Rental Method \$000	\$5,261.05	# of customers
Medium Pressure Distribution costs		
Medium Pressure Distribution costs (MPD)		
Per Unit LRMC, \$/mcfd		
MPD Peak Day Demand (mmcfd)		
Medium Pressure Distribution Costs \$000	0	100% D
High Pressure Distribution costs		
High Pressure Distribution costs (HPD)		
Per Unit LRMC, \$/mcf		
HPD Peak Month Demand (mmcf)		_
High Presure Distribution Costs \$000	0	100% D
Customer Service & Information costs		
Customer Service & Information Allocator	2,372,694	_
Customer Service & Information \$000	\$0	AYTP
Unscaled LRMC Based Costs \$000	\$5,261	-
Calculation of Scalar:		
Authorized Revenue Requirement in Rates Base Margin \$000		
Adjustment to Storage for Honor Rancho \$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)	77%	
Scaled Customer Costs \$000 LRMC/Rental Method	\$4,038	
Scaled Medium Pressure Distribution Costs \$000 LRMC	\$0	
	\$0	
Scaled High Presure Distribution Costs \$000 LRMC	φU	
Scaled High Presure Distribution Costs \$000 LRMC Scaled Customer Service & Information Costs \$000 LRMC Scaled LRMC Based Costs \$000	\$0	

NGV Compression Costs: Compression Adder Costs \$000

	EG Tier 2 Trans	D/T Split Allocator
Uncollectibles: Target Base Margin \$000 System Average Uncollectible Rate Uncollectibles		
Allocation of Uncollectibles: All Costs excl. NGV Adder, EOR, Int, WS, and UBS % All Costs excl. NGV Adder, EOR, Int, WS, and UBS Uncollectibles	\$59,378 3.1% <b>\$170</b>	
Transmisison Costs per Embedded Cost Method: Embedded Transmission Costs \$000 Calculate BBT/Local-T Transmission Split:		2016TCAP Phase I
Allocation of BBT Costs: CYTP Mth % CYTP BBT Costs per EC method	2,372,694 23.7% <b>\$35,142</b>	CYTP
Allocation of LT Costs: CYPM Mth % CYPM LT Costs per EC method Total Transmission Costs per EC method	209,418 19.19% <b>\$12,806</b> <b>\$47,948</b>	_
Storage Costs per EC Method (this includes HR RRQ, but does not include incrementa Embedded Storage Costs \$000 Honor Rancho Revenue Requirement		=
Core Storage Load Balancing Unbundled Storage Total Storage Costs \$000	\$0 \$7,392 \$0 <b>\$7,392</b>	_
ALLOCATED BASE MARGIN (net of misc revenue & broker fee) Percentage	<b>\$55,480</b> 2.8%	=

Percentage Average Year Throughput Mth average rate \$/therm

Calculation of Customer Service & Information Costs (CSI Costs): 907 Cus Svc-Supervision + Payroll Taxes 908 Cus Svc-Cust Assist Exp (PBR Ex DAP, DSM &Self-Gen) 909 Cus Svc-Info & Instruction Exp 910 Cus Svc-Misc CSI Exp (PBR Ex DSM & NGV)

A&G loader Gen Plant Loader Total CS&I O&M, 2013 \$000's

EG Tier 2 Trans D/T Split Allocator

Calculation of CSI Cost Allocator:
Energy Markets Costs:
Major Markets Staff FTE by Class (mgmnt estimate)
Energy Markets
Energy Markets
Large C&I:
# Large C&I Customers
% Large C&I only
Large C&I
NGV
Residential
Small Business
# G10, G-AC, G-GE Customers only
Small Business
Small Business
Econ Development
# Large C&I Customers
% Large C&I only
Econ Development
Other Residential
Total
Allocator %

Model Results RD Format for RD Models	
Customer Related Costs	\$4,038
Medium Pressure Distribution Costs	\$0
High Pressure Distribution Costs	\$0
Backbone Transmission Costs	\$35,142
Local Transmission Costs	\$12,806
Storage - Seasonal	\$0
Storage - Load Balancing	\$7,392
Storage - TBS	\$0
Non-DSM Related Marketing	\$0
Uncolletctibles	\$170
NGV Compression Costs:	\$0
Total Margin Allocation pre-SI & Unbundle FAR	\$59,548
% Allocation	2.8%

	EG Tier 2 Trans	D/T Split Allocator
Storage Costs per EC Method (this includes HR RRQ, but does not include increi		
Allocation of Storage Costs to Inventory/Inject/Withdrawal w/HR RRQ w/o incrementa		
Injection as % storage costs		
Inventory as % storage costs		
Withdrawal as % storage costs		
Core Character Connectificat		
Core Storage Capacities: Number of Injection Days		
Injection MMcfd		
% Excess Winter Demand		
Inventory MMCF		
MPD Deals Day (4 is 25 Case) Case Only, MTh		
MPD Peak Day (1-in-35 Core) Core Only MTh % Core MPD Peak Day		
Withdrawal MMcfd		
Injection \$000		
Inventory \$000		
Withdrawal \$000		_
	\$0	
oad Balancing Storage Capacities:		
Injection MMcfd		
Inventory MMCF		
Withdrawal MMcfd		
Injection \$000 Inventory \$000	2,372,694	AYTP
Withdrawal \$000	2,372,694 91.9%	
vvitndrawai \$000	\$3,324.60	AYTP per class
Inbundled Storage Capacities:	\$5,524.00	
Injection MMcfd		
Inventory MMCF		
Withdrawal MMcfd		
Injection \$000		
Inventory \$000		
Withdrawal \$000		_
	\$0	
iotal Storage: Injection MMcfd		
Inventory MMCF		
Withdrawal MMcfd		
Injection \$000		
Inventory \$000		
Withdrawal \$000		
otal Storage Costs per EC Method w/HR RRQ	\$3,325	-
		-
Calculation of HRSMA Allocator (allocated inventory Pre- Incremental HR & Alisc		
Totall allocated Inventory, pre-HR capacity and pre-Aliso MMCF		
CAP HRSMA Allocator (based on total allocated inventory as % of total inventor		
Calculate Effective Storage Rates w/ Incremental Honor Rancho Capacity (this do		
Salculate Effective Storage Rates w/ incremental Honor Rancho Capacity (this ut		
Injection		
Inventory		
Withdrawal		
Fotal		

	NCCI-Total	NCCI-D	NCCI-T	EOR-Total	EOR-D	EOR-T	Total EG	EG Tier 1	EG Tier 1 Dist	EG Tier 1 Trans	EG Tier 2	EG Tier 2 Dist
2												
2017TCAP Phase 1 Storage Allocation Proposal												
Core Storage Capacities:												
Number of Injection Days												
Injection MMcfd												
Injection Minicia												
% Excess Winter Demand												
Inventory MMCF												
MPD Peak Day (1-in-35 Core) Core Only MTh												
% Excess Winter Demand												
Withdrawal MMcfd												
Withdrawai Mixed												
Injection \$000												
Inventory \$000												
Withdrawal \$000												
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Load Balancing Storage Capacities:	φυ	ψŪ	ψυ	ψυ	ψŪ	φυ	ψυ	ψυ	\$0	ψŪ	ψυ	<b>4</b> 0
Injection MMcfd												
Inventory MMCF												
Withdrawal MMcfd												
Injection \$000												
Inventory \$000	1,525,339	865,102	660,238	231.570	137,620	93,950	2,486,783	97,212	77,207	20,005	2,389,571	16,877
Withdrawal \$000	100.0%	56.7%	43.3%	100.0%	59.4%	40.6%	2,400,700	100.0%	79.4%	20.6%	100.0%	0.7%
Williawai \$000	\$4,400	\$2,496	\$1,905	\$668	\$397	\$271	\$7,725	\$280	\$223	\$58	\$7,444	\$53
	\$4,400	\$2,496	\$1,905	2000	\$397	\$271	\$7,725	\$280	\$223	906	\$7,444	<b>\$</b> 03
Unbundled Storage Capacities:												
Injection MMcfd												
Inventory MMCF												
Withdrawal MMcfd												
Injection \$000												
Inventory \$000												
Withdrawal \$000												
withdrawai \$000						••				•	<b>.</b>	
	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Storage:												
Injection MMcfd												
Inventory MMCF												
Withdrawal MMcfd												
Injection \$000												
Inventory \$000												
Withdrawal \$000												
Total Storage Costs per EC Method w/HR RRQ	\$4,400	\$2,496	\$1,905	\$668	\$397	\$271	\$7,725	\$280	\$223	\$58	\$7,444	\$53
Summary of Storage Costs for RATE TABLES under new method:												
Core \$000												
Load Balancing \$000												
Unbundled Storage \$000	_											
total storage \$000	_											
	_											

### NCCI-Total NCCI-D NCCI-T EOR-Total 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 Tier 2 Trans	D/T Split Allocator
2		
2017TCAP Phase 1 Storage Allocation Proposal Core Storage Capacities:		
Number of Injection Days		
Injection MMcfd		
% Excess Winter Demand		
Inventory MMCF		
MPD Peak Day (1-in-35 Core) Core Only MTh % Excess Winter Demand		
Withdrawal MMcfd		
Injection \$000		
Inventory \$000		
Withdrawal \$000		_
	\$0	
Load Balancing Storage Capacities:		
Injection MMcfd Inventory MMCF		
Withdrawal MMcfd		
Injection \$000		
Inventory \$000	2,372,694	AYTP
Withdrawal \$000	99.3%	AYTP per class
	\$7,392	
Unbundled Storage Capacities:		
Injection MMcfd		
Inventory MMCF Withdrawal MMcfd		
Injection \$000		
Inventory \$000		
Withdrawal \$000		
	\$0	_
Total Storage:		
Injection MMcfd		
Inventory MMCF		
Withdrawal MMcfd		
Injection \$000 Inventory \$000		
Withdrawal \$000		
Total Storage Costs per EC Method w/HR RRQ	\$7,392	—
		-
Summary of Storage Costs for RATE TABLES under new method:		
Core \$000		
Load Balancing \$000		
Unbundled Storage \$000 total storage \$000		
IUIAI SIUIAYE OUUU	_	

TABLE 11 UNSCALED LONG RUN MARGINAL COST REVENUES CUSTOMER COST							
Customer Class	Customer LRMC \$/customer A	Customer Count B	Customer Cost \$000 C				
Residential	\$224	5,617,809	\$1,256,152				
Core C/I	\$711	207,317	\$147,464				
Gas A/C	\$5,865	9	\$53				
Gas Engine	\$5,085	745	\$3,788				
NGV	\$22,281	359	\$7,993				
Total Core			\$1,415,451				
Noncore C/I	\$30,179	622	\$18,758				
Small EG	\$25,258	216	\$5,463				
Large EG	\$128,644	68	\$8,806				
EOR	\$83,029	29	\$2,408				
Total Retail Noncore			\$35,435				
Long Beach	\$886,337	1	\$886				
SDG&E	\$1,513,039	1	\$1,513				
Southwest Gas	\$797,252	1	\$797				
Vernon	\$539,223	1	\$539				
DGN	\$216,430	1	\$216				
Total Wholesale			\$3,952				
UBS	\$0	0	\$0				
BTS	\$0	0	\$0				
Total Noncore			\$39,387				
Total SoCalGas			\$1,454,838				

TABLE 12 UNSCALED LONG RUN MARGINAL COST REVENUES DISTRIBUTION COSTS								
Customer Class	MPD LRMC \$/mcfd A	MPD Peak Day (mcfd) B	MPD Costs \$000 C	HPD LRMC \$/mcf D	HPD Peak Month Demand (mcf) E	HPD Costs \$000 F		
Residential	\$200.38	2,345,287	\$469,949	\$1.92	39,076,037	\$75,171		
Core C/I	\$200.38	529,071	\$106,015	\$1.92	11,426,499	\$21,981		
Gas A/C	\$200.38	59	\$12	\$1.92	3,630	\$7		
Gas Engine	\$200.38	3,578	\$717	\$1.92	133,820	\$257		
NGV	\$200.38	12,707	\$2,546	\$1.92	935,981	\$1,801		
Total Core			\$579,240			\$99,217		
Noncore C/I	\$200.38	86,202	\$17,273	\$1.92	6,643,003	\$12,779		
Small EG	\$200.38	14,054	\$2,816	\$1.92	596,963	\$1,148		
Large EG	\$200.38	9,296	\$1,863	\$1.92	1,638,566	\$3,152		
EOR	\$200.38	299	\$60	\$1.92	1,134,788	\$2,183		
Total Retail Noncore			\$22,012			\$19,263		
Long Beach	\$200.38	0	\$0	\$1.92	0	\$0		
SDG&E	\$200.38	0	\$0	\$1.92	0	\$0		
Southwest Gas	\$200.38	0	\$0	\$1.92	0	\$0		
Vernon	\$200.38	0	\$0	\$1.92	0	\$0		
DGN	\$200.38	0	\$0	\$1.92	0	\$0		
Total Wholesale			\$0			\$0		
UBS	\$200.38	0	\$0	\$1.92	0	\$0		
BTS	\$0.00	0	\$0	\$0.00	0	\$0		
Total Noncore			\$22,012			\$19,263		
Total SoCalGas			\$601,252			\$118,480		

SCAL	ED CUSTOMER		ON COSTS									
		\$ 000										
			\$ 000									
Customer Cost	MPD	HPD	Unscaled LRMC Revenues	Scalar	Scaled LRMC Revenues							
А	В	С	D=A+B+C	Е	F=D*E							
\$1,256,152	\$469,949	\$75,171	\$1,801,273	77%	\$1,382,528							
\$147,464	\$106,015	\$21,981	\$275,461	77%	\$211,424							
\$53	\$12	\$7	\$72	77%	\$55							
\$3,788	\$717	\$257	\$4,763	77%	\$3,656							
\$7,993	\$2,546	\$1,801	\$12,340	77%	\$9,471							
\$1,415,451	\$579,240	\$99,217	\$2,093,908	77%	\$1,607,134							
\$18,758	\$17,273	\$12,779	\$48,810	77%	\$37,463							
\$5,463	\$2,816	\$1,148	\$9,427	77%	\$7,236							
\$8,806	\$1,863	\$3,152	\$13,821	77%	\$10,608							
\$2,408	\$60	\$2,183	\$4,651	77%	\$3,570							
\$35,435	\$22,012	\$19,263	\$76,710	77%	\$58,877							
\$886	\$0	\$0	\$886	77%	\$680							
\$1,513	\$0	\$0	\$1,513	77%	\$1,161							
\$797	\$0	\$0	\$797	77%	\$612							
\$539	\$0	\$0	\$539	77%	\$414							
\$216	\$0	\$0	\$216	77%	\$166							
\$3,952	\$0	\$0	\$3,952	77%	\$3,033							
\$0	\$0	\$0	\$0	77%	\$0							
\$0	\$0	\$0	\$0	77%	\$0							
\$39,387	\$22,012	\$19,263	\$80,662	77%	\$61,910							
\$1,454,838	\$601,252	\$118,480	\$2,174,570	77%	\$1,669,045							
	\$1,256,152 \$147,464 \$53 \$3,788 \$7,993 \$1,415,451 \$18,758 \$5,463 \$8,806 \$2,408 \$35,435 \$886 \$1,513 \$797 \$539 \$216 \$3,952 \$0 \$0 \$0 \$39,387	\$1,256,152       \$469,949         \$147,464       \$106,015         \$53       \$12         \$3,788       \$717         \$7,993       \$2,546         \$1,415,451       \$579,240         \$18,758       \$17,273         \$5,463       \$2,816         \$8,806       \$1,863         \$2,408       \$60         \$35,435       \$22,012         \$8866       \$0         \$1,513       \$0         \$797       \$0         \$539       \$0         \$216       \$0         \$3,952       \$0         \$0       \$0         \$0       \$0	\$1,256,152       \$469,949       \$75,171         \$147,464       \$106,015       \$21,981         \$53       \$12       \$7         \$3,788       \$717       \$257         \$7,993       \$2,546       \$1,801         \$1,415,451       \$579,240       \$99,217         \$18,758       \$17,273       \$12,779         \$5,463       \$2,816       \$1,148         \$8,806       \$1,863       \$3,152         \$2,408       \$60       \$2,183         \$35,435       \$22,012       \$19,263         \$886       \$0       \$0         \$1,513       \$0       \$0         \$216       \$0       \$0         \$3,952       \$0       \$0         \$0       \$0       \$0         \$39,387       \$22,012       \$19,263	\$1,256,152       \$469,949       \$75,171       \$1,801,273         \$147,464       \$106,015       \$21,981       \$275,461         \$53       \$12       \$7       \$72         \$3,788       \$717       \$257       \$4,763         \$7,993       \$2,546       \$1,801       \$12,340         \$1,415,451       \$579,240       \$99,217       \$2,093,908         \$18,758       \$17,273       \$12,779       \$448,810         \$5,463       \$2,816       \$1,148       \$9,427         \$8,806       \$1,863       \$3,152       \$13,821         \$2,408       \$60       \$2,183       \$4,651         \$35,435       \$22,012       \$19,263       \$76,710         \$886       \$0       \$0       \$1,513         \$797       \$0       \$0       \$797         \$539       \$0       \$0       \$216         \$3,952       \$0       \$0       \$216         \$30       \$0       \$0       \$216         \$30       \$0       \$0       \$0         \$216       \$0       \$0       \$0         \$39,952       \$0       \$0       \$0         \$0       \$0       \$0       \$0 <td>\$1,256,152       \$469,949       \$75,171       \$1,801,273       77%         \$147,464       \$106,015       \$21,981       \$275,461       77%         \$53       \$12       \$7       \$72       77%         \$3,788       \$717       \$257       \$4,763       77%         \$7,993       \$2,546       \$1,801       \$12,340       77%         \$14,15,451       \$579,240       \$99,217       \$2,093,908       77%         \$18,758       \$17,273       \$12,779       \$48,810       77%         \$5,463       \$2,816       \$1,148       \$9,427       77%         \$8,806       \$1,863       \$3,152       \$13,821       77%         \$2,408       \$60       \$2,183       \$4,651       77%         \$35,435       \$22,012       \$19,263       \$76,710       77%         \$35,435       \$22,012       \$19,263       \$76,710       77%         \$35,952       \$0       \$0       \$1,513       77%         \$216       \$0       \$0       \$216       77%         \$0       \$0       \$0       \$3,952       \$7%         \$0       \$0       \$0       \$77%       \$3,952         \$0</td>	\$1,256,152       \$469,949       \$75,171       \$1,801,273       77%         \$147,464       \$106,015       \$21,981       \$275,461       77%         \$53       \$12       \$7       \$72       77%         \$3,788       \$717       \$257       \$4,763       77%         \$7,993       \$2,546       \$1,801       \$12,340       77%         \$14,15,451       \$579,240       \$99,217       \$2,093,908       77%         \$18,758       \$17,273       \$12,779       \$48,810       77%         \$5,463       \$2,816       \$1,148       \$9,427       77%         \$8,806       \$1,863       \$3,152       \$13,821       77%         \$2,408       \$60       \$2,183       \$4,651       77%         \$35,435       \$22,012       \$19,263       \$76,710       77%         \$35,435       \$22,012       \$19,263       \$76,710       77%         \$35,952       \$0       \$0       \$1,513       77%         \$216       \$0       \$0       \$216       77%         \$0       \$0       \$0       \$3,952       \$7%         \$0       \$0       \$0       \$77%       \$3,952         \$0							

	TABLE 14 ALLOCATION OF BASE MARGIN								
\$ 000									
			\$ 00	J					
Customer Class	Scaled LRMC Revenues	Uncollect	BTS	Local Trans	NGV Public Access	Storage	Allocated Bas Margin		
	A	В	С	D	E	F	G		
Residential	\$1,382,528	\$4,296	\$0	\$24,613	\$0	\$53,855	\$1,465,292		
Core C/I	\$211,424	\$710	\$0	\$7,249	\$0	\$13,478	\$232,862		
Gas A/C	\$55	\$0	\$0	\$2	\$0	\$6	\$64		
Gas Engine	\$3,656	\$12	\$0	\$88	\$0	\$180	\$3,936		
NGV	\$9,471	\$40	\$0	\$794	\$2,440	\$1,222	\$13,967		
Total Core	\$1,607,134	\$5,058	\$0	\$32,747	\$2,440	\$68,742	\$1,716,121		
Noncore C/I	\$37,463	\$207	\$0	\$7,635	\$0	\$4,400	\$49,705		
Small EG	\$7,236	\$27	\$0	\$472	\$0	\$280	\$8,015		
Large EG	\$10,608	\$201	\$0	\$13,838	\$0	\$7,444	\$32,092		
EOR	\$3,570	\$0	\$0	\$1,203	\$0	\$668	\$5,440		
Retail Noncore	\$58,877	\$434	\$0	\$23,147	\$0	\$12,793	\$95,252		
Long Beach	\$680	\$0	\$0	\$613	\$0	\$212	\$1,505		
SDG&E	\$1,161	\$0	\$0	\$8,623	\$0	\$11,092	\$20,876		
Southwest Gas	\$612	\$0	\$0	\$648	\$0	\$189	\$1,449		
Vernon	\$414	\$0	\$0	\$500	\$0	\$274	\$1,189		
DGN	\$166	\$0	\$0	\$470	\$0	\$264	\$900		
Total Wholesale	\$3,033	\$0	\$0	\$10,854	\$0	\$12,030	\$25,918		
UBS	\$0	\$0	\$0	\$0	\$0	\$17,020	\$17,020		
BTS			\$148,148				\$148,148		
Total Noncore	\$61,910	\$434	\$148,148	\$34,002	\$0	\$41,843	\$286,338		
Total SoCalGas	\$1,669,045	\$5,492	\$148,148	\$66,748	\$2,440	\$110,585	\$2,002,458		
				-					
NCCI-D	\$36,587	\$161	\$0	\$4,184	\$0	\$2,496	\$43,427		
EOR-D	\$2,805	\$0		\$715		\$397	\$3,917		
EG-D T1	\$6,944	\$25	\$0	\$376	\$0	\$223	\$7,567		
EG-D T2	\$6,570	\$31	\$0	\$1,032	\$0	\$53	\$7,686		
TLS	\$9,005	\$218	\$0	\$27,695	\$0	\$21,656	\$58,573		
Total	\$61,910	\$434	\$0	\$34,002	\$0	\$24,823	\$121,170		

TABLE 15 COST ALLOCATION COMPARISON								
	\$ 000							
	<b>\$ 000</b>							
Customer Class	Proposed Allocation of Base Margin A	% Total B	Current Allocation o Base Margin C	f % Total D				
Residential	\$1,465,292	73.2%	\$1,435,087	72.3%				
Core C/I	\$232,862	11.6%	\$277,662	14.0%				
Gas A/C	\$64	0.0%	\$74	0.0%				
Gas Engine	\$3,936	0.2%	\$2,071	0.1%				
NGV	\$13,967	0.7%	\$9,940	0.5%				
Total Core	\$1,716,121	85.7%	\$1,724,834	86.9%				
Noncore C/I	\$49,705	2.5%	\$57,226	2.9%				
Small EG	\$8,015	0.4%	\$4,577	0.2%				
Large EG	\$32,092	1.6%	\$31,375	1.6%				
EOR	\$5,440	0.3%	\$5,004	0.3%				
Total Retail Noncore	\$95,252	4.8%	\$98,182	4.9%				
Long Beach	\$1,505	0.1%	\$1,357	0.1%				
SDG&E	\$20,876	1.0%	\$14,782	0.7%				
Southwest Gas	\$1,449	0.1%	\$1,294	0.1%				
Vernon	\$1,189	0.1%	\$974	0.0%				
DGN	\$900	0.0%	\$611	0.0%				
Total Wholesale	\$25,918	1.3%	\$19,017	1.0%				
UBS	\$17,020	0.8%	\$26,476	1.3%				
BTS	\$148,148	7.4%	\$116,052	5.8%				
Total Noncore	\$286,338	14.3%	\$259,726	13.1%				
Total SoCalGas	\$2,002,458	100.0%	\$1,984,561	100.0%				

Note: Difference of \$18 million: Aliso Canyon \$27 million less Honor Rancho \$9 million