

SDG&E 2020 TCAP

Workpapers in support of the direct testimony of
Michael Foster

Section 1 – LRMC Customer Costs

Section 2 – LRMC Distribution Costs

Section 3 – LRMC Overhead Loaders

Section 4 – Cost Allocation

Section 5 – ARM Factor Calculations

Section 6 – Minimum Capital Costs LRMC Model

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SDG&E 2020 TCAP

**Section 1
Customer Costs Model for LRMC Studies**

SDG&E Cost Allocation LRM Customer Costs Costs Results

A	Residential B	NGV D	CCI C	Total Core E	Total NCCI F	EG Tier 1 G	EG Tier 2 H	Total EG I	Total NonCore J	System Total K
Customer Costs Rental Method	\$234.46	\$1,081.51	\$436.66	\$212.36	\$2,469.36	\$1,833.47	\$3,171.57	\$2,089.11	\$2,220.48	\$241.78
Customer Costs NCO Method	\$80.71	\$268.52	\$187.40	\$55.37	\$886.34	\$758.70	\$1,349.88	\$729.72	\$727.69	\$217.35
Customer Costs NCO RCA	\$322.07	\$1,204.01	\$530.91	\$300.20	\$607.89	\$489.32	\$948.54	\$569.19	\$573.97	\$63.63
Customer Costs 50/50 NCO/RECC	\$278.27	\$1,142.76	\$483.79	\$256.28	\$1,538.62	\$1,161.40	\$2,060.06	\$1,329.15	\$1,397.22	\$152.71

LRMC O&M Loader Model

	Input	Source (1)
O&M w/o A&G HPD	\$768.63	LF-O&M Tab
O&M w/o A&G MPD	\$16,671.72	LF-O&M Tab
Marginal Percent of O&M HPD	74.63%	Dist O&M MC
Marginal Percent of O&M MPD	74.63%	Dist O&M MC
Marginal A&G/Payroll Taxes Loading Factor as a % of O&M expenses	23.95%	LF-A&G Tab
General Plant Loading Factor as a % of O&M expenses	17.59%	LF-GPL Tab
Annualized M&S Customer Related Costs \$000/yr	\$135,355.32	LF-M&S Tab
Annualized M&S HDP Distribution Load Related Costs \$000/yr	\$46,364.81	LF-M&S Tab
Annualized M&S MDP Distribution Load Related Costs \$000/yr	\$189,326.29	LF-M&S Tab
O&M WEF for Escalation	1.10	O&M WEF Tab
Marginal Cust-Rel O&M		
870 - Operation Supervision & Engineering	\$5,679	Dist O&M MC
871 - Distribution Load Dispatching	\$26	Dist O&M MC
874 - Mains & Services Expenses	\$3,346	Dist O&M MC
875 - Measuring & Regulating Station Expenses	\$0	Dist O&M MC
878 - Meter & House Regulator Expenses	\$4,772	Dist O&M MC
879 - Customer Installations Expenses	\$10,019	Dist O&M MC
880 - Other Expenses	\$6,601	Dist O&M MC
881 - Rents	\$0	Dist O&M MC
885 - Maint Supervision & Engineering	\$10	Dist O&M MC
887 - Maintenance of Mains	\$1,002	Dist O&M MC
888 - Maintenance Of Compressor Station Eq	\$0	Dist O&M MC
889 - Maintenance of Meas. & Reg Station Eq	\$0	Dist O&M MC
892 - Maintenance of Services	\$1,792	Dist O&M MC
893 - Maint of Meters & House Regulators	\$1,266	Dist O&M MC
894 - Maintenance of Other Equipment	\$325	Dist O&M MC

Notes:

(1) from "SDGE OM Loaders" file:

TABLE 11 - LRM Customer Cost

0

A	Res					NGV	GN-3	Total Core
	G-R	G-M	G-S	G-T	Total Res			
B	C	D	E	F	G	H	I	
Annualized SRM Cost \$/customer/yr 2020\$s	\$169.86	\$193.25	\$300.14	\$567.44	\$174.40	\$918.73	\$276.70	\$177.92
O&M \$/customer/yr								
FERC 870 - 894: Distribution O&M (M\$)	\$30,341	\$800	\$23	\$60	\$31,224	\$6	\$3,200	\$17,629
FERC 901 - 910: Customer O&M (M\$)	\$2,075	\$42	\$1	\$1	\$2,118	\$0	\$76	\$2,195
Total Cust-Rel O&M (M\$)	\$32,416	\$842	\$24	\$61	\$33,343	\$6	\$3,276	\$19,824
2016 Number of Customers	847,654	17,116	232	243	865,245	58	31,920	897,223
Cust-Rel O&M per Customer (2016 \$'s)	\$38	\$49	\$103	\$251	\$39	\$104	\$103	\$22
escalator 2016\$s's to 2020\$s's	1.098	1.098	1.098	1.098	1.098	1.098	1.098	1.098
O&M \$/customer/yr 2020\$s	\$42.00	\$54.00	\$113.40	\$275.67	\$42.32	\$114.71	\$112.72	\$24.27
O&M Loaders:								
Materials & Supplies Loader:								
allocator = total Customer Related O&M as % of total	88.4%	2.3%	0.1%	0.2%	90.9%	0.0%	8.9%	54.0%
Allocated Materials & Supplies Loader (\$'s)	\$119,616	\$3,105	\$88	\$225	\$123,035	\$22	\$12,088	\$73,150
2016 Number of Customers	847,654	17,116	232	243	865,245	58	31,920	897,223
M&S Loader per Customer (2016 \$'s)	\$0.14	\$0.18	\$0.38	\$0.93	\$0.14	\$0.39	\$0.38	\$0.08
escalator 2016\$s's to 2020\$s's	1.098	1.098	1.098	1.098	1.098	1.098	1.098	1.098
M&S Loader \$/customer/yr 2020\$s	\$0.15	\$0.20	\$0.42	\$1.02	\$0.16	\$0.42	\$0.42	\$0.09
Administrative & General as % of O&M	23.95%	23.95%	23.95%	23.95%	23.95%	23.95%	23.95%	23.95%
Administrative & General \$/customer/yr 2020\$s's	\$10.06	\$12.94	\$27.16	\$66.04	\$10.14	\$27.48	\$27.00	\$5.81
General Plant as % of O&M	17.59%	17.59%	17.59%	17.59%	17.59%	17.59%	17.59%	17.59%
General Plant \$/customer/yr 2020\$s's	\$7.39	\$9.50	\$19.95	\$48.49	\$7.44	\$20.18	\$19.83	\$4.27
TOTAL O&M LOADERS \$/customer/yr	\$17.60	\$22.63	\$47.53	\$115.54	\$17.74	\$48.08	\$47.24	\$10.17
LRMC Rental Customer Cost \$/customer/year	\$229.46	\$269.89	\$461.07	\$958.65	\$234.46	\$1,081.51	\$436.66	\$212.36
					\$19.54			
NCO Method:								
LRMC Rental Customer Cost \$/customer/year					\$234.46	\$1,081.51	\$436.66	\$212.36
less annualized SRM rental					(\$174.40)	(\$918.73)	(\$276.70)	(\$177.92)
plus annualized SRM NCO					\$20.65	\$105.74	\$27.44	\$20.94
NCO Customer Cost \$/customer/year					\$80.71	\$268.52	\$187.40	\$55.37
					\$6.73			
NCO with Replacement Cost Adder Method:								
LRMC Rental Customer Cost \$/customer/year					\$234.46	\$1,081.51	\$436.66	\$212.36
less annualized SRM rental					(\$174.40)	(\$918.73)	(\$276.70)	(\$177.92)
plus annualized SRM					\$262.01	\$1,041.23	\$370.95	\$265.76
NCO w/ Replacement Customer Cost \$/cstmr/yr					\$322.07	\$1,204.01	\$530.91	\$300.20
					\$26.84			

GTNC			EG			Total Noncore	System Total
MPD	HPD	Total	< 3 MM	> 3 MM	Total		
J	K	L	M	N	O	P	Q
\$1,817.87	\$2,074.63	\$1,861.47	\$1,344.15	\$2,223.03	\$1,519.92	\$1,646.51	\$178.15
\$19	\$4	\$22	\$24	\$10	\$33	\$55	\$34,486
\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$2,195
\$19	\$4	\$23	\$24	\$10	\$34	\$55	\$36,681
44	14	58	76	16	92	150	897,373
\$426	\$316	\$390	\$314	\$609	\$365	\$368	\$41
1.098	1.098	1.098	1.098	1.098	1.098	1.098	1.098
\$467.38	\$346.86	\$428.35	\$344.81	\$668.40	\$401.08	\$404.45	\$44.89
0.1%	0.0%	0.1%	0.1%	0.0%	0.1%	0.2%	100.0%
\$69	\$16	\$83	\$88	\$36	\$124	\$204	\$73,354
44	14	58	76	16	92	150	897,373
\$1.57	\$1.17	\$1.44	\$1.16	\$2.25	\$1.35	\$1.36	\$0.08
1.098	1.098	1.098	1.098	1.098	1.098	1.098	1.098
\$1.72	\$1.28	\$1.58	\$1.27	\$2.47	\$1.48	\$1.49	\$0.09
23.95%	23.95%	23.95%	23.95%	23.95%	23.95%	23.95%	23.95%
\$111.96	\$83.09	\$102.61	\$82.60	\$160.11	\$96.08	\$96.88	\$10.75
17.59%	17.59%	17.59%	17.59%	17.59%	17.59%	17.59%	17.59%
\$82.21	\$61.01	\$75.35	\$60.65	\$117.57	\$70.55	\$71.14	\$7.90
\$195.89	\$145.38	\$179.54	\$144.52	\$280.15	\$168.11	\$169.52	\$18.74
\$2,481.14	\$2,566.87	\$2,469.36	\$1,833.47	\$3,171.57	\$2,089.11	\$2,220.48	\$241.78
\$2,481.14	\$2,566.87	\$2,469.36	\$1,833.47	\$3,171.57	\$2,089.11	\$2,220.48	\$241.78
(\$1,817.87)	(\$2,074.63)	(\$1,861.47)	(\$1,344.15)	(\$2,223.03)	(\$1,519.92)	(\$1,646.51)	(\$178.15)
\$256.36	\$386.46	\$278.45	\$269.38	\$401.33	\$160.53	\$153.72	\$153.72
\$919.63	\$878.70	\$886.34	\$758.70	\$1,349.88	\$729.72	\$727.69	\$217.35
\$2,481.14	\$2,566.87	\$2,469.36	\$1,833.47	\$3,171.57	\$2,089.11	\$2,220.48	\$241.78
(\$1,817.87)	(\$2,074.63)	(\$1,861.47)	(\$1,344.15)	(\$2,223.03)	(\$1,519.92)	(\$1,646.51)	(\$178.15)
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
\$663.27	\$492.24	\$607.89	\$489.32	\$948.54	\$569.19	\$573.97	\$63.63

**TABLE LRMCC-1
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**METER SET ASSEMBLY (MSA) EXPENSE
2020 TCAP**

	Max Meter Flow Range	Meter Type	Meter, Regulator & Fitting Costs	Installation Costs	Total MSA Costs	
	A	B	C	E	F	
	Cfh		(Dollars)	(Dollars)	(Dollars)	
1	<i>Medium Pressure</i>					1
2	0-275	250	\$187.21	\$72.22	\$259.43	2
3	276 - 425	425	\$473.51	\$146.94	\$620.46	3
4	426-630	630	\$784.30	\$146.94	\$931.25	4
5	631 - 800	8C	\$1,232.02	\$293.88	\$1,525.90	5
6	801 - 1,100	11C	\$1,255.22	\$293.88	\$1,549.11	6
7	1,101 - 1,500	15C	\$1,978.61	\$930.39	\$2,908.99	7
8	1,501 - 2,000	2M	\$2,555.65	\$1,471.42	\$4,027.07	8
9	2,001 - 3,000	3M	\$2,579.99	\$1,471.42	\$4,051.41	9
10	3,001 - 5,000	5M	\$3,336.62	\$1,471.42	\$4,808.04	10
11	5,001 - 7,000	7M	\$3,965.69	\$1,471.42	\$5,437.10	11
12						12
13	<i>High Pressure</i>					13
14	0 - 940	425	\$1,339.29	\$930.39	\$2,269.68	14
15	941 - 1,050	8C	\$2,847.10	\$1,471.42	\$4,318.52	15
16	1,051 - 2,000	2M	\$1,650.08	\$930.39	\$2,580.47	16
17	2,001 - 2,700	2M	\$2,898.94	\$1,471.42	\$4,370.35	17
18	2,701 - 4,000	3M	\$2,922.51	\$1,471.42	\$4,393.92	18
19	4,001 - 6,600	5M	\$4,266.66	\$1,678.17	\$5,944.83	19
20	6,601 - 9,200	7M	\$5,001.44	\$1,678.17	\$6,679.61	20
21	9,201 - 14,500	11M	\$5,431.52	\$1,979.40	\$7,410.92	21
22	14,501 - 21,400	16M	\$6,910.85	\$1,979.40	\$8,890.24	22
23	21,401 - 24,000	Turbine	\$11,616.33	\$4,295.73	\$15,912.06	23
24	24,001 - 46,000	Turbine	\$12,532.26	\$4,341.53	\$16,873.79	24
25	46,001 - 79,000	Turbine	\$20,618.81	\$8,023.58	\$28,642.39	25
26	79,001 - 377,000	Turbine	\$40,407.56	\$11,875.08	\$52,282.64	26
27	377,001 - 600,000	Turbine			\$0.00	27
28	600,001 - 4,250,000	Turbine			\$0.00	28
29	> 4,250,000	Turbine			\$0.00	29

Notes:

1. Col. (F) = Col. (C) + Col. (D) + Col. (E).
2. MSA costs expressed in Year 2020 \$'s.
3. Data Source: SDG&E Gas Distribution Engineering Department.

**TABLE LRMCC-2
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**WEIGHTED MSA RECC FACTOR
2020 TCAP**

	Max Meter Flow Range	Meter, Regulator, & Fitting Costs	Meter & Regulator RECC Factor	Installation Costs	Installation Costs RECC Factor	Weighted Average RECC Factor	
	A	B	C	D	E	F	
	Cfh	(Dollars)	(Percent)	(Dollars)	(Percent)	(Percent)	
1	<i>Medium Pressure</i>						1
2	0 - 275	\$187.21	8.44%	\$72.22	8.82%	8.55%	2
3	276 - 425	\$473.51	8.44%	\$146.94	8.82%	8.53%	3
4	426 - 630	\$784.30	8.44%	\$146.94	8.82%	8.50%	4
5	631 - 800	\$1,232.02	8.44%	\$293.88	8.82%	8.52%	5
6	801 - 1,100	\$1,255.22	8.44%	\$293.88	8.82%	8.52%	6
7	1,101 - 1,500	\$1,978.61	8.44%	\$930.39	8.82%	8.56%	7
8	1,501 - 2,000	\$2,555.65	8.44%	\$1,471.42	8.82%	8.58%	8
9	2,001 - 3,000	\$2,579.99	8.44%	\$1,471.42	8.82%	8.58%	9
10	3,001 - 5,000	\$3,336.62	8.44%	\$1,471.42	8.82%	8.56%	10
11	5,001 - 7,000	\$3,965.69	8.44%	\$1,471.42	8.82%	8.55%	11
12							12
13	<i>High Pressure</i>						13
14	0 - 940	\$1,339.29	8.44%	\$930.39	8.82%	8.60%	14
15	941 - 1,050	\$2,847.10	8.44%	\$1,471.42	8.82%	8.57%	15
16	1,051 - 2,000	\$1,650.08	8.44%	\$930.39	8.82%	8.58%	16
17	2,001 - 2,700	\$2,898.94	8.44%	\$1,471.42	8.82%	8.57%	17
18	2,701 - 4,000	\$2,922.51	8.44%	\$1,471.42	8.82%	8.57%	18
19	4,001 - 6,600	\$4,266.66	8.44%	\$1,678.17	8.82%	8.55%	19
20	6,601 - 9,200	\$5,001.44	8.44%	\$1,678.17	8.82%	8.54%	20
21	9,201 - 14,500	\$5,431.52	8.44%	\$1,979.40	8.82%	8.54%	21
22	14,501 - 21,400	\$6,910.85	8.44%	\$1,979.40	8.82%	8.53%	22
23	21,401 - 24,000	\$11,616.33	8.44%	\$4,295.73	8.82%	8.55%	23
24	24,001 - 46,000	\$12,532.26	8.44%	\$4,341.53	8.82%	8.54%	24
25	46,001 - 79,000	\$20,618.81	8.44%	\$8,023.58	8.82%	8.55%	25
26	79,001 - 377,000	\$40,407.56	8.44%	\$11,875.08	8.82%	8.53%	26
27	377,001 - 600,000					8.53%	27
28	600,001 - 4,250,000					8.53%	28
29	> 4,250,000					8.53%	29

Notes:

1. Col. (F) = [Col. (B) x Col. (C)] + [Col. (D) x Col. (E)] ÷ [Col. (B) + Col. (D)]
2. Rows (27) - (29): Weighted Average RECC Factor meter & installation weights from Row (26).
3. Data Source: RECC Factors from Finance Group

TABLE LRMCC-3
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
ANNUALIZED SERVICE, REGULATOR & METER (SRM) MARGINAL INVESTMENT
2020 TCAP

	Max Meter Flow Range	Meter & Regulator				Pipe & Installation				Total SRM Annualized Marg. Invstmt.	
		Meter Type	M&R Cost	RECC Factor	Annualized Marg. Invstmt.	Service Type	Service Cost	RECC Factor	Annualized Marg. Invstmt.		
	A	B	C	D	E	F	G	H	I	J	
	Cfh		(Dollars)	(Percent)	(Dollars)		(Dollars)	(Percent)	(Dollars)	(Dollars)	
1	<i>Medium Pressure</i>										1
2	0-275	250	\$259	8.55%	\$22	Poly-0.5"	\$1,912	7.74%	\$148	\$170	2
3	276 - 425	425	\$620	8.53%	\$53	Poly-0.5"	\$1,912	7.74%	\$148	\$201	3
4	426-630	630	\$931	8.50%	\$79	Poly-1"	\$1,912	7.74%	\$148	\$227	4
5	631 - 800	8C	\$1,526	8.52%	\$130	Poly-1"	\$1,912	7.74%	\$148	\$278	5
6	801 - 1,100	11C	\$1,549	8.52%	\$132	Poly-1"	\$1,912	7.74%	\$148	\$280	6
7	1,101 - 1,500	15C	\$2,909	8.56%	\$249	Poly-1"	\$1,912	7.74%	\$148	\$397	7
8	1,501 - 2,000	2M	\$4,027	8.58%	\$346	Poly-1"	\$1,912	7.74%	\$148	\$494	8
9	2,001 - 3,000	3M	\$4,051	8.58%	\$348	Poly-1"	\$1,912	7.74%	\$148	\$496	9
10	3,001 - 5,000	5M	\$4,808	8.56%	\$412	Poly-2"	\$4,500	7.74%	\$348	\$760	10
11	5,001 - 7,000	7M	\$5,437	8.55%	\$465	Poly-2"	\$4,500	7.74%	\$348	\$813	11
12	<i>High Pressure</i>										12
13	0 - 940	425	\$2,270	8.60%	\$195	Poly-1"	\$1,912	7.74%	\$148	\$343	13
14	941 - 1,050	8C	\$4,319	8.57%	\$370	Poly-1"	\$1,912	7.74%	\$148	\$518	14
15	1,051 - 2,000	2M	\$2,580	8.58%	\$221	Poly-1"	\$1,912	7.74%	\$148	\$369	15
16	2,001 - 2,700	2M	\$4,370	8.57%	\$375	Poly-1"	\$1,912	7.74%	\$148	\$523	16
17	2,701 - 4,000	3M	\$4,394	8.57%	\$377	Poly-2"	\$4,500	7.74%	\$348	\$725	17
18	4,001 - 6,600	5M	\$5,945	8.55%	\$508	Poly-2"	\$4,500	7.74%	\$348	\$857	18
19	6,601 - 9,200	7M	\$6,680	8.54%	\$570	Poly-2"	\$4,500	7.74%	\$348	\$919	19
20	9,201 - 14,500	11M	\$7,411	8.54%	\$633	Poly-3"	\$9,063	7.74%	\$702	\$1,335	20
21	14,501 - 21,400	16M	\$8,890	8.53%	\$758	Poly-3"	\$9,063	7.74%	\$702	\$1,460	21
22	21,401 - 24,000	Turbine	\$15,912	8.55%	\$1,360	Poly-4"	\$9,547	7.74%	\$739	\$2,099	22
23	24,001 - 46,000	Turbine	\$16,874	8.54%	\$1,441	Poly-4"	\$9,547	7.74%	\$739	\$2,180	23
24	46,001 - 79,000	Turbine	\$28,642	8.55%	\$2,449	Steel-4"	\$23,162	7.74%	\$1,793	\$4,242	24
25	79,001 - 377,000	Turbine	\$52,283	8.53%	\$4,459	Steel-6"	\$34,098	7.74%	\$2,640	\$7,099	25
26	377,001 - 600,000	Turbine	\$0	8.53%	\$0	Steel-8"	\$39,044	7.74%	\$3,023	\$3,023	26
27	600,001 - 4,250,000	Turbine	\$0	8.53%	\$0	Steel-16"	--	7.74%	\$0	\$0	27
28	> 4,250,000	Turbine	\$0	8.53%	\$0	Steel-24"	--	7.74%	\$0	\$0	28
29											29

Notes:

- Col. (E) = Col. (C) x Col. (D). Col. (I) = Col. (G) x Col. (H).
- Col. (J) = Col. (E) + Col. (I).
- Service Line installation cost (column F & G) provided by SDG&E Gas Distribution Engineering Department

Data Sources: MSA Cost, MSA RECC

TABLE LRMCC-4
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
MSA ASSIGNMENT FACTORS BY CUSTOMER CLASS
2020 TCAP

	Max Meter Flow Range	Meter Type	Res				Total	NGV	GN-3	Total Core	GTNC			EG			Total Noncore	System Total
			G-R	G-M	G-S	G-T					MPD	HPD	Total	< 3 MM	> 3 MM	Total		
	A	B	C				D	E	F	G	H	I	J	K	L	N	O	
	Cfm																	
1	<i>Medium Pressure</i>		98%	2%	0%	0%												
2	0-275	250	800,113	13,343	84	5	813,545	17	15,718	829,280	-	-	-	1	-	1	1	829,281
3	276 - 425	425	25,734	1,271	34	4	27,043	-	3,002	30,045	-	-	-	-	-	-	-	30,045
4	426-630	630	8,003	470	4	7	8,484	-	1,715	10,199	-	-	-	-	-	-	-	10,199
5	631 - 800	8C	9,637	741	20	7	10,405	2	3,061	13,468	-	-	-	-	-	-	-	13,468
6	801 - 1,100	11C	3,004	531	33	8	3,576	-	2,249	5,825	-	-	-	-	-	-	-	5,825
7	1,101 - 1,500	15C	843	225	6	3	1,077	-	1,463	2,540	-	-	-	-	-	-	-	2,540
8	1,501 - 2,000	2M	224	86	6	4	320	4	1,252	1,576	-	-	-	28	-	28	28	1,604
9	2,001 - 3,000	3M	73	275	18	39	405	5	1,868	2,278	-	-	-	6	-	6	6	2,284
10	3,001 - 5,000	5M	10	85	8	74	177	6	788	971	1	-	-	7	-	7	8	979
11	5,001 - 7,000	7M	3	31	6	35	75	1	331	407	6	-	-	6	-	8	14	421
12																		
13	<i>High Pressure</i>																	
14	0 - 940	425	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
15	941 - 1,050	8C	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
16	1,051 - 2,000	2M	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
17	2,001 - 2,700	2M	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
18	2,701 - 4,000	3M	0	1	0	0	1	-	-	1	-	-	-	1	-	1	1	2
19	4,001 - 6,600	5M	0	0	0	0	-	1	-	1	-	1	1	-	1	2	3	3
20	6,601 - 9,200	7M	1	0	0	0	1	1	1	3	-	1	1	4	2	6	7	10
21	9,201 - 14,500	11M	0	31	9	45	85	-	292	377	10	6	16	3	-	3	19	396
22	14,501 - 21,400	16M	6	23	3	12	44	13	144	201	12	1	13	5	2	7	20	221
23	21,401 - 24,000	Turbine	0	3	1	0	4	3	18	25	4	1	5	-	1	1	6	31
24	24,001 - 46,000	Turbine	1	0	0	0	1	4	13	18	7	2	9	3	7	10	19	37
25	46,001 - 79,000	Turbine	0	0	0	0	-	1	4	5	3	1	4	7	3	10	14	19
26	79,001 - 377,000	Turbine	2	0	0	0	2	-	1	3	1	1	2	3	-	3	5	8
27	377,001 - 600,000	Turbine	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
28	600,001 - 4,250,000	Turbine	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
29	> 4,250,000	Turbine	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
30																		
31	Total Customers		847,654	17,116	232	243	865,245	58	31,920	897,223	44	14	58	76	16	92	150	897,373

TABLE MISC-1
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT

DEMAND DETERMINANT SUMMARY
2020 TCAP

Billing Determinants	Res						NGV	GN-3	Core	GTNC			EG			Power Plants	Noncore	System
	G-R	G-M	G-S	G-T	Total	MPD				HPD	Total	< 3 MM	> 3 MM	Total				
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	
TCAP Customers	856,297	17,291	234	245	874,067	28	30,937	905,032	44	9	53	72	18	90	-	143	905,175	
2016 Customers	847,654	17,116	232	243	865,245	58	31,920	897,223	44	14	58	76	16	92	-	150	897,373	

Demand Forecast per 2017 TCAP in Mtherms	Res	NGV	Core C&I	Total Core	Non Core			Total Non									
					C&I	EG Tier 1	EG Tier 2	Total EG	Core	Total System							
DIRECT Demand																	
Transmission																	
Average Year Throughput (MTh)	0	0	0	0	17,569	5,074	456,289	461,363	478,932	478,932							
Cold Year Throughput (1-in-35) (MTh)	0	0	0	0	17,569	5,074	456,289	461,363	478,932	478,932							
Cold Year Peak Month (December) (MTh)	0	0	0	0	1,477	191	35,479	35,670	37,147	37,147							
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	0	0	0	0	48	6	1,684	1,690	1,738	1,738							
Number of Customers	0	0	0	0	9	3	12	15	24	24							
High Pressure																	
Average Year Throughput (MTh)	67	8,874	3,116	12,057	7,497	3,531	36,209	39,740	47,237	59,294							
Cold Year Throughput (1-in-35) (MTh)	74	8,874	3,251	12,199	7,497	3,531	36,209	39,740	47,237	59,436							
Cold Year Peak Month (December) (MTh)	11	721	373	1,105	630	287	3,027	3,314	3,944	5,049							
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	1	23	18	42	20	9	98	107	127	169							
Number of Customers	2	4	5	11	9	5	4	9	18	29							
Medium Pressure																	
Average Year Throughput (MTh)	313,167	15,255	191,661	520,083	21,879	21,131	7,997	29,127	51,006	571,089							
Cold Year Throughput (1-in-35) (MTh)	343,334	15,255	199,985	558,574	21,879	21,131	7,997	29,127	51,006	609,580							
Cold Year Peak Month (December) (MTh)	50,177	1,239	22,957	74,374	1,839	1,767	669	2,435	4,275	78,649							
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	2,943	40	1,098	4,081	59	57	22	79	138	4,219							
Number of Customers	874,065	24	30,932	905,021	35	64	2	66	101	905,122							
CUMULATIVE Demand																	
Transmission																	
Average Year Throughput (MTh)	313,234	24,129	194,777	532,140	46,945	29,736	500,494	530,230	577,175	1,109,315							
Cold Year Throughput (1-in-35) (MTh)	343,408	24,129	203,236	570,773	46,945	29,736	500,494	530,230	577,175	1,147,948							
Cold Year Peak Month (December) (MTh)	50,188	1,960	23,331	75,479	3,947	2,244	39,175	41,419	45,366	120,845							
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	2,944	63	1,115	4,123	127	72	1,803	1,876	2,003	6,126							
Number of Customers	874,067	28	30,937	905,032	53	72	18	90	143	905,175							
High Pressure																	
Average Year Throughput (MTh)	313,234	24,129	194,777	532,140	29,376	24,662	44,206	68,867	98,243	630,384							
Cold Year Throughput (1-in-35) (MTh)	343,408	24,129	203,236	570,773	29,376	24,662	44,206	68,867	98,243	669,016							
Cold Year Peak Month (December) (MTh)	50,188	1,960	23,331	75,479	2,470	2,053	3,696	5,749	8,219	83,698							
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	2,944	63	1,115	4,123	80	66	119	185	265	4,388							
Number of Customers	874,067	28	30,937	905,032	44	69	6	75	119	905,151							
Medium Pressure																	
Average Year Throughput (MTh)	313,167	15,255	191,661	520,083	21,879	21,131	7,997	29,127	51,006	571,089							
Cold Year Throughput (1-in-35) (MTh)	343,334	15,255	199,985	558,574	21,879	21,131	7,997	29,127	51,006	609,580							
Cold Year Peak Month (December) (MTh)	50,177	1,239	22,957	74,374	1,839	1,767	669	2,435	4,275	78,649							
Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	2,943	40	1,098	4,081	59	57	22	79	138	4,219							
Number of Customers	874,065	24	30,932	905,021	35	64	2	66	101	905,122							

TABLE LRMCC-5
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
MSA ASSIGNMENT FACTORS BY CUSTOMER CLASS
2020 TCAP

	Max Meter Flow Range	Meter Type	Res					NGV	GN-3	Total Core	GTNC			EG			Total Noncore	System Total
			G-R	G-M	G-S	G-T	Total				MPD	HPD	Total	< 3 MM	> 3 MM	Total		
	A	B	C					D	E	F	G	H	I	J	K	L	N	O
1	<i>Medium Pressure</i>																	1
2	0-275	250	94.39%	77.96%	36.21%	2.06%	94.02%	29.31%	49.24%	92.43%	0.00%	0.00%	0.00%	1.32%	0.00%	1.09%	0.67%	92.41%
3	276 - 425	425	3.04%	7.43%	14.66%	1.65%	3.13%	0.00%	9.40%	3.35%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.35%
4	426-630	630	0.94%	2.75%	1.72%	2.88%	0.98%	0.00%	5.37%	1.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.14%
5	631 - 800	8C	1.14%	4.33%	8.62%	2.88%	1.20%	3.45%	9.59%	1.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.50%
6	801 - 1,100	11C	0.35%	3.10%	14.22%	3.29%	0.41%	0.00%	7.05%	0.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.65%
7	1,101 - 1,500	15C	0.10%	1.31%	2.59%	1.23%	0.12%	0.00%	4.58%	0.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.28%
8	1,501 - 2,000	2M	0.03%	0.50%	2.59%	1.65%	0.04%	6.90%	3.92%	0.18%	0.00%	0.00%	0.00%	36.84%	0.00%	30.43%	18.67%	0.18%
9	2,001 - 3,000	3M	0.01%	1.61%	7.76%	16.05%	0.05%	8.62%	5.85%	0.25%	0.00%	0.00%	0.00%	7.89%	0.00%	6.52%	4.00%	0.25%
10	3,001 - 5,000	5M	0.00%	0.50%	3.45%	30.45%	0.02%	10.34%	2.47%	0.11%	2.27%	0.00%	1.72%	9.21%	0.00%	7.61%	5.33%	0.11%
11	5,001 - 7,000	7M	0.00%	0.18%	2.59%	14.40%	0.01%	1.72%	1.04%	0.05%	13.64%	0.00%	10.34%	10.53%	0.00%	8.70%	9.33%	0.05%
12	<i>High Pressure</i>																	12
13	<i>High Pressure</i>																	13
14	0 - 940	425	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
15	941 - 1,050	8C	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
16	1,051 - 2,000	2M	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
17	2,001 - 2,700	2M	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
18	2,701 - 4,000	3M	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.25%	1.09%	0.67%	0.00%
19	4,001 - 6,600	5M	0.00%	0.00%	0.00%	0.00%	0.00%	1.72%	0.00%	0.00%	0.00%	7.14%	1.72%	1.32%	0.00%	1.09%	1.33%	0.00%
20	6,601 - 9,200	7M	0.00%	0.00%	0.00%	0.00%	0.00%	1.72%	0.00%	0.00%	0.00%	7.14%	1.72%	5.26%	12.50%	6.52%	4.67%	0.00%
21	9,201 - 14,500	11M	0.00%	0.18%	3.88%	18.52%	0.01%	0.00%	0.91%	0.04%	22.73%	42.86%	27.59%	3.95%	0.00%	3.26%	12.67%	0.04%
22	14,501 - 21,400	16M	0.00%	0.13%	1.29%	4.94%	0.01%	22.41%	0.45%	0.02%	27.27%	7.14%	22.41%	6.58%	12.50%	7.61%	13.33%	0.02%
23	21,401 - 24,000	Turbine	0.00%	0.02%	0.43%	0.00%	0.00%	5.17%	0.06%	0.00%	9.09%	7.14%	8.62%	0.00%	6.25%	1.09%	4.00%	0.00%
24	24,001 - 46,000	Turbine	0.00%	0.00%	0.00%	0.00%	0.00%	6.90%	0.04%	0.00%	15.91%	14.29%	15.52%	3.95%	43.75%	10.87%	12.67%	0.00%
25	46,001 - 79,000	Turbine	0.00%	0.00%	0.00%	0.00%	0.00%	1.72%	0.01%	0.00%	6.82%	7.14%	6.90%	9.21%	18.75%	10.87%	9.33%	0.00%
26	79,001 - 377,000	Turbine	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.27%	7.14%	3.45%	3.95%	0.00%	3.26%	3.33%	0.00%
27	377,001 - 600,000	Turbine	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
28	600,001 - 4,250,000	Turbine	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29	> 4,250,000	Turbine	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
30	Total Customers																	30
31	Total Customers																	31

Notes:

1. Factors derived from meter capacity analysis results in Table "LRMCC-4" (tab MSAAllocv1)
 Data Sources: Tabs: MSA Cost, MSAAlloc v1

TABLE LRMCC-6
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
FORECAST CUSTOMERS BY METER TYPE BY CUSTOMER CLASS
2020 TCAP

	Max Meter Flow Range	Meter Type	Res					NGV	GN-3	Total Core	GTNC			EG			Power Plant	Total Noncore	System Total
			G-R	G-M	G-S	G-T	Total				MPD	HPD	Total	< 3 MM	> 3 MM	Total			
	A	B	C					D	E	F	G	H	I	J	K	L	M	N	O
1	<i>Medium Pressure</i>																		1
2	0-275	250	808,271	13,479	85	5	821,840	8	15,234	837,082	-	-	-	1	-	1	-	1	837,083
3	276 - 425	425	25,996	1,284	34	4	27,319	-	2,910	30,228	-	-	-	-	-	-	-	-	30,228
4	426-630	630	8,085	475	4	7	8,571	-	1,662	10,233	-	-	-	-	-	-	-	-	10,233
5	631 - 800	8C	9,735	749	20	7	10,511	1	2,967	13,479	-	-	-	-	-	-	-	-	13,479
6	801 - 1,100	11C	3,035	536	33	8	3,612	-	2,180	5,792	-	-	-	-	-	-	-	-	5,792
7	1,101 - 1,500	15C	852	227	6	3	1,088	-	1,418	2,506	-	-	-	-	-	-	-	-	2,506
8	1,501 - 2,000	2M	226	87	6	4	323	2	1,213	1,539	-	-	-	27	-	27	-	27	1,565
9	2,001 - 3,000	3M	74	278	18	39	409	2	1,810	2,222	-	-	-	6	-	6	-	6	2,228
10	3,001 - 5,000	5M	10	86	8	75	179	3	764	945	1	-	1	7	-	7	-	8	953
11	5,001 - 7,000	7M	3	31	6	35	76	0	321	397	6	-	6	8	-	8	-	14	411
12	<i>High Pressure</i>																		12
13	0 - 940	425	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	941 - 1,050	8C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	1,051 - 2,000	2M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	2,001 - 2,700	2M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	2,701 - 4,000	3M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	4,001 - 6,600	5M	-	1	-	-	1	-	-	1	-	-	-	1	-	1	-	1	2
19	6,601 - 9,200	7M	1	-	-	-	1	0	1	2	-	1	1	4	2	6	-	7	9
20	9,201 - 14,500	11M	-	31	9	45	86	-	283	369	10	4	14	3	-	3	-	17	386
21	14,501 - 21,400	16M	6	23	3	12	44	6	140	190	12	1	13	5	2	7	-	20	210
22	21,401 - 24,000	Turbine	-	3	1	-	4	1	17	23	4	1	5	-	1	1	-	6	29
23	24,001 - 46,000	Turbine	1	-	-	-	1	2	13	16	7	1	8	3	8	11	-	19	35
24	46,001 - 79,000	Turbine	-	-	-	-	-	0	4	4	3	1	4	7	3	10	-	14	18
25	79,001 - 377,000	Turbine	2	-	-	-	2	-	1	3	1	1	2	3	-	3	-	4	7
26	377,001 - 600,000	Turbine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	600,001 - 4,250,000	Turbine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	> 4,250,000	Turbine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	<i>Total Customers</i>																		30
30			856,297	17,291	234	245	874,067	28	30,937	905,032	44	9	53	72	18	90	-	143	905,175
31																			31

- Notes:
- Row (31) = forecast annual average number of customers during proposed 2020 - 2022 TCAP period
 - Rows (2) - (29) = Row (31) x MSA assignment factors for each market segment for each flow range.

verify 856,297 17,291 234 245 874,067 28 30,937 905,032 44 9 53 72 18 90 - 143 905,175
 Data Sources: tabs: MSA Cost, MSAAlloc v2

TABLE LRMCC-7
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT

ANNUALIZED SRM MARGINAL INVESTMENT BY CUSTOMER CLASS
2020 TCAP

	Max Meter Flow Range	Meter Type	Res					NGV	GN-3	Total Core	GTNC			EG			Power Plant	Total Noncore	System Total	
			G-R	G-M	G-S	G-T	Total				MPD	HPD	Total	< 3 MM	> 3 MM	Total				
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
	Cfh																			
	(Dollars)																			
1	<i>Medium Pressure</i>																			1
2	0-275	250	\$134,503,123	\$2,243,027	\$14,121	\$841	\$139,868,058	\$1,379	\$2,592,644	\$142,462,080	\$0	\$0	\$0	\$161	\$0	\$161	\$0	\$161	\$142,462,241	2
3	276 - 425	425	\$5,125,833	\$253,164	\$6,772	\$797	\$5,489,845	\$0	\$584,688	\$6,074,533	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,074,533	3
4	426-630	630	\$1,806,235	\$106,077	\$903	\$1,580	\$1,947,195	\$0	\$377,643	\$2,324,838	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,324,838	4
5	631 - 800	8C	\$2,669,233	\$205,240	\$5,540	\$1,939	\$2,921,689	\$265	\$824,639	\$3,746,593	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,746,593	5
6	801 - 1,100	11C	\$837,988	\$148,126	\$9,206	\$2,232	\$1,011,208	\$0	\$610,156	\$1,621,365	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,621,365	6
7	1,101 - 1,500	15C	\$334,992	\$89,411	\$2,384	\$1,192	\$432,093	\$0	\$563,137	\$995,230	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$995,230	7
8	1,501 - 2,000	2M	\$110,839	\$42,554	\$2,969	\$1,979	\$159,563	\$941	\$598,957	\$759,461	\$0	\$0	\$0	\$13,093	\$0	\$13,093	\$0	\$13,093	\$772,554	8
9	2,001 - 3,000	3M	\$36,273	\$136,645	\$8,944	\$19,379	\$202,788	\$1,181	\$897,372	\$1,101,341	\$0	\$0	\$0	\$2,817	\$0	\$2,817	\$0	\$2,817	\$1,104,159	9
10	3,001 - 5,000	5M	\$5,614	\$47,722	\$4,491	\$41,546	\$135,871	\$2,173	\$580,348	\$718,392	\$760	\$0	\$760	\$5,039	\$0	\$5,039	\$0	\$5,799	\$724,191	10
11	5,001 - 7,000	7M	\$1,845	\$19,068	\$3,691	\$21,528	\$61,597	\$387	\$260,815	\$322,800	\$4,878	\$0	\$4,878	\$6,162	\$0	\$6,162	\$0	\$11,040	\$333,839	11
12																				12
13	<i>High Pressure</i>																			13
14	0 - 940	425	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	14
15	941 - 1,050	8C	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	15
16	1,051 - 2,000	2M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	16
17	2,001 - 2,700	2M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	17
18	2,701 - 4,000	3M	\$0	\$526	\$0	\$0	\$732	\$0	\$0	\$732	\$0	\$0	\$0	\$0	\$816	\$816	\$0	\$816	\$1,548	18
19	4,001 - 6,600	5M	\$0	\$0	\$0	\$0	\$408	\$0	\$408	\$0	\$551	\$551	\$812	\$0	\$812	\$0	\$1,362	\$1,770	\$1,770	19
20	6,601 - 9,200	7M	\$722	\$0	\$0	\$0	\$928	\$438	\$890	\$2,256	\$0	\$591	\$591	\$3,481	\$2,067	\$5,548	\$0	\$6,139	\$8,395	20
21	9,201 - 14,500	11M	\$0	\$24,347	\$7,068	\$35,342	\$114,620	\$0	\$377,774	\$492,393	\$13,349	\$5,149	\$18,497	\$3,794	\$0	\$3,794	\$0	\$22,291	\$514,684	21
22	14,501 - 21,400	16M	\$5,469	\$20,966	\$2,735	\$10,939	\$64,885	\$9,043	\$203,732	\$277,660	\$17,517	\$938	\$18,456	\$6,915	\$3,284	\$10,199	\$0	\$28,655	\$306,315	22
23	21,401 - 24,000	Turbine	\$0	\$4,558	\$1,519	\$0	\$8,481	\$3,001	\$36,617	\$48,098	\$8,396	\$1,349	\$9,745	\$0	\$2,361	\$2,361	\$0	\$12,106	\$60,204	23
24	24,001 - 46,000	Turbine	\$1,602	\$0	\$0	\$0	\$2,202	\$4,156	\$27,471	\$33,829	\$15,262	\$2,803	\$18,065	\$6,197	\$17,170	\$23,366	\$0	\$41,431	\$75,260	24
25	46,001 - 79,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$2,021	\$16,445	\$18,467	\$12,726	\$2,727	\$15,453	\$28,131	\$14,317	\$42,447	\$0	\$57,900	\$76,367	25
26	79,001 - 377,000	Turbine	\$9,301	\$0	\$0	\$0	\$14,343	\$0	\$6,881	\$21,224	\$7,099	\$4,564	\$11,663	\$20,177	\$0	\$20,177	\$0	\$31,840	\$53,064	26
27	377,001 - 600,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	27
28	600,001 - 4,250,000	Turbine																		28
29	> 4,250,000	Turbine																		29
30	Total		\$145,449,070	\$3,341,432	\$70,343	\$139,293	\$152,436,097	\$25,393	\$8,560,210	\$161,021,700	\$79,986	\$18,672	\$98,658	\$96,779	\$40,015	\$136,793	\$0	\$235,451	\$161,257,151	30
31	Forecast Customers		856,297	17,291	234	245	874,067	28	30,937	905,032	44	9	53	72	18	90	-	143	905,175	31
32																				32
33	Average SRM Cost		\$170	\$193	\$300	\$567	\$174	\$919	\$277	\$178	\$1,818	\$2,075	\$1,861	\$1,344	\$2,223	\$1,520	\$0	\$1,647	\$178	33

Notes:

1. Rows (2) - (29) = SRM Annualized Marginal Investment x Number of MSA's per Customer Segment for each particular flow range.
2. Row (33) = Row (30) ÷ Row (31).

Data Sources: tabs: MSA Fcst, MSA Rental, Factors

TABLE LRMCC-8
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT

ALLOCATION OF CUSTOMER-RELATED DISTRIBUTION O&M EXPENSES BY CUSTOMER CLASS
2020 TCAP

	Distribution O&M Account	Marginal O&M	G-R	G-M	Res G-S	G-T	Total	NGV	GN-3	Total Core	GTNC			EG			Total Noncore	System Total
											MPD	HPD	Total	< 3 MM	> 3 MM	Total		
	A	B	C					D	E	F	G	H	I	J	K	L	N	O
1																		1
2	Allocator - Total of other Distribution O&M Operating	45%	88%	2%	0%	0%	90%	0%	10%	45%	0%	0%	0%	0%	0%	0%	0%	100%
3	Allocation (M\$)	\$5,679	\$4,977	\$132	\$4	\$10	\$5,123	\$1	\$547	\$2,533	\$3	\$1	\$4	\$4	\$2	\$5	\$9	\$5,679
4	871 - Distribution Load Dispatching = Non-Marginal Designation																	
5																		5
6	Allocator - Customers Wtd by Services costs	100%	94%	2%	0%	0%	96%	0%	4%	100%	0%	0%	0%	0%	0%	0%	0%	100%
7	Allocation (M\$)	\$3,346	\$3,149	\$65	\$1	\$2	\$3,218	\$0	\$126	\$3,344	\$1	\$0	\$1	\$1	\$0	\$1	\$2	\$3,346
8	875 - Meas & Reg Station Exp = 100% Demand-Related																	
9																		9
10	Allocator - Customers Wtd by Meters & Regs costs	100%	83%	3%	0%	0%	86%	0%	13%	99%	0%	0%	0%	0%	0%	0%	1%	100%
11	Allocation (M\$)	\$4,772	\$3,938	\$152	\$7	\$19	\$4,116	\$3	\$628	\$4,747	\$8	\$2	\$10	\$10	\$4	\$15	\$25	\$4,772
12																		12
13	Allocator - Customer Service Expense	0%	88%	2%	0%	0%	90%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	100%
14	Allocation (M\$)	\$10,019	\$8,807	\$203	\$5	\$11	\$9,026	\$0	\$992	\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$0	\$10,019
15																		15
16	Allocator - Total of other Distribution O&M Operating	45%	88%	2%	0%	0%	90%	0%	10%	45%	0%	0%	0%	0%	0%	0%	0%	100%
17	Allocation (M\$)	\$6,601	\$5,785	\$153	\$4	\$12	\$5,954	\$1	\$635	\$2,945	\$3	\$1	\$4	\$4	\$2	\$6	\$10	\$6,601
18	881 - Rents = Non-Marginal Designation																	
19																		19
20	Allocator - Total Other Distribution O&M Maintenance	100%	91%	2%	0%	0%	93%	0%	7%	100%	0%	0%	0%	0%	0%	0%	0%	100%
21	Allocation (M\$)	\$10	\$9	\$0	\$0	\$0	\$9	\$0	\$1	\$10	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$10
22																		22
23	Allocator - Customers Wtd by Services costs	100%	94%	2%	0%	0%	96%	0%	4%	100%	0%	0%	0%	0%	0%	0%	0%	100%
24	Allocation (M\$)	\$1,002	\$943	\$19	\$0	\$1	\$963	\$0	\$38	\$1,001	\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$1,002
25	888 - Maint. Of Compressor Station Eq = 100% Demand-Related																	
26	889 - Maint. of Meas. & Reg Station Eq = 100% Demand-Related																	
27																		27
28	Allocator - Customers Wtd by Services costs	100%	94%	2%	0%	0%	96%	0%	4%	100%	0%	0%	0%	0%	0%	0%	0%	100%
29	Allocation (M\$)	\$1,792	\$1,687	\$35	\$1	\$1	\$1,723	\$0	\$67	\$1,791	\$0	\$0	\$1	\$1	\$0	\$1	\$1	\$1,792
30																		30
31	Allocator - Customers Wtd by Meters & Regs costs	100%	83%	3%	0%	0%	86%	0%	13%	99%	0%	0%	0%	0%	0%	0%	1%	100%
32	Allocation (M\$)	\$1,266	\$1,045	\$40	\$2	\$5	\$1,092	\$1	\$167	\$1,259	\$2	\$1	\$3	\$3	\$1	\$4	\$7	\$1,266
33	894 - Maint. of Other Eq = Non-Marginal Designation																	
34	Total 870 - 894 O&M Allocation (M\$)	\$34,486	\$30,341	\$800	\$23	\$60	\$31,224	\$6	\$3,200	\$17,629	\$19	\$4	\$22	\$24	\$10	\$33	\$55	\$34,486
35	Allocation %	100%	88%	2%	0%	0%	91%	0%	9%	51%	0%	0%	0%	0%	0%	0%	0%	100%

- Notes:
- Col. (B) from Customer-Related expense section of Workpapers Table "LF-3". (tab Loader Input)
 - Allocation Factors for FERC Accounts 870 - 894 from Workpapers Table "LRMCC-9" (tab 870-894 Fctrs)

Data Sources: tab: Loader Input, 870-894 Fctrs

TABLE LRMCC-9
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
Allocation Factors for Distribution O&M Expenses
2020 TCAP

	Allocation Method	G-R	G-M	Res G-S	G-T	Total	NGV	GN-3	Total Core	GTNC			EG			Total Noncore	System Total	
										MPD	HPD	Total	< 3 MM	> 3 MM	Total			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
1	874, 887, 892 - Services																	1
2	Allocator - Customers Wtd by Services costs (M\$)	\$1,637,249	\$33,776	\$579	\$1,166	\$1,672,769	\$144	\$65,320	\$1,738,233	\$439	\$102	\$541	\$495	\$200	\$695	\$1,236	\$1,739,469	2
3	Alloc %	94%	2%	0%	0%	96%	0%	4%	100%	0%	0%	0%	0%	0%	0%	0%	100%	3
4																		4
5	878, 893 - Meters & House Regulators O&M Expense																	5
6	Allocator - Customers Wtd by Meters & Regs costs (M\$)	\$256,840	\$9,920	\$427	\$1,215	\$268,402	\$167	\$40,968	\$309,537	\$538	\$126	\$665	\$684	\$287	\$971	\$1,636	\$311,173	6
7	Alloc %	83%	3%	0%	0%	86%	0%	13%	99%	0%	0%	0%	0%	0%	0%	1%	100%	7
8																		8
9	879 - Customer Installations (M\$)																	9
10	Allocator - Customer Service	\$10,210	\$236	\$5	\$13	\$10,464	\$0	\$1,150	\$11,614	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$11,615	10
11	Alloc %	87.9%	2.0%	0.0%	0.1%	90.1%	0.0%	9.9%		0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	100%	11

Data Sources: tab: M&HR Alloc

TABLE LRMCC-10
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
ALLOCATION OF CUSTOMER O&M EXPENSES BY CUSTOMER CLASS
2020 TCAP

	O&M Operational Activity A	Total O&M B	Res C	NGV D	GN-3 E	Total Core F	GTNC			EG		IPP M	Total Noncore N	System Total O		
							MPD G	HPD H	Total I	< 3 MM J	> 3 MM K					Total L
1	FIELD SERVICES Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	1	
2	CUSTOMER CONTACT Total	\$9,845	\$9,090	\$0	\$755	\$9,845	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,845	2	
3	METER READING Total	\$54,245	\$52,264	\$4	\$1,968	\$54,236	\$3	\$1	\$4	\$5	\$1	\$6	\$9	\$54,245	3	
4	BILLING SERVICES Total	\$1,812,291	\$1,749,325	\$113	\$62,386	\$1,811,825	\$140	\$40	\$181	\$244	\$41	\$285	\$466	\$1,812,291	4	
5	CREDIT & COLLECTIONS Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	5	
6	BUSINESS ANALYSIS Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	6	
7	CUSTOMER RESEARCH & COMMUNICATION Total	\$116,324	\$112,297	\$7	\$4,005	\$116,309	\$5	\$1	\$6	\$8	\$1	\$9	\$15	\$116,324	7	
8	CUSTOMER SERVICE TECHNOLOGY & SUPPORT Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	8	
9	C&I CUSTOMER SERVICE Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	9	
10	CONSUMER PROGRAMS & SERVICES Total	\$200,191	\$192,907	\$13	\$7,239	\$200,159	\$9	\$3	\$12	\$16	\$3	\$20	\$32	\$200,191	10	
11	FEDERAL ACCOUNTS MANAGEMENT Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	11	
12	CUSTOMER SERVICES SUPPORT STAFF Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	12	
13	COMMUNITY OUTREACH & INFO SERVICES Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	13	
14	OTHER Total	\$2,586	\$2,491	\$0	\$94	\$2,585	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,586	14	
15	SVP COST CENTERS Total	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	15	
16															16	
17	Total	\$2,195,481	\$2,118,374	\$138	\$76,447	\$2,194,959	\$157	\$45	\$203	\$273	\$47	\$320	\$0	\$522	\$2,195,481	17
18	Allocation %	100%	96%	0%	3%	100%	0%	0%	0%	0%	0%	0%	0%	100%	18	

Note:
1. O&M Operational Activities cost assigned using allocation methods identified for each SDG&E department in the Customer Operations division.
Source: From file: SDGE 2020TCAP LRMCC OM Loaders.xls Tab: LRMCC-O&M Summary

TABLE LRMCC-backup.1
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
O&M ALLOCATION FACTOR: Number of Customers Weighted by Service Line Cost
2020 TCAP

	Max Meter Flow Range	Meter Type	Services Plant Investment	Res					Total	NGV	GN-3	Total Core	GTNC			EG		Total Noncore	System Total
				G-R	G-M	G-S	G-T						MPD	HPD	Total	< 3 MM	> 3 MM		
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
	(Thousand Dollars)																		
1	<i>Medium Pressure</i>																		
2	0-275	250	\$2	\$1,545,279	\$25,770	\$162	\$10	\$1,571,220	\$15	\$29,125	\$1,600,361	\$0	\$0	\$0	\$2	\$0	\$2	\$2	\$1,600,362
3	276 - 425	425	\$2	\$49,701	\$2,455	\$66	\$8	\$52,229	\$0	\$5,563	\$57,791	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$57,791
4	426-630	630	\$2	\$15,456	\$908	\$8	\$14	\$16,385	\$0	\$3,178	\$19,563	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19,563
5	631 - 800	8C	\$2	\$18,612	\$1,431	\$39	\$14	\$20,095	\$2	\$5,672	\$25,769	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,769
6	801 - 1,100	11C	\$2	\$5,802	\$1,026	\$64	\$15	\$6,906	\$0	\$4,167	\$11,074	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$11,074
7	1,101 - 1,500	15C	\$2	\$1,628	\$435	\$12	\$6	\$2,080	\$0	\$2,711	\$4,791	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,791
8	1,501 - 2,000	2M	\$2	\$433	\$166	\$12	\$8	\$618	\$4	\$2,320	\$2,942	\$0	\$0	\$0	\$51	\$0	\$51	\$51	\$2,992
9	2,001 - 3,000	3M	\$2	\$141	\$531	\$35	\$75	\$782	\$5	\$3,461	\$4,248	\$0	\$0	\$0	\$11	\$0	\$11	\$11	\$4,259
10	3,001 - 5,000	5M	\$4	\$45	\$386	\$36	\$336	\$805	\$13	\$3,436	\$4,254	\$4	\$0	\$4	\$30	\$0	\$30	\$34	\$4,288
11	5,001 - 7,000	7M	\$4	\$14	\$141	\$27	\$159	\$341	\$2	\$1,444	\$1,787	\$27	\$0	\$27	\$34	\$0	\$34	\$61	\$1,848
12																			
13	<i>High Pressure</i>																		
14	0 - 940	425	\$2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15	941 - 1,050	8C	\$2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16	1,051 - 2,000	2M	\$2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
17	2,001 - 2,700	2M	\$2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
18	2,701 - 4,000	3M	\$4	\$0	\$5	\$0	\$0	\$5	\$0	\$5	\$0	\$5	\$0	\$0	\$5	\$5	\$5	\$5	\$10
19	4,001 - 6,600	5M	\$4	\$0	\$0	\$0	\$0	\$0	\$2	\$0	\$2	\$0	\$3	\$3	\$4	\$0	\$4	\$7	\$9
20	6,601 - 9,200	7M	\$4	\$5	\$0	\$0	\$0	\$5	\$2	\$4	\$11	\$0	\$3	\$3	\$17	\$10	\$27	\$30	\$41
21	9,201 - 14,500	11M	\$9	\$0	\$284	\$82	\$412	\$778	\$0	\$2,565	\$3,343	\$91	\$35	\$126	\$26	\$0	\$26	\$151	\$3,494
22	14,501 - 21,400	16M	\$9	\$55	\$211	\$27	\$110	\$403	\$56	\$1,265	\$1,724	\$109	\$6	\$115	\$43	\$20	\$63	\$178	\$1,902
23	21,401 - 24,000	Turbine	\$10	\$0	\$29	\$10	\$0	\$39	\$14	\$167	\$219	\$38	\$6	\$44	\$0	\$11	\$11	\$55	\$274
24	24,001 - 46,000	Turbine	\$10	\$10	\$0	\$0	\$0	\$10	\$18	\$120	\$148	\$67	\$12	\$79	\$27	\$75	\$102	\$181	\$330
25	46,001 - 79,000	Turbine	\$23	\$0	\$0	\$0	\$0	\$0	\$11	\$90	\$101	\$69	\$15	\$84	\$154	\$78	\$232	\$316	\$417
26	79,001 - 377,000	Turbine	\$34	\$69	\$0	\$0	\$0	\$69	\$0	\$33	\$102	\$34	\$22	\$56	\$97	\$0	\$97	\$153	\$255
27	377,001 - 600,000	Turbine	\$39	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
28	600,001 - 4,250,000	Turbine																	
29	> 4,250,000	Turbine																	
30																			
31	Total	N/A		\$1,637,249	\$33,776	\$579	\$1,166	\$1,672,769	\$144	\$65,320	\$1,738,233	\$439	\$102	\$541	\$495	\$200	\$695	\$1,236	\$1,739,469

Note:
1. Rows (2) - (31) = Gross Service Line Capital Investment Cost (Table LRMCC-3) x Number of Services per Customer Segment for each particular flow range (Table LRMCC-6).

Data Sources: tabs: MSA Cost, MSA Fcst MSA Rental

TABLE LRMCC-backup.2
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
O&M ALLOCATION FACTOR: Number of Customers Weighted by MSA Cost
2020 TCAP

	Max Meter Flow Range	Meter Type	MSA Capital Investment	Res					Total Core	NGV	GN-3	Total Core	GTNC			EG		Total Noncore	System Total		
				G-R	G-M	G-S	G-T	Total					MPD	HPD	Total	< 3 MM	> 3 MM				
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S		
(Thousand Dollars)																					
1	<i>Medium Pressure</i>																			1	
2	0-275	250	\$0	\$209,690	\$3,497	\$22	\$1	\$213,210	\$2	\$3,952	\$217,164	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$217,165	2	
3	276 - 425	425	\$1	\$16,130	\$797	\$21	\$3	\$16,950	\$0	\$1,805	\$18,755	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,755	3	
4	426-630	630	\$1	\$7,529	\$442	\$4	\$7	\$7,981	\$0	\$1,548	\$9,529	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,529	4	
5	631 - 800	8C	\$2	\$14,855	\$1,142	\$31	\$11	\$16,039	\$1	\$4,527	\$20,567	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,567	5	
6	801 - 1,100	11C	\$2	\$4,701	\$831	\$52	\$13	\$5,596	\$0	\$3,377	\$8,973	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,973	6	
7	1,101 - 1,500	15C	\$3	\$2,477	\$661	\$18	\$9	\$3,165	\$0	\$4,125	\$7,290	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,290	7	
8	1,501 - 2,000	2M	\$4	\$911	\$350	\$24	\$16	\$1,302	\$8	\$4,887	\$6,196	\$0	\$0	\$0	\$107	\$0	\$107	\$107	\$6,303	8	
9	2,001 - 3,000	3M	\$4	\$299	\$1,125	\$74	\$160	\$1,658	\$10	\$7,335	\$9,002	\$0	\$0	\$0	\$23	\$0	\$23	\$23	\$9,025	9	
10	3,001 - 5,000	5M	\$5	\$49	\$413	\$39	\$359	\$860	\$14	\$3,672	\$4,545	\$5	\$0	\$5	\$32	\$0	\$32	\$37	\$4,582	10	
11	5,001 - 7,000	7M	\$5	\$16	\$170	\$33	\$192	\$412	\$3	\$1,744	\$2,159	\$33	\$0	\$33	\$41	\$0	\$41	\$74	\$2,233	11	
12																				12	
13	<i>High Pressure</i>																			13	
14	0 - 940	425	\$2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	14
15	941 - 1,050	8C	\$4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	15
16	1,051 - 2,000	2M	\$3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	16
17	2,001 - 2,700	2M	\$4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	17
18	2,701 - 4,000	3M	\$4	\$0	\$4	\$0	\$0	\$4	\$0	\$0	\$4	\$0	\$0	\$0	\$0	\$5	\$5	\$5	\$9	\$9	18
19	4,001 - 6,600	5M	\$6	\$0	\$0	\$0	\$0	\$0	\$3	\$0	\$3	\$0	\$4	\$4	\$6	\$0	\$6	\$9	\$12	\$12	19
20	6,601 - 9,200	7M	\$7	\$7	\$0	\$0	\$0	\$7	\$3	\$6	\$16	\$0	\$4	\$4	\$25	\$15	\$40	\$45	\$61	\$61	20
21	9,201 - 14,500	11M	\$7	\$0	\$232	\$67	\$337	\$636	\$0	\$2,097	\$2,734	\$74	\$29	\$103	\$21	\$0	\$21	\$124	\$2,857	\$2,857	21
22	14,501 - 21,400	16M	\$9	\$54	\$207	\$27	\$108	\$395	\$55	\$1,241	\$1,691	\$107	\$6	\$112	\$42	\$20	\$62	\$175	\$1,866	\$1,866	22
23	21,401 - 24,000	Turbine	\$16	\$0	\$48	\$16	\$0	\$64	\$23	\$278	\$365	\$64	\$10	\$74	\$0	\$18	\$18	\$92	\$456	\$456	23
24	24,001 - 46,000	Turbine	\$17	\$17	\$0	\$0	\$0	\$17	\$32	\$213	\$262	\$118	\$22	\$140	\$48	\$133	\$181	\$321	\$582	\$582	24
25	46,001 - 79,000	Turbine	\$29	\$0	\$0	\$0	\$0	\$29	\$14	\$111	\$125	\$86	\$18	\$104	\$190	\$97	\$287	\$391	\$516	\$516	25
26	79,001 - 377,000	Turbine	\$52	\$106	\$0	\$0	\$0	\$106	\$0	\$51	\$156	\$52	\$34	\$86	\$149	\$0	\$149	\$234	\$391	\$391	26
27	377,001 - 600,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	27
28	600,001 - 4,250,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	28
29	> 4,250,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	29
30																				30	
31	Total		N/A	\$256,840	\$9,920	\$427	\$1,215	\$268,402	\$167	\$40,968	\$309,537	\$538	\$126	\$665	\$684	\$287	\$971	\$1,636	\$311,173	31	

Note:
1. Rows (2) - (31) = Gross MSA Capital Investment Cost (Table LRMCC-1) x Number of MSA's per Customer Segment for each particular flow range (Table LRMCC-6).

Data Sources: tabs: MSA Cost, MSA Fcst

**TABLE LRMCC-nco.1
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**WEIGHTED MSA PVRR FACTOR
2020 TCAP**

	Max Meter Flow Range	Meter, Regulator, & Fitting Costs	Meter & Regulator PVRR Factor	Installation Costs	Installation Costs PVRR Factor	Weighted Average PVRR Factor	
	A	B	C	D	E	F	
	Cfh	(Dollars)	(Percent)	(Dollars)	(Percent)	(Percent)	
1	<i>Medium Pressure</i>						1
2	0-275	\$187.21	132.96%	\$72.22	132.37%	132.80%	2
3	276 - 425	\$473.51	132.96%	\$146.94	132.37%	132.82%	3
4	426-630	\$784.30	132.96%	\$146.94	132.37%	132.87%	4
5	631 - 800	\$1,232.02	132.96%	\$293.88	132.37%	132.85%	5
6	801 - 1,100	\$1,255.22	132.96%	\$293.88	132.37%	132.85%	6
7	1,101 - 1,500	\$1,978.61	132.96%	\$930.39	132.37%	132.77%	7
8	1,501 - 2,000	\$2,555.65	132.96%	\$1,471.42	132.37%	132.74%	8
9	2,001 - 3,000	\$2,579.99	132.96%	\$1,471.42	132.37%	132.75%	9
10	3,001 - 5,000	\$3,336.62	132.96%	\$1,471.42	132.37%	132.78%	10
11	5,001 - 7,000	\$3,965.69	132.96%	\$1,471.42	132.37%	132.80%	11
12							12
13	<i>High Pressure</i>						13
14	0 - 940	\$1,339.29	132.96%	\$930.39	132.37%	132.72%	14
15	941 - 1,050	\$2,847.10	132.96%	\$1,471.42	132.37%	132.76%	15
16	1,051 - 2,000	\$1,650.08	132.96%	\$930.39	132.37%	132.75%	16
17	2,001 - 2,700	\$2,898.94	132.96%	\$1,471.42	132.37%	132.76%	17
18	2,701 - 4,000	\$2,922.51	132.96%	\$1,471.42	132.37%	132.76%	18
19	4,001 - 6,600	\$4,266.66	132.96%	\$1,678.17	132.37%	132.79%	19
20	6,601 - 9,200	\$5,001.44	132.96%	\$1,678.17	132.37%	132.81%	20
21	9,201 - 14,500	\$5,431.52	132.96%	\$1,979.40	132.37%	132.80%	21
22	14,501 - 21,400	\$6,910.85	132.96%	\$1,979.40	132.37%	132.83%	22
23	21,401 - 24,000	\$11,616.33	132.96%	\$4,295.73	132.37%	132.80%	23
24	24,001 - 46,000	\$12,532.26	132.96%	\$4,341.53	132.37%	132.81%	24
25	46,001 - 79,000	\$20,618.81	132.96%	\$8,023.58	132.37%	132.79%	25
26	79,001 - 377,000	\$40,407.56	132.96%	\$11,875.08	132.37%	132.83%	26
27	377,001 - 600,000					132.83%	27
28	600,001 - 4,250,000					132.83%	28
29	> 4,250,000					132.83%	29

Notes:

- Col. (F) = [Col. (B) x Col. (C)] + [Col. (D) x Col. (E)] + [Col. (B) + Col. (D)]
- Rows (27) - (29): Weighted Average PVRR Factor meter & installation weights from Row (26).

**TABLE LRMCC-nc0.2
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**NCO ANNUAL SERVICE, REGULATOR & METER (SRM) NEW HOOKUP INVESTMENT
2020 TCAP**

	Max Meter Flow Range	Meter & Regulator			Pipe & Installation			NCO Hookup Investment	NCO Residential Cost Line X	Forecast New Hookups		
		Meter Type	M&R Cost	PVRR Factor	Service Type	Service Cost	Residential Cost Line X					
	A	B	C	D	E	F	G	H	I	J		
	Cfh		(Dollars)	(Percent)	(Dollars)		(Dollars)	(Percent)	(Dollars)			
1	<i>Medium Pressure</i>											
2	0-275	250	\$259	132.80%	\$345	Poly-0.5"	\$1,912	\$1,863	132.82%	\$2,539	\$2,475	6,055
3	276 - 425	425	\$620	132.82%	\$824	Poly-0.5"	\$1,912	\$1,863	132.82%	\$2,539	\$2,475	209
4	426-630	630	\$931	132.87%	\$1,237	Poly-1"	\$1,912	\$1,863	132.82%	\$2,539	\$2,475	68
5	631 - 800	8C	\$1,526	132.85%	\$2,027	Poly-1"	\$1,912	\$1,863	132.82%	\$2,539	\$2,475	87
6	801 - 1,100	11C	\$1,549	132.85%	\$2,058	Poly-1"	\$1,912	\$1,863	132.82%	\$2,539	\$2,475	34
7	1,101 - 1,500	15C	\$2,909	132.77%	\$3,862	Poly-1"	\$1,912	\$1,863	132.82%	\$2,539	\$2,475	13
8	1,501 - 2,000	2M	\$4,027	132.74%	\$5,346	Poly-1"	\$1,912	\$1,863	132.82%	\$2,539	\$2,475	8
9	2,001 - 3,000	3M	\$4,051	132.75%	\$5,378	Poly-1"	\$1,912	\$1,863	132.82%	\$2,539	\$2,475	9
10	3,001 - 5,000	5M	\$4,808	132.78%	\$6,384	Poly-2"	\$4,500	\$1,863	132.82%	\$5,977	\$2,475	4
11	5,001 - 7,000	7M	\$5,437	132.80%	\$7,220	Poly-2"	\$4,500	\$1,863	132.82%	\$5,977	\$2,475	2
12	<i>High Pressure</i>											
13	<i>High Pressure</i>											
14	0 - 940	425	\$2,270	132.72%	\$3,012	Poly-1"	\$1,912	\$1,863	132.82%	\$2,539	\$2,475	-
15	941 - 1,050	8C	\$4,319	132.76%	\$5,733	Poly-1"	\$1,912	\$1,863	132.82%	\$2,539	\$2,475	-
16	1,051 - 2,000	2M	\$2,580	132.75%	\$3,425	Poly-1"	\$1,912	\$1,863	132.82%	\$2,539	\$2,475	-
17	2,001 - 2,700	2M	\$4,370	132.76%	\$5,802	Poly-1"	\$1,912	\$1,863	132.82%	\$2,539	\$2,475	-
18	2,701 - 4,000	3M	\$4,394	132.76%	\$5,833	Poly-2"	\$4,500	\$1,863	132.82%	\$5,977	\$2,475	0
19	4,001 - 6,600	5M	\$5,945	132.79%	\$7,894	Poly-2"	\$4,500	\$1,863	132.82%	\$5,977	\$2,475	0
20	6,601 - 9,200	7M	\$6,680	132.81%	\$8,871	Poly-2"	\$4,500	\$1,863	132.82%	\$5,977	\$2,475	0
21	9,201 - 14,500	11M	\$7,411	132.80%	\$9,842	Poly-3"	\$9,063	\$1,863	132.82%	\$12,038	\$2,475	2
22	14,501 - 21,400	16M	\$8,890	132.83%	\$11,809	Poly-3"	\$9,063	\$1,863	132.82%	\$12,038	\$2,475	1
23	21,401 - 24,000	Turbine	\$15,912	132.80%	\$21,131	Poly-4"	\$9,547	\$1,863	132.82%	\$12,681	\$2,475	0
24	24,001 - 46,000	Turbine	\$16,874	132.81%	\$22,410	Poly-4"	\$9,547	\$1,863	132.82%	\$12,681	\$2,475	0
25	46,001 - 79,000	Turbine	\$28,642	132.79%	\$38,036	Steel-4"	\$23,162	\$1,863	132.82%	\$30,765	\$2,475	0
26	79,001 - 377,000	Turbine	\$52,283	132.83%	\$69,445	Steel-6"	\$34,098	\$1,863	132.82%	\$45,290	\$2,475	0
27	377,001 - 600,000	Turbine	\$0	132.83%	\$0	Steel-8"	\$39,044	\$1,863	132.82%	\$51,859	\$2,475	-
28	600,001 - 4,250,000	Turbine	\$0	132.83%	\$0	Steel-16"	--	\$1,863	132.82%	--	\$2,475	-
29	> 4,250,000	Turbine	\$0	132.83%	\$0	Steel-24"	--	\$1,863	132.82%	--	\$2,475	-

- Notes:
1. Col. (E) = Col. (C) x Col. (D).
2. Col. (I) = Col. (G) x Col. (H).
3. Col. (K) = [Col. (E) + Col. (I)] x Col. (J).

**TABLE LRMCC-nco.3
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**WEIGHTED MSA BOOK LIFE
2020 TCAP**

	Max Meter Flow Range	Meter, Regulator, & Fitting Costs	Meter & Regulator Book Life	Installation Costs	Installation Costs Book Life	Weighted Average PVRP Factor	
	A	B	C	D	E	F	
	Cfh	(Dollars)	(Years)	(Dollars)	(Years)	(Percent)	
1	<i>Medium Pressure</i>						1
2	0-275	\$187.21	41.0	\$72.22	35.0	39.3	2
3	276 - 425	\$473.51	41.0	\$146.94	35.0	39.6	3
4	426-630	\$784.30	41.0	\$146.94	35.0	40.1	4
5	631 - 800	\$1,232.02	41.0	\$293.88	35.0	39.8	5
6	801 - 1,100	\$1,255.22	41.0	\$293.88	35.0	39.9	6
7	1,101 - 1,500	\$1,978.61	41.0	\$930.39	35.0	39.1	7
8	1,501 - 2,000	\$2,555.65	41.0	\$1,471.42	35.0	38.8	8
9	2,001 - 3,000	\$2,579.99	41.0	\$1,471.42	35.0	38.8	9
10	3,001 - 5,000	\$3,336.62	41.0	\$1,471.42	35.0	39.2	10
11	5,001 - 7,000	\$3,965.69	41.0	\$1,471.42	35.0	39.4	11
12							12
13	<i>High Pressure</i>						13
14	0 - 940	\$1,339.29	41.0	\$930.39	35.0	38.5	14
15	941 - 1,050	\$2,847.10	41.0	\$1,471.42	35.0	39.0	15
16	1,051 - 2,000	\$1,650.08	41.0	\$930.39	35.0	38.8	16
17	2,001 - 2,700	\$2,898.94	41.0	\$1,471.42	35.0	39.0	17
18	2,701 - 4,000	\$2,922.51	41.0	\$1,471.42	35.0	39.0	18
19	4,001 - 6,600	\$4,266.66	41.0	\$1,678.17	35.0	39.3	19
20	6,601 - 9,200	\$5,001.44	41.0	\$1,678.17	35.0	39.5	20
21	9,201 - 14,500	\$5,431.52	41.0	\$1,979.40	35.0	39.4	21
22	14,501 - 21,400	\$6,910.85	41.0	\$1,979.40	35.0	39.7	22
23	21,401 - 24,000	\$11,616.33	41.0	\$4,295.73	35.0	39.4	23
24	24,001 - 46,000	\$12,532.26	41.0	\$4,341.53	35.0	39.5	24
25	46,001 - 79,000	\$20,618.81	41.0	\$8,023.58	35.0	39.3	25
26	79,001 - 377,000	\$40,407.56	41.0	\$11,875.08	35.0	39.6	26
27	377,001 - 600,000					39.6	27
28	600,001 - 4,250,000					39.6	28
29	> 4,250,000					39.6	29

Notes:

1. Col. (F) = [Col (B) x Col. (C)] + [Col. (D) x Col. (E)] ÷ [Col. (B) + Col. (D)]
2. Rows (27) - (29): Weighted Average Book Life meter & installation weights from Row (26).

Data Sources: MSA Cost tab and Finance Group for Book Life

TABLE LRMCC-nc0.4
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
NGO ANNUAL SERVICE, REGULATOR & METER (SRM) REPLACEMENT COST
2020 TCAP

	Meter & Regulator Replacement						Replacement Pipe & Installation					Number of Existing Customers	Total SRM Annual Cost Replacement	
	Max Meter Flow Range	Meter Type	M&R Cost	PVRR Factor	Replacement Investment	Replacement Rate	Service Type	Service Cost	PVRR Factor	Replacement Investment	Replacement Rate			
	A	B	C	D	E	F	G	H	I	J	K			L
	Cfm	(Dollars)	(Percent)	(Dollars)	(Percent)		(Dollars)	(Percent)	(Dollars)	(Percent)		(Dollars)		
1	<i>Medium Pressure</i>													1
2	0-275	250	\$187	132.37%	\$248	2.5%	Poly-0.5"	\$11,727	132.82%	\$15,576	1.5%	829,281	\$198,010,673	
3	276 - 425	425	\$474	132.37%	\$627	2.5%	Poly-0.5"	\$11,727	132.82%	\$15,576	1.5%	30,045	\$7,460,457	
4	426-630	630	\$784	132.37%	\$1,038	2.5%	Poly-1"	\$17,178	132.82%	\$22,817	1.5%	10,199	\$3,737,645	
5	631 - 800	8C	\$1,232	132.37%	\$1,631	2.5%	Poly-1"	\$17,178	132.82%	\$22,817	1.5%	13,468	\$5,137,791	
6	801 - 1,100	11C	\$1,255	132.37%	\$1,662	2.5%	Poly-1"	\$17,178	132.82%	\$22,817	1.5%	5,825	\$2,226,514	
7	1,101 - 1,500	15C	\$1,979	132.37%	\$2,619	2.6%	Poly-1"	\$17,178	132.82%	\$22,817	1.5%	2,540	\$1,035,224	
8	1,501 - 2,000	2M	\$2,556	132.37%	\$3,383	2.6%	Poly-1"	\$17,178	132.82%	\$22,817	1.5%	1,604	\$686,068	
9	2,001 - 3,000	3M	\$2,580	132.37%	\$3,415	2.6%	Poly-1"	\$17,178	132.82%	\$22,817	1.5%	2,284	\$978,747	
10	3,001 - 5,000	5M	\$3,337	132.37%	\$4,417	2.6%	Poly-2"	\$44,335	132.82%	\$58,887	1.5%	979	\$970,859	
11	5,001 - 7,000	7M	\$3,966	132.37%	\$5,249	2.5%	Poly-2"	\$44,335	132.82%	\$58,887	1.5%	421	\$426,146	
12	<i>High Pressure</i>													12
13	<i>High Pressure</i>													13
14	0 - 940	425	\$1,339	132.37%	\$1,773	2.6%	Poly-1"	\$17,178	132.82%	\$22,817	1.5%	-	\$0	
15	941 - 1,050	8C	\$2,847	132.37%	\$3,769	2.6%	Poly-1"	\$17,178	132.82%	\$22,817	1.5%	-	\$0	
16	1,051 - 2,000	2M	\$1,650	132.37%	\$2,184	2.6%	Poly-1"	\$17,178	132.82%	\$22,817	1.5%	-	\$0	
17	2,001 - 2,700	2M	\$2,899	132.37%	\$3,837	2.6%	Poly-1"	\$17,178	132.82%	\$22,817	1.5%	-	\$0	
18	2,701 - 4,000	3M	\$2,923	132.37%	\$3,869	2.6%	Poly-2"	\$44,335	132.82%	\$58,887	1.5%	2	\$1,956	
19	4,001 - 6,600	5M	\$4,267	132.37%	\$5,648	2.5%	Poly-2"	\$44,335	132.82%	\$58,887	1.5%	3	\$3,068	
20	6,601 - 9,200	7M	\$5,001	132.37%	\$6,620	2.5%	Poly-2"	\$44,335	132.82%	\$58,887	1.5%	10	\$10,465	
21	9,201 - 14,500	11M	\$5,432	132.37%	\$7,190	2.5%	Poly-3"	\$63,311	132.82%	\$84,092	1.5%	396	\$569,291	
22	14,501 - 21,400	16M	\$6,911	132.37%	\$9,148	2.5%	Poly-3"	\$63,311	132.82%	\$84,092	1.5%	221	\$328,350	
23	21,401 - 24,000	Turbine	\$11,616	132.37%	\$15,377	2.5%	Poly-4"	\$70,504	132.82%	\$93,645	1.5%	31	\$55,433	
24	24,001 - 46,000	Turbine	\$12,532	132.37%	\$16,589	2.5%	Poly-4"	\$70,504	132.82%	\$93,645	1.5%	37	\$67,271	
25	46,001 - 79,000	Turbine	\$20,619	132.37%	\$27,293	2.5%	Steel-4"	\$51,498	132.82%	\$68,402	1.5%	19	\$32,586	
26	79,001 - 377,000	Turbine	\$40,408	132.37%	\$53,488	2.5%	Steel-6"	\$71,986	132.82%	\$95,614	1.5%	8	\$22,212	
27	377,001 - 600,000	Turbine	\$0	0.00%	\$0	2.5%	Steel-8"	\$92,703	132.82%	\$123,131	1.5%	-	\$0	
28	600,001 - 4,250,000	Turbine	\$0	0.00%	\$0	2.5%	Steel-16"	--	132.82%		1.5%	-	\$0	
29	> 4,250,000	Turbine	\$0	0.00%	\$0	2.5%	Steel-24"		132.82%	\$0	1.5%	-	\$0	

- Notes:
- Col. (E) = Col. (C) x Col. (D).
 - Col. (J) = Col. (H) x Col. (I).
 - For Rows (2) - (3): Col. (M) = [Col. (E) x Col. (L) x Col. (F) x [1 - Note 6]] + [Col. (J) x Col. (L) x Col. (K)]
 - For Rows (4) - (28): Col. (M) = [Col. (E) x Col. (L) x Col. (F) x [1 - Note 7]] + [Col. (J) x Col. (L) x Col. (K)]
 - Col. (L) Number of Existing Customers = 2016 Recorded Customers (Total at Inception of TCAP Period) x Proportion of Total @ Meter Flow.

Data Sources: tabs: MSA Cost, MSA PVRR, MSA NCOp1, MSA Life, Factors.
 Data Sources: SDG&E Gas Engineering & Finance Group

TABLE LRMCC-nco.5
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
FORECAST NEW HOOKUPS FOR 2020, 2021, 2022
2020 TCAP

	Customer Class	Year-End		2020 Hookups	Year-End		2021 Hookups	Year-End		2022 Hookups	Average Annual New Hookups	
		2019	2020		2020	2021		2021	2022			
	A	B	C	D	E	F	G	E	F	G	H	
1	Residential	861,541	867,507	5,966	867,507	874,002	6,495	874,002	880,694	6,692	6,384	1
2	NGV	27	27	0	27	28	1	28	28	0	0	2
3	Core C&I - GN3	30,712	30,844	132	30,844	30,940	96	30,940	31,027	87	105	3
4	Noncore C&I - GTNC	50	51	1	51	51	0	51	51	0	0	4
5	EG - Cogen	90	93	3	93	96	3	96	99	3	3	5
6	Power Plants	-	-	-	-	-	-	-	-	-	-	6
7												7
8	Total Customers	892,419	898,521	6,102	898,521	905,116	6,595	905,116	911,898	6,782	6,493	8

- Notes:
1. Col. (D) = Col. (C) - Col (B).
 2. Col. (G) = Col. (F) - Col (E).
 3. Col. (J) = Col. (I) - Col (H).
 4. Col. (K) = Average Col. (D) & Col (G) & Col (J).

**TABLE LRMCC-nc0.6
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**FORECAST NEW HOOKUPS BY METER TYPE BY CUSTOMER CLASS
2020 TCAP**

	Max Meter Flow Range	Meter Type	Res	NGV	GN-3	Total Core	GTNC			EG			Total Noncore	System Total
							MPD	HPD	Total	< 3 MM	> 3 MM	Total		
	A	B	C	D	E	F	G	H	I	J	K	L	N	O
	Cfh													
1	<i>Medium Pressure</i>													
2	0-275	250	6,003	0	52	6,055	-	-	-	0	-	0	0	6,055
3	276 - 425	425	200	-	10	209	-	-	-	-	-	-	-	209
4	426-630	630	63	-	6	68	-	-	-	-	-	-	-	68
5	631 - 800	8C	77	0	10	87	-	-	-	-	-	-	-	87
6	801 - 1,100	11C	26	-	7	34	-	-	-	-	-	-	-	34
7	1,101 - 1,500	15C	8	-	5	13	-	-	-	-	-	-	-	13
8	1,501 - 2,000	2M	2	0	4	7	-	-	-	1	-	1	1	8
9	2,001 - 3,000	3M	3	0	6	9	-	-	-	0	-	0	0	9
10	3,001 - 5,000	5M	1	0	3	4	0	-	0	0	-	0	0	4
11	5,001 - 7,000	7M	1	0	1	2	0	-	0	0	-	0	0	2
12														
13	<i>High Pressure</i>													
14	0 - 940	425	-	-	-	-	-	-	-	-	-	-	-	-
15	941 - 1,050	8C	-	-	-	-	-	-	-	-	-	-	-	-
16	1,051 - 2,000	2M	-	-	-	-	-	-	-	-	-	-	-	-
17	2,001 - 2,700	2M	-	-	-	-	-	-	-	-	-	-	-	-
18	2,701 - 4,000	3M	0	-	-	0	-	-	-	-	-	-	-	0
19	4,001 - 6,600	5M	-	0	-	0	-	-	-	0	-	0	0	0
20	6,601 - 9,200	7M	0	0	0	0	-	-	-	0	-	0	0	0
21	9,201 - 14,500	11M	1	-	1	2	0	-	0	0	-	0	0	2
22	14,501 - 21,400	16M	0	0	0	1	0	-	0	0	-	0	0	1
23	21,401 - 24,000	Turbine	0	0	0	0	0	-	0	-	-	0	0	0
24	24,001 - 46,000	Turbine	0	0	0	0	0	-	0	-	0	0	0	0
25	46,001 - 79,000	Turbine	-	0	0	0	0	-	0	-	0	0	0	0
26	79,001 - 377,000	Turbine	0	-	0	0	0	-	0	-	0	0	0	0
27	377,001 - 600,000	Turbine	-	-	-	-	-	-	-	-	-	-	-	-
28	600,001 - 4,250,000	Turbine	-	-	-	-	-	-	-	-	-	-	-	-
29	> 4,250,000	Turbine	-	-	-	-	-	-	-	-	-	-	-	-
30														
31	Total Customers		6,384	0	105	6,490	0	-	0	3	-	3	3	6,493

Note:
1. New Hookups Forecast on Basis on Average Annual Net Customer Gain for 2017 - 2019 TCAP Period.

verify 6,384 0 105 6,490 0 - 0 3 - 3 3 6,493
Data Sources: Tabs: MSA Cost, MSAlloc v2

TABLE LRMCC-nc.7
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT

NCO ANNUALIZED SRM NEW HOOKUP & NO REPLACEMENT INVESTMENT BY CUSTOMER CLASS
2020 TCAP

	Max Meter Flow Range	Meter Type	Per Customer SRM Invstmt	Res Per Customer G-R SRM Line X	Res	Other Res	NGV	GN-3	Total Core	GTNC			EG		Total	Total Noncore
										MPD	HPD	Total	< 3 MM	> 3 MM		
	A	B	C		D		E	F	G	H	I	J	K	L	M	O
	Cfh		(Dollars)													
1	<i>Medium Pressure</i>															
2	0-275	250	\$21	\$20	\$16,480,789	\$283,039	\$169	\$317,769	\$17,081,766	\$0	\$0	\$0	\$20	\$0	\$0	\$0
3	276 - 425	425	\$23	\$23	\$594,063	\$30,812	\$0	\$67,796	\$692,671	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	426-630	630	\$25	\$25	\$200,123	\$12,238	\$0	\$41,864	\$254,225	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5	631 - 800	8C	\$29	\$29	\$282,392	\$22,829	\$28	\$87,296	\$392,545	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	801 - 1,100	11C	\$27	\$26	\$80,220	\$15,493	\$0	\$58,446	\$154,159	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7	1,101 - 1,500	15C	\$33	\$32	\$27,474	\$7,704	\$0	\$46,213	\$81,391	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8	1,501 - 2,000	2M	\$38	\$38	\$8,603	\$3,717	\$73	\$46,514	\$58,906	\$0	\$0	\$0	\$1,017	\$0	\$0	\$0
9	2,001 - 3,000	3M	\$33	\$33	\$2,443	\$11,204	\$80	\$60,482	\$74,209	\$0	\$0	\$0	\$190	\$0	\$0	\$0
10	3,001 - 5,000	5M	\$55	\$39	\$396	\$9,230	\$156	\$41,786	\$51,569	\$55	\$0	\$55	\$363	\$0	\$0	\$55
11	5,001 - 7,000	7M	\$65	\$47	\$144	\$4,694	\$31	\$20,704	\$25,573	\$387	\$0	\$387	\$489	\$0	\$0	\$387
12	<i>High Pressure</i>															
13	0 - 940	425	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
14	941 - 1,050	8C	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15	1,051 - 2,000	2M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16	2,001 - 2,700	2M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
17	2,701 - 4,000	3M	\$41	\$29	\$0	\$41	\$0	\$0	\$41	\$0	\$0	\$0	\$0	\$46	\$92	\$46
18	4,001 - 6,600	5M	\$307	\$229	\$0	\$0	\$146	\$0	\$146	\$0	\$197	\$197	\$291	\$0	\$0	\$197
19	6,601 - 9,200	7M	\$284	\$217	\$219	\$0	\$135	\$275	\$630	\$0	\$183	\$183	\$1,076	\$639	\$1,278	\$822
20	9,201 - 14,500	11M	\$101	\$57	\$0	\$8,671	\$0	\$28,577	\$37,248	\$1,010	\$389	\$1,399	\$287	\$0	\$0	\$1,399
21	14,501 - 21,400	16M	\$132	\$79	\$481	\$5,082	\$820	\$18,475	\$24,857	\$1,588	\$85	\$1,674	\$627	\$298	\$596	\$1,971
22	21,401 - 24,000	Turbine	\$161	\$113	\$0	\$652	\$231	\$2,814	\$3,696	\$645	\$104	\$749	\$0	\$181	\$363	\$930
23	24,001 - 46,000	Turbine	\$249	\$177	\$178	\$0	\$475	\$3,138	\$3,791	\$1,743	\$320	\$2,063	\$708	\$1,961	\$3,922	\$4,025
24	46,001 - 79,000	Turbine	\$1,214	\$715	\$0	\$0	\$579	\$4,708	\$5,287	\$3,643	\$781	\$4,424	\$8,054	\$4,099	\$8,197	\$8,523
25	79,001 - 377,000	Turbine	\$2,208	\$1,384	\$2,796	\$0	\$0	\$2,140	\$4,936	\$2,208	\$1,419	\$3,627	\$6,275	\$0	\$0	\$3,627
26	377,001 - 600,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
27	600,001 - 4,250,000	Turbine														
28	> 4,250,000	Turbine														
29	Total				\$17,680,321	\$415,407	\$2,922	\$848,995	\$18,947,645	\$11,280	\$3,478	\$14,758	\$19,395	\$7,224	\$14,448	\$21,982
30	Forecast Customers				856,297	17,770	28	30,937	905,032	44	9	53	72	18	90	143
31	Average SRM Cost				\$21	\$23	\$106	\$27	\$21	\$256	\$386	\$278	\$269	\$401	\$161	\$154

- Notes:
1. Row (29) = Total of NCO Annualized SRM New Hookup & Replacement Investment x Number of MSA's per Customer Segment.
2. Row (32) = Row (29) + Row (30).

Data Sources: tabs: MSA Cost, MSA Fcst, MSA NCOp1

TABLE LRMCC-nco.7
 SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
 NCO ANNUALIZED SRM NEW HOOKUP & REPLACEMENT INVESTMENT BY CUSTOMER CLASS
 2020 TCAP

	Max Meter Flow Range	Meter Type	Per Customer SRM Investmt	Res SRM Investmt	Res	Other Res	Res	NGV	GN-3	Total Core	GTNC			EG			Total	Total Noncore	System Total	
											MPD	HPD	Total	< 3 MM	< 3 MM	> 3 MM				
	A	B	C		D		D	E	F	G	H	I	J	K	L	M	N	O	P	
	(Dollars)																			
1	Medium Pressure																			
2	0-275	250	\$257	\$257	\$207,676,047	\$3,492,754	\$211,168,801	\$2,085	\$3,921,329	\$215,092,215	\$0	\$0	\$0	\$244	\$244	\$0	\$244	\$0	\$215,092,215	
3	276 - 425	425	\$270	\$270	\$7,010,073	\$357,172	\$7,367,245	\$0	\$785,882	\$8,153,128	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,153,128	
4	426-630	630	\$390	\$390	\$3,153,147	\$189,722	\$3,342,869	\$0	\$649,001	\$3,991,870	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,991,870	
5	631 - 800	8C	\$411	\$410	\$3,993,244	\$318,557	\$4,311,802	\$391	\$1,218,143	\$5,530,336	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,530,336	
6	801 - 1,100	11C	\$411	\$411	\$1,248,728	\$237,612	\$1,484,340	\$0	\$896,333	\$2,380,673	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,380,673	
7	1,101 - 1,500	15C	\$446	\$445	\$379,277	\$105,358	\$484,635	\$0	\$631,980	\$1,116,615	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,116,615	
8	1,501 - 2,000	2M	\$477	\$476	\$107,793	\$46,227	\$154,020	\$909	\$578,418	\$733,346	\$0	\$0	\$0	\$12,644	\$12,644	\$0	\$12,644	\$0	\$733,346	
9	2,001 - 3,000	3M	\$473	\$472	\$34,844	\$158,559	\$193,403	\$1,126	\$855,930	\$1,050,459	\$0	\$0	\$0	\$2,687	\$2,687	\$0	\$2,687	\$0	\$1,050,459	
10	3,001 - 5,000	5M	\$1,073	\$1,058	\$10,687	\$181,090	\$191,777	\$3,069	\$819,807	\$1,014,653	\$1,073	\$0	\$1,073	\$7,118	\$7,118	\$0	\$7,118	\$1,073	\$1,015,726	
11	5,001 - 7,000	7M	\$1,102	\$1,085	\$3,289	\$80,177	\$83,466	\$525	\$353,635	\$437,626	\$6,614	\$0	\$6,614	\$8,355	\$8,355	\$0	\$8,355	\$6,614	\$444,240	
12	High Pressure																			
13	0 - 940	425	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
14	941 - 1,050	8C	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
15	1,051 - 2,000	2M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
16	2,001 - 2,700	2M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
17	2,701 - 4,000	3M	\$957	\$945	\$0	\$967	\$0	\$967	\$0	\$967	\$0	\$0	\$0	\$0	\$0	\$1,077	\$1,077	\$1,077	\$2,043	
18	4,001 - 6,600	5M	\$1,791	\$1,714	\$0	\$0	\$0	\$853	\$0	\$853	\$0	\$1,151	\$1,697	\$1,697	\$0	\$1,697	\$1,697	\$1,151	\$2,005	
19	6,601 - 9,200	7M	\$1,429	\$1,362	\$1,376	\$0	\$1,376	\$681	\$1,385	\$3,442	\$0	\$919	\$5,416	\$5,416	\$3,216	\$3,216	\$8,632	\$4,135	\$7,577	
20	9,201 - 14,500	11M	\$1,577	\$1,533	\$0	\$135,451	\$135,451	\$0	\$446,431	\$581,882	\$15,775	\$6,084	\$21,859	\$4,483	\$4,483	\$0	\$4,483	\$21,859	\$803,741	
21	14,501 - 21,400	16M	\$1,697	\$1,644	\$9,965	\$65,149	\$75,114	\$10,514	\$236,863	\$322,491	\$20,366	\$1,091	\$21,457	\$8,039	\$8,039	\$3,819	\$11,858	\$25,275	\$347,766	
22	21,401 - 24,000	Turbine	\$2,094	\$2,045	\$0	\$8,461	\$8,461	\$4,199	\$36,528	\$47,982	\$8,375	\$1,346	\$9,721	\$0	\$0	\$2,356	\$2,356	\$12,077	\$60,059	
23	24,001 - 46,000	Turbine	\$2,198	\$2,125	\$2,147	\$0	\$2,147	\$4,189	\$27,692	\$34,029	\$15,385	\$2,826	\$18,211	\$6,247	\$6,247	\$17,308	\$23,555	\$35,519	\$69,547	
24	46,001 - 79,000	Turbine	\$3,025	\$2,525	\$0	\$0	\$0	\$1,441	\$11,725	\$13,167	\$9,074	\$1,944	\$11,018	\$20,057	\$20,057	\$10,208	\$30,265	\$21,226	\$34,392	
25	79,001 - 377,000	Turbine	\$5,179	\$4,356	\$8,800	\$0	\$8,800	\$0	\$5,020	\$13,820	\$5,179	\$3,330	\$8,509	\$14,721	\$14,721	\$0	\$14,721	\$8,509	\$22,329	
26	377,001 - 600,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
27	600,001 - 4,250,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
28	> 4,250,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
29	Total							\$229,014,672	\$28,778	\$11,476,103	\$240,519,553	\$81,841	\$18,691	\$100,532	\$91,708	\$91,708	\$37,982	\$129,690	\$138,515	\$240,658,068
30	Forecast Customers							874,067	28	30,937	905,032	44	9	53	72	18	90	-	143	905,175
31	Average SRM Cost							\$262	\$1,041	\$371	\$266	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Notes:
 1. Row (29) = Total of NCO Annualized SRM New Hookup & Replacement Investment x Number of MSA's per Customer Segment.
 2. Row (32) = Row (29) * Row (30).

Data Sources: tabs: MSA Cost, MSA Fost, MSA NCOp1, MSA NCOp2

SDG&E 2020 TCAP

Section 2

Distribution Cost Model for LRMC Studies

SDGE gas 2020

SDG&E Cost Allocation LRMC Distribution Cost Results

MARGINAL COST COMPONENTS \$000's		Source
Medium Pressure Distribution Costs \$/mmcf	\$274.34	Dist MC
High Pressure Distribution Costs \$/mmcf	\$54.44	Dist MC

**TABLE LRMD-1
 SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
 LRMC O&M Loaders
 SDGE gas 2020**

	Input	Source (1)
O&M w/o A&G HPD	\$769	LF-O&M Tab
O&M w/o A&G MPD	\$16,672	LF-O&M Tab
Marginal Percent of O&M HPD	74.63%	Dist O&M MC
Marginal Percent of O&M MPD	74.63%	Dist O&M MC
Marginal A&G/Payroll Taxes Loading Factor as a % of O&M expenses	23.95%	LF-A&G Tab
General Plant Loading Factor as a % of O&M expenses	17.59%	LF-GPL Tab
Annualized M&S Customer Related Costs \$/yr	\$135,355	LF-M&S Tab
Annualized M&S HDP Distribution Load Related Costs \$/yr	\$46,365	LF-M&S Tab
Annualized M&S MDP Distribution Load Related Costs \$/yr	\$189,326	LF-M&S Tab
O&M WEF for Escalation	1.10	O&M WEF Tab

Notes:
 (1) from "SDGE OM Loaders" file

**TABLE LRMD-4
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**DISTRIBUTION REGRESSION INVESTMENTS
SDGE gas 2020**

	Year	Demand-Rel Portion	HPD Inv as % total Dist Inv	MPD Portion	HPD Portion	Handy- Whitman Index	MPD Adjusted to 2020\$'s	HPD Adjusted to 2020\$'s	MPD Cumulative	HPD Cumulative
	A	B	C	D=B*C	E=B-D	F	G	H	I	J
1	2007	\$7,772	19.67%	\$6,243	\$1,529	0.7821	\$8,850	\$2,167	\$8,850	\$2,167
2	2008	\$4,595	19.67%	\$3,691	\$904	0.8517	\$4,805	\$1,177	\$13,654	\$3,344
3	2009	\$6,659	19.67%	\$5,349	\$1,310	0.8650	\$6,856	\$1,679	\$20,510	\$5,023
4	2010	\$5,569	19.67%	\$4,473	\$1,096	0.8749	\$5,669	\$1,388	\$26,179	\$6,411
5	2011	\$8,370	19.67%	\$6,723	\$1,647	0.9325	\$7,994	\$1,958	\$34,172	\$8,369
6	2012	\$7,269	19.67%	\$5,839	\$1,430	0.9895	\$6,542	\$1,602	\$40,715	\$9,971
7	2013	\$5,571	19.67%	\$4,475	\$1,096	0.9891	\$5,016	\$1,228	\$45,731	\$11,199
8	2014	\$8,028	19.67%	\$6,449	\$1,579	0.9980	\$7,164	\$1,754	\$52,895	\$12,954
9	2015	\$11,438	19.67%	\$9,188	\$2,250	0.9968	\$10,219	\$2,503	\$63,114	\$15,456
10	2016	\$7,823	19.67%	\$6,284	\$1,539	1.0000	\$6,967	\$1,706	\$70,081	\$17,162
11	2017	\$6,010	19.67%	\$4,828	\$1,182	1.0269	\$5,212	\$1,276	\$75,293	\$18,439
12	2018	\$7,592	19.67%	\$6,099	\$1,493	1.0549	\$6,409	\$1,570	\$81,702	\$20,008
13	2019	\$7,781	19.67%	\$6,250	\$1,531	1.0816	\$6,407	\$1,569	\$88,109	\$21,577
14	2020	\$7,985	19.67%	\$6,414	\$1,571	1.1087	\$6,414	\$1,571	\$94,523	\$23,148
15	2021	\$8,181	19.67%	\$6,572	\$1,609	1.1356	\$6,416	\$1,571	\$100,940	\$24,719
16	2022	\$8,389	19.67%	\$6,739	\$1,650	1.1643	\$6,417	\$1,571	\$107,356	\$26,291

Notes:

1. Cols. (B) - (E) expressed in nominal \$'s. Col. B recorded through 2016, 2017 - 2022 forecast
2. Cols. (J) - (K) expressed in Year 2020 \$'s.
3. Cols. (B) and (C) 2020 costs
4. Col. (B), Rows (1) - (16) from SDG&E Gas Distribution Engineering
5. Col F = Historical HPD Plant Investment Allocation Factor = HPD Mains Mileage Weighted by Net Plant Investment.

**TABLE LRMD-3
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
DISTRIBUTION PLANT WEIGHTED AVERAGE ECONOMIC INDEX
SDGE gas 2020**

		FERC Account						
		375				378 measuring and		
		Structures and				Regulating Station		
		Improvements	376 - Mains CI	376 - Mains S	376 - Main P	Equip	Weighted	
Year		JUGPDS&I@PCF	JUGPDMCI@PCF	JUGPDMS@PCF	JUGPDMP@PCF	JUGPDSTM&R@PCF	Average	
	A	B	C	D	E	F	G	
1	2007	0.8266	0.5765	0.7383	0.8165	0.7200	0.7821	1
2	2008	0.8715	0.6607	0.8453	0.8589	0.8083	0.8517	2
3	2009	0.8639	0.7356	0.8287	0.8944	0.8008	0.8650	3
4	2010	0.8991	0.7628	0.8668	0.8840	0.8198	0.8749	4
5	2011	0.9244	0.7683	0.9620	0.9123	0.9279	0.9325	5
6	2012	0.9383	0.8669	1.0477	0.9494	0.9824	0.9895	6
7	2013	0.9527	0.9257	1.0355	0.9579	0.9691	0.9891	7
8	2014	0.9739	1.0012	1.0401	0.9687	0.9985	0.9980	8
9	2015	0.9802	0.9890	1.0152	0.9844	0.9911	0.9968	9
10	2016	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	10
11	2017	1.0275	1.0161	1.0391	1.0178	1.0359	1.0269	11
12	2018	1.0551	1.0445	1.0740	1.0411	1.0634	1.0549	12
13	2019	1.0857	1.0611	1.1064	1.0637	1.0920	1.0816	13
14	2020	1.1144	1.0809	1.1367	1.0886	1.1186	1.1087	14
15	2021	1.1406	1.1074	1.1623	1.1165	1.1424	1.1356	15
16	2022	1.1695	1.1303	1.1902	1.1459	1.1704	1.1643	16
17								17
18	2016 Plant (M\$)	\$43	\$0	\$202,902	\$291,246	\$18,056	\$512,247	18
19	2016 Plant (%)	0.01%	0%	40%	57%	4%	100%	19

Notes:

1. Economic Factors for distribution plant from Handy-Whitman Gas Utility Construction Cost Indexes
2. Plant Investment totals from SDG&E gas FERC Form 2 for year ending December 31, 2016 pp. 208 - 209.
2016 Plant Investment from FERC Form 2 for Year Ended December 31, 2016, Page 209.

**TABLE LRMD-5
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**HP DISTRIBUTION ANNUAL CUSTOMER GAIN
SDGE gas 2020**

	Year	Core Customers on HPD	Noncore Customers on HPD	System Total Customers on HPD	% of CORE customers on MPD	Core Customers on MPD	% of NONCORE customers on MPD	NONCore Customers on MPD	System Total Customers on MPD
	A	B	C	D=B+C	E	F=B*E	G	H=C*G	I=F+H
1	2007	834,901	116	835,017	99.999%	834,891	84.874%	98	834,989
2	2008	838,732	118	838,850	99.999%	838,722	84.874%	100	838,822
3	2009	842,323	117	842,440	99.999%	842,313	84.874%	99	842,412
4	2010	847,181	120	847,301	99.999%	847,171	84.874%	102	847,272
5	2011	852,016	115	852,131	99.999%	852,005	84.874%	98	852,103
6	2012	856,693	106	856,799	99.999%	856,682	84.874%	90	856,772
7	2013	861,873	91	861,964	99.999%	861,862	84.874%	77	861,940
8	2014	865,790	98	865,888	99.999%	865,779	84.874%	83	865,862
9	2015	872,762	93	872,855	99.999%	872,751	84.874%	79	872,830
10	2016	877,978	106	878,084	99.999%	877,967	84.874%	90	878,057
11	2017	880,244	121	880,365	99.999%	880,233	84.874%	103	880,336
12	2018	886,374	119	886,493	99.999%	886,363	84.874%	101	886,464
13	2019	892,279	119	892,398	99.999%	892,268	84.874%	101	892,369
14	2020	898,378	119	898,497	99.999%	898,367	84.874%	101	898,468
15	2021	904,970	119	905,089	99.999%	904,958	84.874%	101	905,059
16	2022	911,748	119	911,867	99.999%	911,737	84.874%	101	911,838

Notes:

- Updated TCAP Forecast
- Data from SDGE R2 reports. Assume that core is 100% HPD and noncore is GTNC+EG exclude PP's, TLS (on transmission) through 2017
Average No. Customers - 12 months to Date, for Core = Total CORE + Res Aggreg Trans + Com Aggreg Trans
Noncore = Cogen Trans + NonCogen Trans (exclude TLS and Power Plant EG since these are served by transmission).

MP Cust. Factor:	Core	NonCore	Sources
# Customers on MPD	905,021	101	TCAP Forecast 6-11-2018
Cumulative # on HPD	905,032	119	TCAP Forecast 6-11-2018
% of HPD customers on MPD	99.999%	84.874%	

**TABLE LRMD-6
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**HPD PEAK-DAY REGRESSION DETERMINANTS
SDGE gas 2020**

**1-35 PEAK-DAY (1-35 YEAR PEAK-DAY OCCURRENCE)
MMcfd**

	Year	Res	NGV	GN-3	Core mmcf on HPD	GTNC MPD	GTNC HPD	EG < 3 MMth	EG > 3 MMth	Power Plant Load	Noncore mmcf on HPD	System Total mmcf on HPD	System Total Customers on HPD	Annual Change in Customers on HPD N=M-M	HPD Incremental Demand mmcf O=L/M* N	HPD Cumulative demand mmcf P=O+O
	A	B	C	D	E	F	G	H	I	J	K	L	M	N=M-M	O=L/M* N	P=O+O
	2006															
1	2007	265	3	104	371	12	5	6	36	43	102	474	835,017	835,017	474	474
2	2008	267	3	104	374	13	7	6	30	49	105	479	838,850	3,833	2	476
3	2009	258	3	100	361	10	5	5	39	75	135	495	842,440	3,590	2	478
4	2010	268	3	101	372	11	6	4	38	39	98	470	847,301	4,861	3	481
5	2011	262	3	99	364	10	5	5	47	1	69	433	852,131	4,830	2	483
6	2012	269	3	106	379	8	2	3	20	1	35	413	856,799	4,668	2	485
7	2013	270	3	103	377	9	2	3	20	1	36	412	861,964	5,165	2	488
8	2014	279	4	111	394	8	2	4	19	2	36	430	865,888	3,924	2	490
9	2015	276	4	110	390	7	2	4	19	2	34	424	872,855	6,967	3	493
10	2016	272	4	111	388	6	1	4	20	1	32	419	878,084	5,229	2	496
11	2017	288	5	106	398	6	2	7	20		34	433	880,365	2,281	1	497
12	2018	281	5	87	373	6	2	7	11		25	398	886,493	6,128	3	500
13	2019	283	5	85	374	6	2	7	11		26	399	892,398	5,905	3	502
14	2020	283	6	84	373	6	2	7	11		26	398	898,497	6,098	3	505
15	2021	284	6	82	373	6	2	7	11		26	398	905,089	6,592	3	508
16	2022	285	6	81	372	6	2	7	11		26	398	911,867	6,779	3	511

Notes

Updated Historical from Demand Forecasting through 2016

**TABLE LRMD-8
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**MPD PEAK-DAY REGRESSION DETERMINANTS
SDGE gas 2020**

**1-35 PEAK-DAY (1-35 YEAR PEAK-DAY OCCURRENCE)
MMCFD**

	Year A	Res B	NGV C	GN-3 D	Core mmcf on MPD E	GTNC MPD F	GTNC HPD G	EG < 3 MMth H	EG > 3 MMth I	Noncore mmcf on MPD J	System Total mmcf on MPD K	System Total Customers on MPD L	Annual Change in Customers on MPD M=L-L	MPD Incremental Demand mmcf N=K/L* M	MPD Cumulative demand mmcf P=N+N
1															
2	2006	269	1	101	371	6	0	4	0	10	381				
3	2007	265	1	102	368	5	0	3	0	8	375	834,989	834,989	375	375
4	2008	267	1	102	370	5	0	2	0	8	378	838,822	3,833	2	377
5	2009	258	1	98	357	5	0	3	0	8	365	842,412	3,590	2	379
6	2010	268	1	99	368	6	0	1	2	9	378	847,272	4,860	2	381
7	2011	262	1	98	360	7	0	2	2	10	371	852,103	4,831	2	383
8	2012	269	1	104	375	6	0	2	2	11	385	856,772	4,669	2	385
9	2013	270	1	101	372	6	0	3	2	11	383	861,940	5,167	2	387
10	2014	279	1	109	390	5	0	3	2	10	400	865,862	3,923	2	389
11	2015	276	2	108	385	6	0	4	2	12	398	872,830	6,968	3	392
12	2016	272	2	109	383	6	0	5	2	12	395	878,057	5,227	2	395
13	2017	288	3	104	395	6	0	6	4	15	410	880,336	2,279	1	396
14	2018	289	3	106	398	6	0	6	2	13	412	886,464	6,128	3	399
15	2019	288	3	106	397	6	0	6	2	13	410	892,369	5,905	3	401
16	2020	286	4	106	396	6	0	6	2	13	409	898,468	6,098	3	404
17	2021	284	4	106	393	6	0	6	2	13	407	905,059	6,592	3	407
18	2022	279	4	105	389	6	0	6	2	13	402	911,838	6,779	3	410

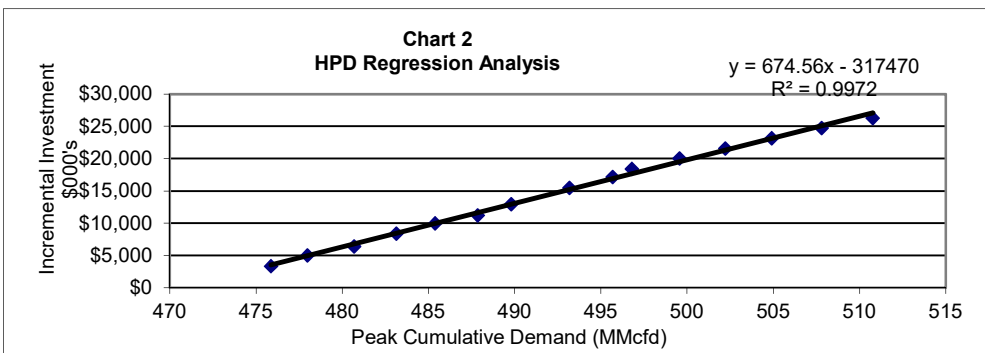
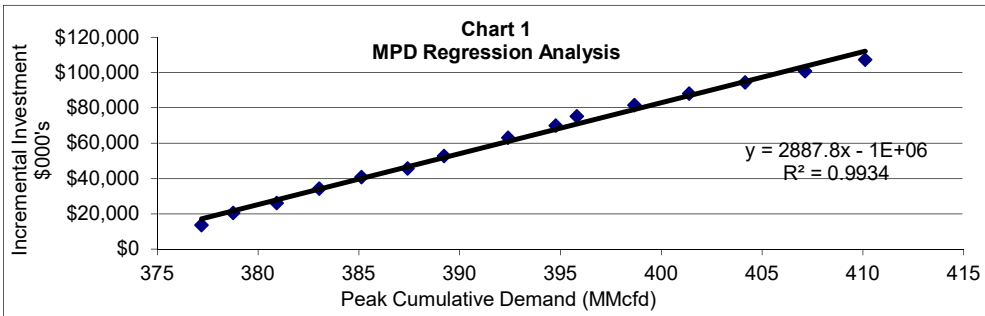
Note:

1. Updated Historical from Demand Forecasting through 2016

TABLE LRMD-9
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
Distribution Data for Regression Analysis
Capital Investment and Marginal Demand Measures

	Cumulative Distribution Investment \$000's	Cumulative HPD Investment \$000's	Cumulative MPD Investment \$000's	Cumulative HPD Demand mmcf/d	Cumulative MPD Demand mmcf/d
2008	\$16,998	\$3,344	\$13,654	476	377
2009	\$25,533	\$5,023	\$20,510	478	379
2010	\$32,590	\$6,411	\$26,179	481	381
2011	\$42,541	\$8,369	\$34,172	483	383
2012	\$50,686	\$9,971	\$40,715	485	385
2013	\$56,930	\$11,199	\$45,731	488	387
2014	\$65,849	\$12,954	\$52,895	490	389
2015	\$78,570	\$15,456	\$63,114	493	392
2016	\$87,243	\$17,162	\$70,081	496	395
2017	\$93,732	\$18,439	\$75,293	497	396
2018	\$101,711	\$20,008	\$81,702	500	399
2019	\$109,687	\$21,577	\$88,109	502	401
2020	\$117,672	\$23,148	\$94,523	505	404
2021	\$125,659	\$24,719	\$100,940	508	407
2022	\$133,647	\$26,291	\$107,356	511	410
Marginal Investment	\$674.56	\$2,887.83			

TABLE LRMD-9 (Cont)
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
Distribution Data for Regression Analysis
Capital Investment and Marginal Demand Measures



**TABLE LRMD-10
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
FULLY LOADED DISTRIBUTION LRMCs
SDGE gas 2020**

	HPD Marginal Cost \$/mcf	MPD Marginal Cost \$/mcf	Source
<u>Marginal Cost of High Pressure Distribution</u>			
Marginal Investment Cost \$/mcf	\$674.56	\$2,887.83	Regression
RECC Factor	7.73%	7.73%	Finance
Annualized Investment Cost \$/mcf	\$52.16	\$223.28	
<u>O&M Expenses:</u>			
O&M w/o A&G HPD \$000's	\$769	\$16,672	Loader Input
Marginal Percent of O&M HPD	75%	75%	Loader Input
HPD O&M Expense \$000's	\$574	\$12,442	
2016 1-35 Peak-Day Demand mmcf	412	383	HPD PD Det/ MPD PD Det
HPD O&M \$/mcf	\$1.39	\$32.50	
O&M WEF for Escalation	1.10	1.10	Loader Input
O&M Cost \$/mcf (2013 \$'s)	\$1.53	\$35.69	
<u>O&M Loaders:</u>			
A&G Loader:			
A&G Loader as % of direct O&M	23.95%	23.95%	Loader Input
% of A&G to be Functionalized	0%	0%	
A&G Loader \$/mcf (as % of direct O&M)	\$0.37	\$8.55	
General Plant Loader as % of direct O&M			
General Plant Loader \$/mcf	\$0.27	\$6.28	Loader Input
<u>M&S Loaders:</u>			
Annualized M&S HDP Distribution Load Related Costs \$	\$46,365	\$189,326	Loader Input
2016 1-35 Peak-Day Demand mcf	412,211	382,880	HPD PD Det/ MPD PD Det
O&M WEF for Escalation	1.10	1.10	Loader Input
M&S Cost \$/mcf	\$0.12	\$0.54	
<u>Marginal Unit Cost of Distribution</u>	\$54.44	\$274.34	

Notes:

Weighted average distribution RECC Factor from SDG&E Market Analysis & Planning Department.

Rows (9) - (12) & (24) - (27) from Workpapers

Tables "LF-1" and "LF-4", "LF-5", and "LF-6".

Escalation of O&M using weighted average escalation factor

SDG&E 2020 TCAP

**Section 3
O&M Loaders Model for LRMC Studies**

**SDGE 2020 TCAP
LRMC O&M Loader Model**

	Output	Source Tab
O&M w/o A&G HPD	\$769	LF-O&M Tab
O&M w/o A&G MPD	\$16,672	LF-O&M Tab
Marginal Percent of O&M HPD	74.63%	Dist O&M MC
Marginal Percent of O&M MPD	74.63%	Dist O&M MC
Marginal A&G/Payroll Taxes Loading Factor as a % of O&M expenses	23.95%	LF-A&G Tab
General Plant Loading Factor as a % of O&M expenses	17.59%	LF-GPL Tab
Annualized M&S Customer Related Costs \$/yr	\$135,355	LF-M&S Tab
Annualized M&S HDP Distribution Load Related Costs \$/yr	\$46,365	LF-M&S Tab
Annualized M&S MDP Distribution Load Related Costs \$/yr	\$189,326	LF-M&S Tab
O&M WEF for Escalation	1.10	O&M WEF Tab
Marginal Cust-Rel O&M		
870 - Operation Supervision & Engineering	\$5,679	Dist O&M MC
871 - Distribution Load Dispatching	\$26	Dist O&M MC
874 - Mains & Services Expenses	\$3,346	Dist O&M MC
875 - Measuring & Regulating Station Expenses	\$0	Dist O&M MC
878 - Meter & House Regulator Expenses	\$4,772	Dist O&M MC
879 - Customer Installations Expenses	\$10,019	Dist O&M MC
880 - Other Expenses	\$6,601	Dist O&M MC
881 - Rents	\$0	Dist O&M MC
885 - Maint Supervision & Engineering	\$10	Dist O&M MC
887 - Maintenance of Mains	\$1,002	Dist O&M MC
888 - Maintenance Of Compressor Station Eq	\$0	Dist O&M MC
889 - Maintenance of Meas. & Reg Station Eq	\$0	Dist O&M MC
892 - Maintenance of Services	\$1,792	Dist O&M MC
893 - Maint of Meters & House Regulators	\$1,266	Dist O&M MC
894 - Maintenance of Other Equipment	\$325	Dist O&M MC

TABLE LF-1
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
FUNCTIONALIZATION OF YEAR 2013 O&M EXPENSES
2020 TCAP

		\$ thousands								
Functional Factor		Base Margin	Customer			Total	Total	MPD	HPD	Customer Costs
			MPD	HPD	Customer Costs					
Gas Distribution:										
870- Operation Supervision & Engineering	Other Distr Operating Exp	\$9,076	\$1,752	\$81	\$7,243	\$9,076	100.0%	19.3%	0.9%	79.8%
871- Distr Load Dispatching	Other Distr Operating Exp	\$32	\$6	\$0	\$26	\$32	100.0%	19.3%	0.9%	79.8%
874- Mains & Services Exp	Demand Customer Factor DCF	\$7,566	\$4,027	\$186	\$3,354	\$7,566	100.0%	53.2%	2.5%	44.3%
875- Meas & Reg Station Exp	Demand Only Factor DOF	\$794	\$759	\$35	\$0	\$794	100.0%	95.6%	4.4%	0.0%
877- Meas & Reg Station Exp-City Gas Ck Station	Demand Only Factor DOF	\$0	\$0	\$0	\$0	\$0	100.0%	95.6%	4.4%	0.0%
878- Meter & House Regulator Exp	100% Customer Cost	\$4,819	\$0	\$0	\$4,819	\$4,819	100.0%	0.0%	0.0%	100.0%
879- Customer Installations Exp	100% Customer Cost	\$11,615	\$0	\$0	\$11,615	\$11,615	100.0%	0.0%	0.0%	100.0%
880- Other Expenses	Other Distr Operating Exp	\$8,907	\$1,719	\$79	\$7,109	\$8,907	100.0%	19.3%	0.9%	79.8%
881- Rents	Demand Only Factor DOF	\$28	\$27	\$1	\$0	\$28	100.0%	95.6%	4.4%	0.0%
885- Maint Supervision & Engineering	Other Distr Maintenance Exp	\$27	\$17	\$1	\$10	\$27	100.0%	61.1%	2.8%	36.1%
887- Maint.of Mains	Maint.of Mains Factor	\$10,261	\$8,024	\$370	\$1,868	\$10,261	100.0%	78.2%	3.6%	18.2%
888- Maint. Of Compressor Station Equipment	Demand Only Factor DOF	\$0	\$0	\$0	\$0	\$0	100.0%	95.6%	4.4%	0.0%
889- Maint.of Meas. & Reg Station Eq	Demand Only Factor DOF	\$341	\$326	\$15	\$0	\$341	100.0%	95.6%	4.4%	0.0%
892- Maint.of Services	100% Customer Cost	\$1,792	\$0	\$0	\$1,792	\$1,792	100.0%	0.0%	0.0%	100.0%
893- Maint.of Meters & Regulators	100% Customer Cost	\$1,266	\$0	\$0	\$1,266	\$1,266	100.0%	0.0%	0.0%	100.0%
894- Maint.of Other Eq	DIR/Other Distr Maintenance Exp	\$342	\$16	\$1	\$325	\$342	100.0%	4.7%	0.2%	95.0%
		\$56,866	\$16,672	\$769	\$39,426	\$56,866				
Calculation of Allocators:										
DCF Demand-Cust Factor										
		Total	Med. Prss	Hi Press	Customer					
Miles in 2016		15,365	8,177	377	6,811	Source: Gas Distribution Engineering				
		100.0%	53.2%	2.5%	44.3%					
Demand Only Factor										
		Total	Med. Prss	Hi Press	Customer					
Miles in 2016 (excludes service lines)		8,554	8,177	377	0	<== Customer set to Zero since this excludes service line.				
		100.0%	95.6%	4.4%	0.0%					
\$ thousands										
Other Distr Operating Exp factor										
		Total	MPD	HPD	Customer					
874- Mains & Services Exp		\$7,566	\$4,027	\$186	\$3,354					
875- Meas & Reg Station Exp		\$794	\$759	\$35	\$0					
877- Meas & Reg Station Exp-City Gas Ck Station		\$0	\$0	\$0	\$0					
878- Meter & House Regulator Exp		\$4,819	\$0	\$0	\$4,819					
879- Customer Installations Exp		\$11,615	\$0	\$0	\$11,615					
Total		\$24,794	\$4,786	\$221	\$19,788					
		100.0%	19.3%	0.9%	79.8%					
Other Distr Maintenance Exp										
		Total	MPD	HPD	Customer					
887- Maint.of Mains		\$10,261	\$8,024	\$370	\$1,868					
888- Maint. Of Compressor Station Equipment		\$0	\$0	\$0	\$0					
889- Maint.of Meas. & Reg Station Eq		\$341	\$326	\$15	\$0					
892- Maint.of Services		\$1,792	\$0	\$0	\$1,792					
893- Maint.of Meters & Regulators		\$1,266	\$0	\$0	\$1,266					
Total		\$13,660	\$8,350	\$385	\$4,926					
		100.0%	61.1%	2.8%	36.1%					
Maint.of Mains Factor DOF/DIR										
		Total	MPD	HPD	Customer					
DIR portion		18.2%			18.2%	Portion of sub acct 887.3 identified as service line & allocated to Dist Cust.				
Remainder to be allocated by DOF factor		81.8%				SDG&E Distribution Engineering				
DOF factor		100.0%	95.6%	4.4%	0.0%					
		81.8%	78.2%	3.6%	0.0%					
		100.0%	78.2%	3.6%	18.2%					
\$ thousands										
DIR/Other Distr Maintenance Exp Factor										
		Total	MPD	HPD	Customer					
Total acct 894 Main Other Equip		\$342								
Public access NGV station O&M		\$315				NGV Compression Rate Adder - NGV Group (only O&M)				
% of total		92.2%								
DIR portion		92.2%			92.2%					
Remainder to be allocated by DOF factor		7.8%								
Other Distr Maintenance Exp Factor		100.0%	61.1%	2.8%	36.1%					
		7.8%	4.7%	0.2%	2.8%					
		100.0%	4.7%	0.2%	95.0%					

TABLE LF-2, Page 1
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
FUNCTIONALIZATION OF YEAR 2016 O&M EXPENSES
2020 TCAP

		FERC Form 2 12/31/2016		Distribution Demand				
FERC Account		Total	Medium Pressure	High Pressure	Transmission	Storage	Distribution Customer	Supply
A		B	C	D	E	F	G	H
		\$thousands						
1	Purchased Gas Expenses:							
2	807.4- Purchased Gas Calculations Expenses	\$0						\$0
3	807.5- Other Purchased Gas Expenses	\$0						\$0
4	+ Purchased Gas Expense Total	\$0						\$0
5								
6	Other Storage:							
7	840- Oper Supervision & Engineering	\$0					\$0	
8	841- Oper Labor & Expenses	\$142					\$142	
9	843-Maintenance	\$0						
10	+ Other Storage Total	\$142.0					\$142.0	
11								
12	Gas Transmission							
13	850- Oper Supervision & Eng	\$2,950			\$2,950			
14	851- Sys Control & Load Dispatching	\$674			\$674			
15	852- Communication Sys Exp	\$0			\$0			
16	853- Compr Station Labor & Exp	\$2,496			\$2,496			
17	855- Other Fuel & Power for Compr Stations	\$179			\$179			
18	856- Mains Expenses	\$974			\$974			
19	857- Meas & Reg Station Exp	\$253			\$253			
20	858- Trans & Compression of Gas by Others	\$0			\$0			
21	859- Other Expenses	\$98			\$98			
22	860- Rents	\$3			\$3			
23	861- Maint Supervision & Eng	\$123			\$123			
24	862-Maint Structures and Improvements	\$0			\$0			
24	863- Maint of Mains	\$2,208			\$2,208			
25	864- Maint of Compr Station Eq	\$609			\$609			
26	865- Maint of Meas & Reg Station Eq	\$138			\$138			
26	866 - Maint of Communication Eq	\$0			\$0			
27	867- Maint of Other Eq	\$0			\$0			
28	+ Net Gas Transmission	\$10,705			\$10,705			

TABLE LF-2, Page 2
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
FUNCTIONALIZATION OF YEAR 2016 O&M EXPENSES
2020 TCAP

		FERC Form 2 12/31/2016		Distribution Demand				
Description		Total	Medium Pressure	High Pressure	Transmission	Storage	Distribution Customer	Supply
A		C	D	E	F	G	H	I
		\$thousands						
1	Gas Distribution:							
2	870- Operation Supervision & Engineering	\$9,076	\$1,752	\$81			\$7,243	
3	871- Distr Load Dispatching	\$32	\$6	\$0			\$26	
4	874- Mains & Services Exp	\$7,566	\$4,027	\$166			\$3,354	
5	875- Meas & Reg Station Exp	\$794	\$759	\$35			\$0	
5	877- Meas & Reg Station Exp-City Gas Check Station	\$0	\$0	\$0			\$0	
6	878- Meter & House Regulator Exp	\$4,819	\$0	\$0			\$4,819	
7	879- Customer Installations Exp	\$11,615	\$0	\$0			\$11,615	
8	880- Other Expenses	\$8,907	\$1,719	\$79			\$7,109	
9	881- Rents	\$28	\$27	\$1			\$0	
10	885- Maint Supervision & Engineering	\$27	\$17	\$10			\$0	
11	887- Maint. of Mains	\$10,261	\$8,024	\$370			\$1,868	
12	888 - Maint. Of Compressor Station Equipment	\$0	\$0	\$0			\$0	
13	889- Maint. of Meas. & Reg Station Eq	\$341	\$326	\$15			\$0	
14	892- Maint. of Services	\$1,792	\$0	\$0			\$1,792	
15	893- Maint. of Meters & Regulators	\$1,266	\$0	\$0			\$1,266	
16	894- Maint. of Other Eq	\$342	\$16	\$1			\$325	
17	+ Distribution Total	\$56,866	\$16,672	\$769			\$39,426	
18								
19	Customer Accounts							
20	901- Supervision	\$0					\$0	
21	902- Meter Reading Expenses	\$674					\$674	
22	903- Cust Records & Collection Exp	\$17,511					\$17,511	
23	904- Uncollectible Accounts	\$2,192					\$2,192	
24	905- Misc Cust Accounts Exp	\$0					\$0	
25	Total Customer Accounts	\$20,377					\$20,377	
26	less 903 & 904 - Adjustments	\$2,756					\$2,756	
27	+ Net Customer Accounts	\$17,621					\$17,621	
28								
29	Customer Service & Informational Expense							
30	907- Supervision	\$5					\$5	
31	908- Cust Assistance Exp	\$26,739					\$26,739	
32	909-Informational & Instructional Exp	\$15					\$15	
33	910- Misc Cust Service & Informational Exp	\$59					\$59	
34	Total Cust Svc & Info	\$26,818					\$26,818	
35	less CARE/DSM/DAP/Energy Efficiency Exp	\$22,838					\$22,838	
36	+ Net Cust Svc & Info	\$3,980					\$3,980	
37								
38	= Subtotal O&M w/o A&G	\$89,314	\$16,672	\$769	\$10,705	\$142	\$61,027	\$0
39	Percent of Total	100.0%	18.7%	0.9%	12.0%	0.2%	68.3%	0.0%

Notes:

- O&M expenses from SDG&E Gas FERC Form 2 for year ending December 31, 2016, pp. 319 - 325.
- O&M expenses assigned to service categories using functional basis.
- CARE Program expenses of approximately \$494,634 are excluded from FERC Acct # 903 because such costs recovered through G-PPPS Surcharge.
- "less CARE/DSM/DAP/Energy Efficiency Exp" = these are refundable program costs excluded from FERC Accounts 907 - 910.

Backed out cost for 2016:	FERC # 908	FERC # 903	Totals
CARE	\$0	\$494,634	\$494,634
Low Income Energy Efficiency	\$8,815,967		\$8,815,967
Energy Efficiency	\$11,973,365		\$11,973,365
Self Generation Program	\$998,082		\$998,082
Assembly Bill 802 Memorandum Account	\$39,455		\$39,455
California Solar Initiative Thermal Program Memorandum Account	\$1,088,475		\$1,088,475
Energy Data Request Memorandum Account	\$11,635		\$11,635
GHG Administrative Costs Memorandum Account		\$69,031	\$69,031
Pipeline Safety and Reliability Memorandum Account	-\$88,545		(\$88,545)
Total Adjustment for FERC	\$22,838,434	\$563,666	\$23,402,100

TABLE LF-3
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
MARGINAL COST ASSESSMENT - DISTRIBUTION O&M EXPENSES
2020 TCAP

Distribution O&M Account	Total O&M	Demand-Related Distribution						Customer-Related			
		Medium Pressure	Marginal Portion	Marginal MPD O&M	High Pressure	Marginal Portion	Marginal HPD O&M	Distribution Customer	Marginal Portion	Marginal Cust-Rel O&M	
A	B	C	D	E	F	G	H	I	J	K	
1 Gas Distribution:											1
2 870 - Operation Supervision & Engineering	\$9,076	\$1,752	78%	\$1,373	\$81	78%	\$63	\$7,243	78%	\$5,679	2
3 871 - Distribution Load Dispatching	\$32	\$6	100%	\$6	\$0	100%	\$0	\$26	100%	\$26	3
4 874 - Mains & Services Expenses	\$7,566	\$4,027	100%	\$4,017	\$186	100%	\$185	\$3,354	100%	\$3,346	4
5 875 - Measuring & Regulating Station Expenses	\$794	\$759	100%	\$759	\$35	100%	\$35	\$0	100%	\$0	5
6 878 - Meter & House Regulator Expenses	\$4,819	\$0	99%	\$0	\$0	99%	\$0	\$4,819	99%	\$4,772	6
7 879 - Customer Installations Expenses	\$11,615	\$0	86%	\$0	\$0	86%	\$0	\$11,615	86%	\$10,019	7
8 880 - Other Expenses	\$8,907	\$1,719	93%	\$1,596	\$79	93%	\$74	\$7,109	93%	\$6,601	8
9 881 - Rents	\$28	\$27	100%	\$27	\$1	100%	\$1	\$0	100%	\$0	9
10 885 - Maint Supervision & Engineering	\$27	\$17	100%	\$17	\$1	100%	\$1	\$10	100%	\$10	10
11 887 - Maintenance of Mains	\$10,261	\$8,024	54%	\$4,304	\$370	54%	\$198	\$1,868	54%	\$1,002	11
12 888 - Maintenance Of Compressor Station Eq	\$0	\$0	0%	\$0	\$0	0%	\$0	\$0	0%	\$0	12
13 889 - Maintenance of Meas. & Reg Station Eq	\$341	\$326	100%	\$326	\$15	100%	\$15	\$0	100%	\$0	13
14 892 - Maintenance of Services	\$1,792	\$0	100%	\$0	\$0	100%	\$0	\$1,792	100%	\$1,792	14
15 893 - Maint of Meters & House Regulators	\$1,266	\$0	100%	\$0	\$0	100%	\$0	\$1,266	100%	\$1,266	15
16 894 - Maintenance of Other Equipment	\$342	\$16	100%	\$16	\$1	100%	\$1	\$325	100%	\$325	16
17 Distribution Total	\$56,866	\$16,672	74.6%	\$12,442	\$769	74.6%	\$574	\$39,426	88%	\$34,837	17

Notes:

1. O&M expenses assigned to customer- and demand-related functional service categories at Workpapers to Testimony, Table "LF-2", Page 2 of 2 (tab LF-O&M)
2. Col. (E) = Col. (C) x Col. (D).
3. Col. (H) = Col. (F) x Col. (G).
4. Col. (K) = Col. (I) x Col. (J).
5. Marginal Cost assessment performed in conjunction w/ SDGE Gas Distribution Operations Department subject matter experts.

**TABLE LF-4
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**MATERIALS & SUPPLIES LOADING FACTOR
2020 TCAP**

	Description	2016	Portion of Total Plant	M&S	Annualized	
		Year End Plant Balances		Allocation	M&S @ 13.12%	
	A	B	C	D	E	
		(Dollars)	(Percent)	(Dollars)	(Dollars)	
1	Materials & Supplies			\$3,311,038		1
2						2
3	Storage	\$1,887,070	0.1%	\$3,710	\$487	3
4	Transmission	\$234,688,556	13.9%	\$461,344	\$60,548	4
5	Distribution					5
6	Demand - HPD	\$179,714,608	10.7%	\$353,278	\$46,365	6
7	Demand - MPD	\$733,847,585	43.6%	\$1,442,577	\$189,326	7
8	Customer	\$524,650,721	31.1%	\$1,031,344	\$135,355	8
9	General Plant	\$9,556,837	0.6%	\$18,787	\$2,466	9
10						10
11	Total	\$1,684,345,377	100.0%	\$3,311,038	\$434,546	11

Notes:

Row (6) Plant Balance = [Total Dist Plant - Cust-Rel Dist Plant] x Historical HPD Plant Factor.
 Row (7) Plant Balance = [Total Dist Plant - Cust-Rel Dist Plant] x [1 - Historical HPD Plant Factor].
 For Rows (6) - (7) : 19.7% = Historical HPD Plant Investment Allocation Factor =
 . Total Plant Investment substituted in place of NBV because LRMV not dependant on age of investment.
 Row (8) Plant Balance = Dist Plant Accounts 380 (Services) + 381 (Meters) + 382 (Meter Installations) + 387 (NGV Stations + Other Equipm

Calculation Distribution Plant:	Sources
Total Plant Distribution	\$1,499,320,000
Less 388 (ARO's)	(\$60,113,363)
Less 387	(\$5,223,272)
Plus NGV in 387	\$4,229,549
Total Plant Distribution	\$1,438,212,914
	Plant
G-387.11	\$993,723
G-387.12	\$3,571,353
G-387.13	\$658,196
Total FERC 387	\$5,223,272

Calculation Customer Plant:	Sources
380 - Services	\$267,051,851
381 - Meters	\$157,587,827
382 - Meter Installation	\$95,781,494
387 - NGV/ Other equipment	\$4,229,549
Total Customer Plant	\$524,650,721

**TABLE LF-5
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
ADMINISTRATIVE & GENERAL LOADING FACTOR
2020 TCAP**

	FERC Account	Account Description	FERC 2016 Recorded	Marginal Portion	Marginal A&G	Comments
	A	B	C	D	E	
			(1,000\$)	(Percent)	(1,000\$)	
1	920	Administrative & General Salaries	\$10,054	0.00%	\$0	1
2	921	Office Supplies & Expenses	\$2,992	2.09%	\$63	2
3	922	Administrative Expenses Transferred	-\$2,498	0.00%	\$0	3
4	923	Outside Services Employed	\$28,550	0.00%	\$0	4
5	924	Property Insurance	\$3,611	0.00%	\$0	5
6	925	Injuries & Damages	\$4,916	100.00%	\$4,916	6
7	926	Employee Pensions & Benefits	\$10,589	99.37%	\$10,522	7
8	927	Franchise Requirements	\$9,455	0.00%	\$0	8
9	928	Regulatory Commission Expense	\$3,739	25.89%	\$968	9
	930.1	General Advertising Expense	\$50	0.00%	\$0	
10	930.2	Miscellaneous General Expense	\$1,607	21.89%	\$352	10
11	931	Rents	\$3,210	0.00%	\$0	11
12	932	Maintenance of General Plant	\$2,799	11.17%	\$313	12
13		Total A&G Expenses	\$79,074		\$17,133	13
14						14
15		Payroll Taxes	\$4,261		\$4,261	15
16		Total A&G and Payroll Taxes	\$83,335		\$21,395	16
		Remove P&B and Payroll tax on non-marginal A&G			-2739.7	Rates PT 0.0663
		Remove P&B and Payroll tax on exclusions			-443.4	P&B 0.2062
17		Net marginal A&G			18,212	17
18		Total O&M w/o Recorded A&G Expenses	\$89,314		\$89,314	18
19						19
20		Total O&M	\$172,649			20
21		(Net of Compressor Fuel & Gas Purchases)				21
22						22
23		A&G/O&M Loading Factor			23.95%	23

Notes:

- A&G expenses from SDG&E Gas FERC Form 2 for year ending December 31, 2016, pp. 325.
- Row (23) = Marginal A&G Expenses @ Row 16 ÷ Total O&M Less A&G @ Row 18 are excluded from base margin. Amount from FERC Form 1 page 351 Line 2 - Reimbursement Fees.
- Payroll Taxes from FERC Form 2 for the year ended 12-31-2016 - front of the report in summary version right before the cover page for FERC Form 1. The amount for 2016 is \$4,261.36 "Taxes Other than Income & Property Taxes". Selected Financial Data = Class A, B, C and D Gas Utilities, page 2
- Marginal Portion per LRMC study

**TABLE LF-6
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**GENERAL PLANT LOADING FACTOR
2020 TCAP**

Description A		2016 Recorded B (Dollars)	Comments	Recorded B (Dollars)
1	Total General, Common Plant (12/31/2016)	\$273,925,498	1 FERC 2016	\$164,602,743
2			2	
3	Weighted Average General, Common Plant RECC	11.09%	3 2016 RECC	10.29%
4			4	
5	Annualized Plant	\$30,368,510	5	\$16,930,026
6			6	
7	O&M Expenses (2013 recorded)	\$172,649,260	7 LF- A&G tab.	\$160,615,835
8			8	
9	General Plant Loading Factor	17.59%	9	10.54%

Notes:

1. Common and General Gas Plant from SDG&E Gas FERC Form 1 pp. 356.1 and FERC Form 2 pp. 209, for year ending December 31, 2016, respectively.

Calculation Total General, Common Plant :

Calculation Total General, Common Plant :	Sources
Total General Plant	\$13,701,067 FERC Form 2 pp. 209
Common Utility Plant - Gas	\$260,224,431 SDG&E Gas FERC Form 1 pp. 356.1
Total	\$273,925,498

TABLE LF-7
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
O&M WEIGHTED ESCALATION FACTOR
2020 TCAP

	Description	Dollars	Percent	
	A	B	C	
1	2016 Total Gas O&M Expenses	\$172,649,260	100%	1
2	2016 Total Salaries & Wages	\$65,747,940	38%	2
3	2016 Non-Labor O&M Expenses	\$106,901,320	62%	3
4				4
5	2016 O&M Labor Multiplier	1.000		5
6	2020 O&M Labor Multiplier	1.118	112%	6
7				7
8	2016 O&M Non-Labor Multiplier	1.000		8
9	2020 O&M Non-Labor Multiplier	1.086	109%	9
10				10
11	Weighted O&M Escalation to 2020	1.0983	1.0983	11

Notes:

1. Row (3) = Row (1) - Row (2).
2. Row (11) = [Row (9) x Row (3) percent] + [Row (6) x Row (2) percent].
3. Row (1) from Table "LF-5".
4. Rows (5) - (9) from O&M Cost Indexes

TABLE LRMCC-10a
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
ALLOCATION FACTORS FOR CUSTOMER O&M EXPENSES
2020 TCAP

	Description	Res	NGV	GN-3	Total Core	GINC			Cogen			Total Noncore	System Total
						MPD	HPD	Total	< 3 MM	> 3 MM	Total		
	A	B	C	D	E	F	G	H	I	J	K	M	N
1	Total Field Orders												
2	Allocator - 2016 Count	264,820	6	36,983	301,808	6	-	6	36	13	49	55	301,864
3	Alloc %	88%	0%	12%	100%	0%	0%	0%	0%	0%	0%	0%	100%
4													
5	Customer Services Field Orders												
6	Allocator - 2016 Count	264,820	6	36,983	301,808	6	-	6	36	13	49	55	301,864
7	Alloc %	88%	0%	12%	100%	0%	0%	0%	0%	0%	0%	0%	100%
8													
9	Customer Contact Center CSR Call Information												
10	Allocator - Call Volume Weighted by Handle Time - Year 2016 data	2,133,340	-	177,087	2,310,427	-	-	-	-	-	-	-	2,310,427
11	Alloc %	92%	0%	8%	100%	0%	0%	0%	0%	0%	0%	0%	100%
12													
13	Active Meters - All Customers												
14	Allocator - 2016 Count	847,654	58	31,920	879,632	44	14	58	76	16	92	150	879,782
15	Alloc %	96%	0%	4%	100%	0%	0%	0%	0%	0%	0%	0%	100%
16													
17	Active Meters - Noncore Commercial, EG												
18	Allocator - 2016 Count				-	44	14	58	76	16	92	150	150
19	Alloc %	0%	0%	0%	0%	29%	9%	39%	51%	11%	61%	100%	100%
20													
21	Effort Study - Federal Accounts												
22	Allocator - 2016 Count	10	-	217	227	7	-	7	2	1	3	10	237
23	Alloc %	4%	0%	92%	96%	3%	0%	3%	1%	0%	1%	4%	100%
24													
25	Active Billing Accounts - All Customers												
26	Allocator - 2016 Count	848,778	55	30,270	879,103	35	9	44	61	8	69	113	879,216
27	Alloc %	97%	0%	3%	100%	0%	0%	0%	0%	0%	0%	0%	100%
28													
29	Active Billing Accounts - Mass Markets Customers												
30	Allocator - 2016 Count	848,778	55	30,270	879,103	-	-	-	-	-	-	-	879,103
31	Alloc %	97%	0%	3%	100%	0%	0%	0%	0%	0%	0%	0%	100%
32													
33	Active Billing Accounts - Major Markets Customers												
34	Allocator - 2016 Count				-	35	9	50	61	8	69	119	119
35	Alloc %	0%	0%	0%	0%	29%	8%	42%	51%	7%	58%	100%	100%
36													
37	C&I Markets												
38	Noncore Allocator - Active Accounts				0	35	9	44	61	8	69	113	113
39	Alloc %	0.00%	0.00%	99.63%	100%	0.12%	0.03%	0.18%	0.20%	0.03%	0.23%	0.40%	100%
40													
41	Demand Response Program - Commercial Customers												
42													

TABLE LRMCC-10a
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
ALLOCATION FACTORS FOR CUSTOMER O&M EXPENSES
2020 TCAP

	Description	Res	NGV	GN-3	Total Core	GINC			Cogen			Total Noncore	System Total
						MPD	HPD	Total	< 3 MM	> 3 MM	Total		
	A	B	C	D	E	F	G	H	I	J	K	M	N
43	Noncore Allocator - Active Accounts					35	9	44					
44	Alloc %	0.00%	0.00%	90.00%	90%	8%	2%	10%	0%	0%	0%	10%	100%
45													
46	Meter Reading Function Net Allocation												
47	Allocator - M\$'s	\$52,264	\$4	\$1,968	\$54,236	\$3	\$1	\$4	\$5	\$1	\$6	\$9	\$54,245
48	Alloc %	96%	0%	4%	100%	0%	0%	0%	0%	0%	0%	0%	100%
49													
50	FERC 901 - 903 Net Allocation												
51	Allocator - M\$'s	847,654	58	31,920	879,632	44	14	58	76	16	92	150	879,782
52	Alloc %	96%	0%	4%	100%	0%	0%	0%	0%	0%	0%	0%	100%

TABLE LRMCC-10b
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
SUMMARY OF LRMCC ALLOCATION OF CUSTOMER O&M EXPENSES
2020 TCAP

	O&M Operational Activity	Total O&M	Res	NGV	GN-3	Total Core	GTNC			Cogen			IPP	Total Noncore	System Total
							MPD	HPD	Total	< 3 MM	> 3 MM	Total			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	CUSTOMER CONTACT Total	\$9,845	\$9,090	\$0	\$755	\$9,845	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,845
2	METER READING Total	\$54,245	\$52,264	\$4	\$1,968	\$54,236	\$3	\$1	\$4	\$5	\$1	\$6	\$0	\$9	\$54,245
3	BILLING SERVICES Total	\$1,812,291	\$1,749,325	\$113	\$62,386	\$1,811,825	\$140	\$40	\$181	\$244	\$41	\$285	\$0	\$466	\$1,812,291
4	CUSTOMER RESEARCH & COMMUNICATION Total	\$116,324	\$112,297	\$7	\$4,005	\$116,309	\$5	\$1	\$6	\$8	\$1	\$9	\$0	\$15	\$116,324
5	CONSUMER PROGRAMS & SERVICES Total	\$200,191	\$192,907	\$13	\$7,239	\$200,159	\$9	\$3	\$12	\$16	\$3	\$20	\$0	\$32	\$200,191
6	OTHER Total	\$2,586	\$2,491	\$0	\$94	\$2,585	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,586
7															
8	Total	\$2,195,481	\$2,118,374	\$138	\$76,447	\$2,194,959	\$157	\$45	\$203	\$273	\$47	\$320	\$0	\$522	\$2,195,481
9	Allocation %	100%	96%	0%	3%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Note:
 1. O&M Operational Activities cost assigned using allocation methods identified for each SDG&E department in the Customer Operations division.
 Data from below

ALLOCATION OF CUSTOMER CONTACT CENTER O&M EXPENSES BY CUSTOMER CLASS

	Cost Center(s)	Total O&M	Res	NGV	GN-3	Total Core	GTNC			Cogen			IPP	Total Noncore	System Total
							MPD	HPD	Total	< 3 MM	> 3 MM	Total			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	CUSTOMER CONTACT CENTER														
2	Allocator - CSR Call Volume Weighted by Handle Time		92%	0%	8%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
3	Allocation (\$)	\$9,845	\$9,090	\$0	\$755	\$9,845	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,845
10	Total Customer Contact Center O&M Allocation (\$)	\$9,845	\$9,090	\$0	\$755	\$9,845	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$9,845
11	Allocation %	100%	92%	0%	8%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Source SDGE Details Acct 901-910 Costs.xls

ALLOCATION OF METER READING O&M EXPENSES BY CUSTOMER CLASS

	Cost Center(s)	Total O&M	Res	NGV	GN-3	Total Core	GTNC			Cogen			IPP	Total Noncore	System Total
							MPD	HPD	Total	< 3 MM	> 3 MM	Total			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	METER READING														
2	Allocator - Active Meters: All Customers		96%	0%	4%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
3	Allocation (\$)	\$54,245	\$52,264	\$4	\$1,968	\$54,236	\$3	\$1	\$4	\$5	\$1	\$6	\$0	\$9	\$54,245
4	Total Meter Reading O&M Allocation (\$)	\$54,245	\$52,264	\$4	\$1,968	\$54,236	\$3	\$1	\$4	\$5	\$1	\$6	\$0	\$9	\$54,245
5	Allocation %	100%	96%	0%	4%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Source SDGE Details Acct 901-910 Costs.xls

ALLOCATION OF BILLING SERVICES CUSTOMER O&M EXPENSES BY CUSTOMER CLASS

	Cost Center(s)	Total O&M	Res	NGV	GN-3	Total Core	GTNC			Cogen			IPP	Total Noncore	System Total
							MPD	HPD	Total	< 3 MM	> 3 MM	Total			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	MAJOR MARKET BILLING Total														
2	Allocator - Active Meters N/C C&I		0%	0%	0%	0%	29%	9%	39%	51%	11%	61%	0%	100%	100%
3	Allocation (\$)	\$233	\$0	\$0	\$0	\$0	\$68	\$22	\$90	\$118	\$25	\$143	\$0	\$233	\$233
4	MASS MRKET BILLING Total														
5	Allocator - Active Accounts: All Customers		97%	0%	3%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
6	Allocation (\$)	1,812,058	\$1,749,325	\$113	\$62,386	\$1,811,825	\$72	\$19	\$91	\$126	\$16	\$142	\$0	\$233	\$1,812,058
7	Total Billing Services O&M Allocation (\$)	\$1,812,291	\$1,749,325	\$113	\$62,386	\$1,811,825	\$140	\$40	\$181	\$244	\$41	\$285	\$0	\$466	\$1,812,291
8	Allocation %	100%	97%	0%	3%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Source SDGE Details Acct 901-910 Costs.xls

ALLOCATION OF CUSTOMER RESEARCH & COMMUNICATION O&M EXPENSES BY CUSTOMER CLASS

	Cost Center(s)	Total O&M	Res	NGV	GN-3	Total Core	GTNC			Cogen			IPP	Total Noncore	System Total
							MPD	HPD	Total	< 3 MM	> 3 MM	Total			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	COMMUNICATIONS Total														
2	Allocator - Active Accounts: All Customers		97%	0%	3%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
3	Allocation (\$)	\$25,086	\$24,217	\$2	\$864	\$25,083	\$1	\$0	\$1	\$2	\$0	\$2	\$0	\$3	\$25,086
4	Total Business Analysis O&M Allocation (\$)	\$25,086	\$24,217	\$2	\$864	\$25,083	\$1	\$0	\$1	\$2	\$0	\$2	\$0	\$3	\$25,086
5	Allocation %	100%	97%	0%	3%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Source SDGE Details Acct 901-910 Costs.xls

ALLOCATION OF NON-REFUNDABLE FERC ACCOUNT 907 O&M EXPENSES BY CUSTOMER CLASS

	Cost Center(s)	Total O&M	Res	NGV	GN-3	Total Core	GTNC			Cogen			IPP	Total Noncore	System Total
							MPD	HPD	Total	< 3 MM	> 3 MM	Total			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	FERC 907														
2	Allocator - FERC 901 - 905 Net Allocation		96%	0%	4%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
3	Allocation (\$)	\$2,586	\$2,491	\$0	\$94	\$2,585	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,586
4	FEDERAL ACCOUNTS Total														
5	Allocator - 15% Res / Active Meters: Federal Accounts		4%	0%	92%	96%	3%	0%	3%	1%	0%	1%	0%	4%	100%
6	Allocation (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7	Total FERC 907 Allocation (\$)	\$2,586	\$2,491	\$0	\$94	\$2,585	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,586
8	Allocation %	100%	96%	0%	4%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Source SDGE Details Acct 901-910 Costs.xls

ALLOCATION OF NON-REFUNDABLE FERC ACCOUNT 908 O&M EXPENSES BY CUSTOMER CLASS

	Cost Center(s)	Total O&M	Res	NGV	GN-3	Total Core	GTNC			Cogen			IPP	Total Noncore	System Total
							MPD	HPD	Total	< 3 MM	> 3 MM	Total			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
10	DIR CUSTOMER PROGRAM														
11	Allocator - Active Accounts: All Customers		96%	0%	4%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
12	Allocation (\$)	\$187,195	\$180,359	\$12	\$6,792	\$187,163	\$9	\$3	\$12	\$16	\$3	\$20	\$0	\$32	\$187,195
13	CUSTOMER SERVICE MAS														
14	Active Billing Accounts - Mass Markets Customers		97%	0%	3%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
15	Allocation (\$)	\$12,996	\$12,548	\$1	\$447	\$12,996	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$12,996
49	Total FERC 908 Allocation (\$)	\$200,191	\$192,907	\$13	\$7,239	\$200,159	\$9	\$3	\$12	\$16	\$3	\$20	\$0	\$32	\$200,191
50	Allocation %	100%	96%	0%	4%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Source SDGE Details Acct 901-910 Costs.xls

ALLOCATION OF NON-REFUNDABLE FERC ACCOUNT 909-910 O&M EXPENSES BY CUSTOMER CLASS

	Cost Center(s)	Total O&M	Res	NGV	GN-3	Total Core	GTNC			Cogen			IPP	Total Noncore	System Total
							MPD	HPD	Total	< 3 MM	> 3 MM	Total			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
7	CUSTOMER COMMUNICATIONS & RESEARCH - Subtotal														
8	Allocator - Active Accounts: All Customers		97%	0%	3%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
9	Allocation (\$)	\$91,238	\$88,079	\$6	\$3,141	\$91,226	\$4	\$1	\$5	\$6	\$1	\$7	\$0	\$12	\$91,238
13	Total FERC 909-910 Allocation (\$)	\$91,238	\$88,079	\$6	\$3,141	\$91,226	\$4	\$1	\$5	\$6	\$1	\$7	\$0	\$12	\$91,238
14	Allocation %	100%	97%	0%	3%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Source SDGE Details Acct 901-910 Costs.xls

SDG&E 2020 TCAP

Section 4 Cost Allocation

2020TCAP SDGEgas COST ALLOCATION

		Residential	NGV	CCI	Total Core	Total NCCI	EG Tier 1	EG Tier 2	Total EG	Total NonCore	System Total	
1	<u>Customer Costs</u>											
2	Per Unit LRM, \$/Cust/Year	\$234.46	\$1,081.51	\$436.66	\$241.40	\$2,469.36	\$1,833.47	\$3,171.57	\$2,101.09	\$2,237.58	\$241.71	
3	Number of Customers	874,067	28	30,937	905,032	53	72	18	90	143	905,175	
4	Customer Costs Rental Method \$000	\$218,793	\$204,934	\$30	\$13,509	\$218,473	\$131	\$132	\$57	\$189	\$320	\$218,793
5												
6	<u>Medium Pressure Distribution costs</u>											
7	Medium Pressure Distribution costs (MPD)											
8	Per Unit LRM, \$/mcf	\$274.34	\$274.34	\$274.34	\$274.34	\$274.34	\$274.34	\$274.34	\$274.34	\$274.34	\$274.34	
9	MPD Peak Day Demand (mmcf)	283	4	106	393	6	5	2	8	13	406	
10	Medium Pressure Distribution Costs \$000	\$111,324	\$77,669	\$1,055	\$28,962	\$107,685	\$1,566	\$1,504	\$569	\$2,073	\$3,639	\$111,324
11												
12	<u>High Pressure Distribution costs</u>											
13	High Pressure Distribution costs (HPD)											
14	Per Unit LRM, \$/mcf	\$54.44	\$54.44	\$54.44	\$54.44	\$54.44	\$54.44	\$54.44	\$54.44	\$54.44	\$54.44	
15	HPD Peak Day Demand (mmcf)	283	6	107	397	8	6	11	18	26	422	
16	High Pressure Distribution Costs \$000	\$22,977	\$15,417	\$331	\$5,841	\$21,589	\$417	\$347	\$624	\$971	\$1,388	\$22,977
17												
18	Unscaled LRM Based Costs \$000	\$353,094	\$298,020	\$1,416	\$48,311	\$347,747	\$2,114	\$1,983	\$1,250	\$3,233	\$5,347	\$353,094
19	Scalar Allocator	100.0%	84.4%	0.4%	13.7%	98.5%	0.6%	0.6%	0.4%	0.9%	1.5%	100.0%
20	<u>Calculation of Scalar:</u>											
21	Target Base Margin \$000	\$323,020.150										
22	Less items not allocated per LRM method:											
23	Transmission Cost per EC \$000	\$40,564										
24	NGV Compression Adder Costs per EC \$000	\$647										
25	Target Scaled Costs \$000	\$281,809										
26	Unscaled LRM Based Costs \$000	\$353,094										
27	amount to scale \$000	(\$71,285)										
28	Scalar (as a % of unscaled)	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	
29												
30	Scaled Customer Costs \$000 LRM/Rental Method	\$163,561	\$24	\$10,782	\$174,366	\$104	\$105	\$46	\$151	\$255	\$174,622	
31	Scaled Medium Pressure Distribution Costs \$000 LRM	\$61,989	\$842	\$23,115	\$85,945	\$1,250	\$1,200	\$454	\$1,654	\$2,904	\$88,849	
32	Scaled High Pressure Distribution Costs \$000 LRM	\$12,304	\$264	\$4,662	\$17,230	\$333	\$277	\$498	\$775	\$1,108	\$18,338	
33	Scaled LRM Based Costs \$000	\$281,809	\$237,854	\$1,130	\$38,558	\$277,541	\$1,687	\$1,582	\$998	\$2,580	\$4,268	\$281,809
34												
35	<u>NGV Compression Costs:</u>											
36	Compression Adder Costs \$000	\$647	\$647		\$647				\$0	\$0	\$647	
37												

2020TCAP SDGEgas COST ALLOCATION

		Residential	NGV	CCI	Total Core	Total NCCI	EG Tier 1	EG Tier 2	Total EG	Total NonCore	System Total	
38	<u>Transmission Costs per Embedded Cost Method:</u>											
39	Embedded Transmission Costs \$000	\$40,564										
40	Calculate BBT/Local-T Transmission Split:											
41	BBT %	100.0%										
42	LT %	0.0%										
43												
44	<u>Allocation of BBT Costs:</u>											
45	CYTP Mth/yr	1,147,948	343,408	24,129	203,236	570,773	46,945	29,736	500,494	530,230	577,175	1,147,948
46	% CYTP		29.9%	2.1%	17.7%	49.7%	4.1%	2.6%	43.6%	46.2%	50.3%	100.0%
47	BBT Costs per EC method	\$40,564	\$12,135	\$853	\$7,182	\$20,169	\$1,659	\$1,051	\$17,686	\$18,736	\$20,395	\$40,564
48												
49	CYPM Mth	120,845	50,188	1,960	23,331	75,479	3,947	2,244	39,175	41,419	45,366	120,845
50	% CYPM		41.5%	1.6%	19.3%	62.5%	3.3%	1.9%	32.4%	34.3%	37.5%	100.0%
51	LT Costs per EC method	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
52	Transmission Costs per EC method	\$40,564	\$12,135	\$853	\$7,182	\$20,169	\$1,659	\$1,051	\$17,686	\$18,736	\$20,395	\$40,564
53												
54												
55	ALLOCATED BASE MARGIN (net of misc revenue & t	\$323,020	\$249,988	\$2,630	\$45,739	\$298,357	\$3,346	\$2,633	\$18,684	\$21,317	\$24,663	\$323,020
56	Percentage		22.5%	0.2%	4.1%	26.9%	0.3%	0.2%	1.7%	1.9%	2.2%	29.1%
57	Average Year Throughput Mth	1,109,315	313,234	24,129	194,777	532,140	46,945	29,736	500,494	530,230	577,175	1,109,315
58	average rate \$/therm	\$0.291	\$0.798	\$0.109	\$0.235	\$0.561	\$0.071	\$0.089	\$0.037	\$0.040	\$0.043	\$0.291
59												
60												
61												
62	<u>Model Results RD Format for RD Models</u>											
63	Customer Related Costs	\$163,561	\$24	\$10,782	\$174,366	\$104	\$105	\$46	\$151	\$255	\$174,622	
64	Medium Pressure Distribution Costs	\$61,989	\$842	\$23,115	\$85,945	\$1,250	\$1,200	\$454	\$1,654	\$2,904	\$88,849	
65	High Pressure Distribution Costs	\$12,304	\$264	\$4,662	\$17,230	\$333	\$277	\$498	\$775	\$1,108	\$18,338	
66	Backbone Transmission Costs	\$12,135	\$853	\$7,182	\$20,169	\$1,659	\$1,051	\$17,686	\$18,736	\$20,395	\$40,564	
67	Local Transmission Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
68	Storage - Borrego											
69	Core Seasonal Storage											
70	Storage - Load Balancing											
71	NGV Compression Costs:	\$0	\$647	\$0	\$647	\$0	\$0	\$0	\$0	\$0	\$647	
72	Total Margin Allocation pre-SI & Unbundle FAR	\$249,988	\$2,630	\$45,739	\$298,357	\$3,346	\$2,633	\$18,684	\$21,317	\$24,663	\$323,020	
73	% Allocation	77.4%	0.8%	14.2%	92.4%	1.0%	0.8%	5.8%	6.6%	7.6%	100.0%	
74												
75												
76												

2020TCAP SDGEGas COST ALLOCATION

	Residential	NGV	CCI	Total Core	Total NCCI	EG Tier 1	EG Tier 2	Total EG	Total NonCore	System Total
77										
78										
79	DIRECT (%s Load or Cust/Mtrs Sum to 100%)									
80	Transmission									
81	Average Year Throughput (MTh)	0	0	0	0	17,569	5,074	456,289	461,363	478,932
82	Cold Year Throughput (1-in-35) (MTh)	0	0	0	0	17,569	5,074	456,289	461,363	478,932
83	Cold Year Peak Month (December) (MTh)	0	0	0	0	1,477	191	35,479	35,670	37,147
84	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	0	0	0	0	48	6	1,684	1,690	1,738
85	Number of Customers	0	0	0	0	9	3	12	15	24
86	High Pressure									
87	Average Year Throughput (MTh)	67	8,874	3,116	12,057	7,497	3,531	36,209	39,740	47,237
88	Cold Year Throughput (1-in-35) (MTh)	74	8,874	3,251	12,199	7,497	3,531	36,209	39,740	47,237
89	Cold Year Peak Month (December) (MTh)	11	721	373	1,105	630	287	3,027	3,314	3,944
90	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	1	23	18	42	20	9	98	107	127
91	Number of Customers	2	4	5	11	9	5	4	9	18
92	Medium Pressure									
93	Average Year Throughput (MTh)	313,167	15,255	191,661	520,083	21,879	21,131	7,997	29,127	51,006
94	Cold Year Throughput (1-in-35) (MTh)	343,334	15,255	199,985	558,574	21,879	21,131	7,997	29,127	51,006
95	Cold Year Peak Month (December) (MTh)	50,177	1,239	22,957	74,374	1,839	1,767	669	2,435	4,275
96	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	2,943	40	1,098	4,081	59	57	22	79	138
97	Number of Customers	874,065	24	30,932	905,021	35	64	2	66	101
98	CUMULATIVE (Calc'd from DIRECT %s)									
99	Transmission									
100	Average Year Throughput (MTh)	313,234	24,129	194,777	532,140	46,945	29,736	500,494	530,230	577,175
101	Cold Year Throughput (1-in-35) (MTh)	343,408	24,129	203,236	570,773	46,945	29,736	500,494	530,230	577,175
102	Cold Year Peak Month (December) (MTh)	50,188	1,960	23,331	75,479	3,947	2,244	39,175	41,419	45,366
103	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	2,944	63	1,115	4,123	127	72	1,803	1,876	2,003
104	Number of Customers	874,067	28	30,937	905,032	53	72	18	90	143
105	High Pressure									
106	Average Year Throughput (MTh)	313,234	24,129	194,777	532,140	29,376	24,662	44,206	68,867	98,243
107	Cold Year Throughput (1-in-35) (MTh)	343,408	24,129	203,236	570,773	29,376	24,662	44,206	68,867	98,243
108	Cold Year Peak Month (December) (MTh)	50,188	1,960	23,331	75,479	2,470	2,053	3,696	5,749	8,219
109	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	2,944	63	1,115	4,123	80	66	119	185	265
110	Number of Customers	874,067	28	30,937	905,032	44	69	6	75	119
111	Medium Pressure									
112	Average Year Throughput (MTh)	313,167	15,255	191,661	520,083	21,879	21,131	7,997	29,127	51,006
113	Cold Year Throughput (1-in-35) (MTh)	343,334	15,255	199,985	558,574	21,879	21,131	7,997	29,127	51,006
114	Cold Year Peak Month (December) (MTh)	50,177	1,239	22,957	74,374	1,839	1,767	669	2,435	4,275
115	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	2,943	40	1,098	4,081	59	57	22	79	138
116	Number of Customers	874,065	24	30,932	905,021	35	64	2	66	101

	Residential	NGV	CCI	Total Core	Total NCCI	EG Tier 1	EG Tier 2	Total EG	Total NonCore	System Total
117										
118										
119										
120	Convert EG Tier 1 & Tier 2 into class average EG Customer Unit Cost:									
121	<u>EG Tier 1</u>	<u>EG Tier 2</u>	<u>Total EG</u>							
122										
123	\$1,833.47	\$3,171.57	\$2,101.09							
124	72	18	90							
125	\$132	\$57	\$189							
126										
127										
128										
129	Core Storage Allocator									
130										
131	Injection	\$4,161								
132	Inventory	\$4,626								
133	Withdrawal	\$2,735								
134										
135										
136	Core Storage Capacities: Allocation Method									
137	Number of Injection Days				214	214	214	214		214
138	Injection MMcfd	<i>Inv per Inj Day</i>	55		41.7	0.5	13.0	55		
139	% Injection				75.6%	0.8%	23.5%			
140										
141	% Excess Winter Demand				75.6%	0.8%	23.5%	100%		
142	Inventory MMCF	<i>% Excess Win</i>	10,229		7,738	86	2,405	10,229		
143										
144	MPD Peak Day (1-in-35 Core) Core Only MTh									
145	% Core MPD Peak Day				75.6%	0.8%	23.5%	100%		
146	Withdrawal MMcfd	<i>% Core MPD f</i>	239		180	2	56	239		
147										
148	Injection \$000		\$4,161	\$3,148	\$35	\$978	\$4,161			
149	Inventory \$000		\$4,626	\$3,500	\$39	\$1,088	\$4,626			
150	Withdrawal \$000		\$2,735	\$2,069	\$23	\$643	\$2,735			
151				\$11,522	\$8,716	\$97	\$2,709	\$11,522		
152										
153	Core Storage Allocation				75.6%	0.8%	23.5%			

2020TCAP SDGEgas COST ALLOCATION

	NCCI-D	NCCI-T	Total NCCI	EG Tier 1 Dist	EG Tier 2 Dist	EG Tier 1 Trans	EG Tier 2 Trans	EG Trans	Total EG
1 <u>Customer Costs</u>									
2 Per Unit LRMC, \$/Cust/Year									
3 Number of Customers	44	9	53	69	6	3	12	15	90
4 Customer Costs Rental Method \$000	\$109	\$22	\$131	\$145	\$13	\$6	\$25	\$32	\$189
5									
6 <u>Medium Pressure Distribution costs</u>									
7 Medium Pressure Distribution costs (MPD)									
8 Per Unit LRMC, \$/mcf									
9 MPD Peak Day Demand (mmcf)									
10 Medium Pressure Distribution Costs \$000	\$1,566	\$0	\$1,566	\$1,504	\$569	\$0	\$0	\$0	\$2,073
11									
12 <u>High Pressure Distribution costs</u>									
13 High Pressure Distribution costs (HPD)									
14 Per Unit LRMC, \$/mdth									
15 HPD Peak Day Demand (mmcf)									
16 High Presure Distribution Costs \$000	\$417	\$0	\$417	\$347	\$624	\$0	\$0	\$0	\$971
17									
18 Unscaled LRMC Based Costs \$000	\$2,092	\$22	\$2,114	\$1,996	\$1,206	\$6	\$25	\$32	\$3,233
19 Scalar Allocator	98.9%	1.1%	100.0%	61.7%	37.3%	0.2%	0.8%	1.0%	100.0%
20 <u>Calculation of Scalar:</u>									
21 Target Base Margin \$000									
22 Less items not allocated per LRMC method:									
23 Transmission Cost per EC \$000									
24 NGV Compression Adder Costs per EC \$000									
25 Target Scaled Costs \$000									
26 Unscaled LRMC Based Costs \$000									
27 amount to scale \$000									
28 Scalar (as a % of unscaled)	80%	80%	80%	80%	80%	80%	80%	80%	80%
29									
30 Scaled Customer Costs \$000 LRMC/Rental Method	\$87	\$18	\$104	\$116	\$10	\$5	\$20	\$25	\$151
31 Scaled Medium Pressure Distribution Costs \$000 LRI	\$1,250	\$0	\$1,250	\$1,200	\$454	\$0	\$0	\$0	\$1,654
32 Scaled High Presure Distribution Costs \$000 LRMC	\$333	\$0	\$333	\$277	\$498	\$0	\$0	\$0	\$775
33 Scaled LRMC Based Costs \$000	\$1,669	\$18	\$1,687	\$1,593	\$963	\$5	\$20	\$25	\$2,580
34									
35 <u>NGV Compression Costs:</u>									
36 Compression Adder Costs \$000			0					\$0	\$0
37									

2020TCAP SDGEgas COST ALLOCATION

	NCCI-D	NCCI-T	Total NCCI	EG Tier 1 Dist	EG Tier 2 Dist	EG Tier 1 Trans	EG Tier 2 Trans	EG Trans	Total EG
38 <u>Transmission Costs per Embedded Cost Method:</u>									
39 Embedded Transmission Costs \$000									
40 Calculate BBT/Local-T Transmission Split:									
41 BBT %		100.0%							
42 LT %		0.0%							
43									
44 <u>Allocation of BBT Costs:</u>									
45 CYTP Mth/yr	29,376	17,569	46,945	24,662	44,206	5,074	456,289	461,363	530,230
46 % CYTP	2.6%	1.5%	4.1%	2.1%	3.9%	0.4%	39.7%	40.2%	46.2%
47 BBT Costs per EC method	\$1,038	\$621	\$1,659	\$871	\$1,562	\$179	\$16,124	\$16,303	\$18,736
48									
49 CYPM Mth	2,470	1,477	3,947	2,053	3,696	191	35,479	35,670	41,419
50 % CYPM	2.0%	1.2%	3.3%	1.7%	3.1%	0.2%	29.4%	29.5%	34.3%
51 LT Costs per EC method	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
52 Transmission Costs per EC method	\$1,038	\$621	\$1,659	\$871	\$1,562	\$179	\$16,124	\$16,303	\$18,736
53									
54 ALLOCATED BASE MARGIN (net of misc revenue & t	\$2,707	\$639	\$3,346	\$2,464	\$2,525	\$184	\$16,144	\$16,328	\$21,317
55									
56 Percentage									
57 Average Year Throughput Mth									
58 average rate \$/therm									
59									
60									
61									
62 Model Results RD Format for RD Models									
63 Customer Related Costs	\$87	\$18	\$104	\$116	\$10	\$5	\$20	\$25	\$151
64 Medium Pressure Distribution Costs	\$1,250	\$0	\$1,250	\$1,200	\$454	\$0	\$0	\$0	\$1,654
65 High Pressure Distribution Costs	\$333	\$0	\$333	\$277	\$498	\$0	\$0	\$0	\$775
66 Backbone Transmission Costs	\$1,038	\$621	\$1,659	\$871	\$1,562	\$179	\$16,124	\$16,303	\$18,736
67 Local Transmission Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
68 Storage - Borrego									
69 Core Seasonal Storage									
70 Storage - Load Balancing									
71 NGV Compression Costs:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
72 Total Margin Allocation pre-SI & Unbundle FAR	\$2,707	\$639	\$3,346	\$2,464	\$2,525	\$184	\$16,144	\$16,328	\$21,317
73 % Allocation	0.8%	0.2%	1.0%	0.8%	0.8%	0.1%	5.0%	5.1%	6.6%
74									
75									
76									

2020TCAP SDGEGas COST ALLOCATION

	NCCI-D	NCCI-T	Total NCCI	EG Tier 1 Dist	EG Tier 2 Dist	EG Tier 1 Trans	EG Tier 2 Trans	EG Trans	Total EG
77									
78									
79									
80									
81									
82									
83									
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112									
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114									
115									
116									

2020TCAP SDGEGas COST ALLOCATION

	<u>NCCI-D</u>	<u>NCCI-T</u>	<u>Total NCCI</u>	<u>EG Tier 1 Dist</u>	<u>EG Tier 2 Dist</u>	<u>EG Tier 1 Trans</u>	<u>EG Tier 2 Trans</u>	<u>EG Trans</u>	<u>Total EG</u>
117									
118									
119									
120									
121									
122									
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152									
153									

TABLE 11 UNSCALED LONG RUN MARGINAL COST CUSTOMER COST			
Customer Class	Customer LRM \$/customer	Customer Count	Customer Cost \$000
Residential	\$234	874,067	\$204,934
Core C/I	\$437	30,937	\$13,509
NGV	\$1,082	28	\$30
Total Core			\$218,473
Noncore C/I	\$2,469	53	\$131
Small EG	\$1,833	72	\$132
Large EG	\$3,172	18	\$57
Total Noncore			\$320
Total SDG&E			\$218,793

TABLE 12 UNSCALED LONG RUN MARGINAL COST DISTRIBUTION COSTS						
Customer Class	MPD LRM \$/mcf	MPD Peak- Day (Mcf)	MPD Costs \$000	HPD LRM \$/mcf	HPD Peak- Day (Mcf)	HPD Costs \$000
Residential	\$274	283,108	\$77,669	\$54	281,300	\$15,315
Core C/I	\$274	105,566	\$28,962	\$54	86,516	\$4,710
NGV	\$274	3,845	\$1,055	\$54	5,004	\$272
Total Core			\$107,685			\$20,298
Noncore C/I	\$274	5,707	\$1,566	\$54	7,651	\$417
Small EG	\$274	5,481	\$1,504	\$54	5,852	\$319
Large EG	\$274	2,074	\$569	\$54	20,084	\$1,093
Total Noncore			\$3,639			\$1,829
Total SDG&E			\$111,324			\$22,126

TABLE 13
LONG RUN MARGINAL COST SCALED CUSTOMER AND DISTRIBUTION COSTS
 \$ 000

Customer Class	Customer Cost	+	MPD	+	HPD	=	Unscaled LRMC	x	Scalar	=	Scaled LRMC
Residential	\$204,934		\$77,669		\$15,417		\$298,020		80%		\$237,854
Core C/I	\$13,509		\$28,962		\$5,841		\$48,311		80%		\$38,558
NGV	\$30		\$1,055		\$331		\$1,416		80%		\$1,130
Total Core	\$218,473		\$107,685		\$21,589		\$347,747		80%		\$277,541
Noncore C/I	\$131		\$1,566		\$417		\$2,114		80%		\$1,687
Small EG	\$132		\$1,504		\$347		\$1,983		80%		\$1,582
Large EG	\$57		\$569		\$624		\$1,250		80%		\$998
Total Noncore	\$320		\$3,639		\$1,388		\$5,347		80%		\$4,268
Total SDG&E	\$218,793		\$111,324		\$22,977		\$353,094		80%		\$281,809

TABLE 14				
ALLOCATION OF BASE MARGIN				
\$ 000				
Customer Class	Scaled LRM	Backbone + Transmission	NGV Public Access	Unadjusted Allocated Base Margin
Residential	\$237,854	\$0	\$0	\$237,854
Core C/I	\$38,558	\$0	\$0	\$38,558
NGV	\$1,130	\$0	\$647	\$1,777
Total Core	\$277,541	\$0	\$647	\$278,189
Noncore C/I	\$1,687	\$0	\$0	\$1,687
Small EG	\$1,582	\$0	\$0	\$1,582
Large EG	\$998	\$0	\$0	\$998
Total Noncore	\$4,268	\$0	\$0	\$4,268
Backbone Transm	\$0	\$40,564	\$0	\$40,564
Total SDG&E	\$281,809	\$40,564	\$647	\$323,020

TABLE 15
COST ALLOCATION COMPARISON
 \$ 000

Customer Class	Adjusted Allocation of		Current Allocation of	
	Base Margin	% Total	Base Margin	% Total
Residential	\$237,854	73.6%	\$241,785	74.9%
Core C/I	\$38,558	11.9%	\$30,004	9.3%
NGV	\$1,777	0.6%	\$1,126	0.3%
Total Core	\$278,189	86.1%	\$272,916	84.5%
Noncore C/I - D	\$1,687	0.5%	\$2,112	0.7%
EG - D	\$1,582	0.5%	\$1,580	0.5%
TLS	\$998	0.3%	\$147	0.0%
Total Noncore	\$4,268	1.3%	\$3,838	1.2%
Backbone Transmission	\$40,564	12.6%	\$46,266	14.3%
Total SDG&E	\$323,020		\$323,020	

SDG&E 2020 TCAP

**Section 5
Calculation of ARM factors**

San Diego Gas and Electric Company
 WEIGHTED AVERAGE DEPRECIATED RATE BASE
 Gas Service Lines, Regulators, and Meters (SRM)
 (Thousands of Dollars)
 As of December 31, 2016

Line No.	Account Description	G-380.00	G-381.00	G-380.01	G-382.00	G-382.01	Total
<i>Fixed Capital</i>							
1	Plant In Service	\$ 260,102	\$ 82,732	\$ 72,844	\$ 69,135	\$ 25,314	\$ 510,128
2	Total Fixed Capital	\$ 260,102	\$ 82,732	\$ 72,844	\$ 69,135	\$ 25,314	\$ 510,128
<i>Working Capital</i>							
3	Fuel in Storage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4	Materials & Supplies	686	-	293	-	-	978
5	Working Cash	-	-	-	-	-	-
6	Total Working Capital	\$ 686	\$ -	\$ 293	\$ -	\$ -	\$ 978
<i>Other Deductions</i>							
7	Customer Advances For Construction	\$ (543)	\$ -	\$ -	\$ -	\$ -	\$ (543)
8	Total Other	\$ (543)	\$ -	\$ -	\$ -	\$ -	\$ (543)
<i>Deductions For Reserves</i>							
9	Accumulated Depreciation Reserve	\$ (295,592)	\$ (29,941)	\$ (21,618)	\$ (27,416)	\$ (10,052)	\$ (384,618)
10	Accumulated Amortization Reserve	-	-	-	-	-	-
11	Accumulated Deferred Taxes	(15,787)	(4,990)	(4,406)	(4,183)	(1,525)	(30,891)
12	Total Deductions For Reserves	\$ (311,379)	\$ (34,931)	\$ (26,023)	\$ (31,599)	\$ (11,577)	\$ (415,509)
13	Weighted Average Depreciated Rate Base	\$ (51,134)	\$ 47,801	\$ 47,114	\$ 37,536	\$ 13,737	\$ 95,055

ARM1 Factor = Rate Base Value/Rental Capital

Rate Base Value	95,055
Rental	1,766,060
%	5%

ARM2 Factor

Rental less depreciation	1,381,442
Rental	1,766,060
%	78%

**TABLE LRMCC-3
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**ANNUALIZED SERVICE, REGULATOR & METER (SRM) MARGINAL INVESTMENT
2020 TCAP**

	Max Meter Flow Range	Meter & Regulator				Pipe & Installation				Total SRM Annualized Marg. Invstmnt.	
		Meter Type	M&R Cost	RECC Factor	Annualized Marg. Invstmnt.	Service Type	Service Cost	RECC Factor	Annualized Marg. Invstmnt.		
	A	B	C	D	E	F	G	H	I	J	
	Cfh		(Dollars)	(Percent)	(Dollars)		(Dollars)	(Percent)	(Dollars)	(Dollars)	
1	<i>Medium Pressure</i>										1
2	0-275	250	\$259	8.55%	\$22	Poly-0.5"	\$1,912	100.00%	\$1,912	\$1,934	2
3	276 - 425	425	\$620	8.53%	\$53	Poly-0.5"	\$1,912	100.00%	\$1,912	\$1,965	3
4	426-630	630	\$931	8.50%	\$79	Poly-1"	\$1,912	100.00%	\$1,912	\$1,991	4
5	631 - 800	8C	\$1,526	8.52%	\$130	Poly-1"	\$1,912	100.00%	\$1,912	\$2,042	5
6	801 - 1,100	11C	\$1,549	8.52%	\$132	Poly-1"	\$1,912	100.00%	\$1,912	\$2,044	6
7	1,101 - 1,500	15C	\$2,909	8.56%	\$249	Poly-1"	\$1,912	100.00%	\$1,912	\$2,161	7
8	1,501 - 2,000	2M	\$4,027	8.58%	\$346	Poly-1"	\$1,912	100.00%	\$1,912	\$2,257	8
9	2,001 - 3,000	3M	\$4,051	8.58%	\$348	Poly-1"	\$1,912	100.00%	\$1,912	\$2,259	9
10	3,001 - 5,000	5M	\$4,808	8.56%	\$412	Poly-2"	\$4,500	100.00%	\$4,500	\$4,911	10
11	5,001 - 7,000	7M	\$5,437	8.55%	\$465	Poly-2"	\$4,500	100.00%	\$4,500	\$4,964	11
12								100.00%			12
13	<i>High Pressure</i>										13
14	0 - 940	425	\$2,270	8.60%	\$195	Poly-1"	\$1,912	100.00%	\$1,912	\$2,107	14
15	941 - 1,050	8C	\$4,319	8.57%	\$370	Poly-1"	\$1,912	100.00%	\$1,912	\$2,282	15
16	1,051 - 2,000	2M	\$2,580	8.58%	\$221	Poly-1"	\$1,912	100.00%	\$1,912	\$2,133	16
17	2,001 - 2,700	2M	\$4,370	8.57%	\$375	Poly-1"	\$1,912	100.00%	\$1,912	\$2,286	17
18	2,701 - 4,000	3M	\$4,394	8.57%	\$377	Poly-2"	\$4,500	100.00%	\$4,500	\$4,876	18
19	4,001 - 6,600	5M	\$5,945	8.55%	\$508	Poly-2"	\$4,500	100.00%	\$4,500	\$5,008	19
20	6,601 - 9,200	7M	\$6,680	8.54%	\$570	Poly-2"	\$4,500	100.00%	\$4,500	\$5,070	20
21	9,201 - 14,500	11M	\$7,411	8.54%	\$633	Poly-3"	\$9,063	100.00%	\$9,063	\$9,696	21
22	14,501 - 21,400	16M	\$8,890	8.53%	\$758	Poly-3"	\$9,063	100.00%	\$9,063	\$9,821	22
23	21,401 - 24,000	Turbine	\$15,912	8.55%	\$1,360	Poly-4"	\$9,547	100.00%	\$9,547	\$10,907	23
24	24,001 - 46,000	Turbine	\$16,874	8.54%	\$1,441	Poly-4"	\$9,547	100.00%	\$9,547	\$10,988	24
25	46,001 - 79,000	Turbine	\$28,642	8.55%	\$2,449	Steel-4"	\$23,162	100.00%	\$23,162	\$25,611	25
26	79,001 - 377,000	Turbine	\$52,283	8.53%	\$4,459	Steel-6"	\$34,098	100.00%	\$34,098	\$38,557	26
27	377,001 - 600,000	Turbine	\$0	8.53%	\$0	Steel-8"	\$39,044	100.00%	\$39,044	\$39,044	27
28	600,001 - 4,250,000	Turbine	\$0	8.53%	\$0	Steel-16"	--	100.00%	--	\$0	28
29	> 4,250,000	Turbine	\$0	8.53%	\$0	Steel-24"	--	100.00%	--	\$0	29

Notes:

- Col. (E) = Col. (C) x Col. (D). Col. (I) = Col. (G) x Col. (H).
- Col. (J) = Col. (E) + Col. (I).
- Service Line installation cost (column F & G) provided by SDG&E Gas Distribution Engineering Department

TABLE LRMCC-7
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT

ANNUALIZED SRM MARGINAL INVESTMENT BY CUSTOMER CLASS
2020 TCAP

	Max Meter Flow Range	Meter Type	Res					NGV	GN-3	Total Core	GTNC			EG			Power Plant	Total Noncore	System Total
			G-R	G-M	G-S	G-T	Total				MPD	HPD	Total	< 3 MM	> 3 MM	Total			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
	Cfh																		
	(Dollars)																		
1	<i>Medium Pressure</i>																		
2	0-275	250	\$1,523,735,426	\$25,410,413	\$159,970	\$9,522	\$1,589,447,294	\$15,668	\$29,462,558	\$1,618,925,520	\$0	\$0	\$0	\$1,832	\$0	\$1,832	\$0	\$1,832	\$1,618,927,352
3	276 - 425	425	\$49,807,652	\$2,459,996	\$65,806	\$7,742	\$53,675,220	\$0	\$5,716,606	\$59,391,826	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$59,391,826
4	426-630	630	\$15,701,805	\$922,135	\$7,848	\$13,734	\$17,064,035	\$0	\$3,309,435	\$20,373,470	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$20,373,470
5	631 - 800	8C	\$19,401,909	\$1,491,835	\$40,265	\$14,093	\$21,461,379	\$1,946	\$6,057,417	\$27,520,742	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$27,520,742
6	801 - 1,100	11C	\$6,053,818	\$1,070,099	\$66,503	\$16,122	\$7,382,946	\$0	\$4,454,821	\$11,837,767	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$11,837,767
7	1,101 - 1,500	15C	\$1,798,689	\$480,077	\$12,802	\$6,401	\$2,351,098	\$0	\$3,064,135	\$5,415,233	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,415,233
8	1,501 - 2,000	2M	\$499,769	\$191,876	\$13,387	\$8,924	\$729,741	\$4,303	\$2,739,250	\$3,473,294	\$0	\$0	\$0	\$59,881	\$0	\$59,881	\$0	\$59,881	\$3,533,176
9	2,001 - 3,000	3M	\$163,023	\$614,126	\$40,197	\$87,094	\$924,419	\$5,384	\$4,090,717	\$5,020,520	\$0	\$0	\$0	\$12,843	\$0	\$12,843	\$0	\$12,843	\$5,033,364
10	3,001 - 5,000	5M	\$22,977	\$195,307	\$18,382	\$170,032	\$878,136	\$14,042	\$3,750,794	\$4,642,971	\$4,911	\$0	\$4,911	\$32,569	\$0	\$32,569	\$0	\$37,480	\$4,680,451
11	5,001 - 7,000	7M	\$7,054	\$72,893	\$14,108	\$82,298	\$376,116	\$2,366	\$1,592,563	\$1,971,045	\$29,786	\$0	\$29,786	\$37,624	\$0	\$37,624	\$0	\$67,409	\$2,038,454
12	<i>High Pressure</i>																		
13	0 - 940	425	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
14	941 - 1,050	8C	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15	1,051 - 2,000	2M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16	2,001 - 2,700	2M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
17	2,701 - 4,000	3M	\$0	\$2,262	\$0	\$0	\$4,926	\$0	\$0	\$4,926	\$0	\$0	\$0	\$0	\$5,486	\$5,486	\$0	\$5,486	\$10,412
18	4,001 - 6,600	5M	\$0	\$0	\$0	\$0	\$0	\$2,386	\$0	\$2,386	\$0	\$3,219	\$3,219	\$4,744	\$0	\$4,744	\$0	\$7,964	\$10,350
19	6,601 - 9,200	7M	\$2,458	\$0	\$0	\$0	\$5,122	\$2,416	\$4,914	\$12,451	\$0	\$3,259	\$3,259	\$19,212	\$11,407	\$30,620	\$0	\$33,879	\$46,331
20	9,201 - 14,500	11M	\$0	\$78,172	\$22,695	\$113,476	\$832,566	\$0	\$2,744,044	\$3,576,610	\$96,960	\$37,399	\$134,359	\$27,557	\$0	\$27,557	\$0	\$161,916	\$3,738,526
21	14,501 - 21,400	16M	\$15,887	\$60,901	\$7,944	\$31,774	\$436,527	\$60,840	\$1,370,660	\$1,868,027	\$117,851	\$6,313	\$124,165	\$46,520	\$22,097	\$68,617	\$0	\$192,782	\$2,060,809
22	21,401 - 24,000	Turbine	\$0	\$9,767	\$3,256	\$0	\$44,072	\$15,592	\$190,274	\$249,938	\$43,627	\$7,011	\$50,638	\$0	\$12,270	\$12,270	\$0	\$62,908	\$312,846
23	24,001 - 46,000	Turbine	\$3,338	\$0	\$0	\$0	\$11,100	\$20,945	\$138,445	\$170,490	\$76,916	\$14,127	\$91,044	\$31,229	\$86,531	\$117,760	\$0	\$208,804	\$379,294
24	46,001 - 79,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$12,204	\$99,289	\$111,493	\$76,833	\$16,464	\$93,297	\$169,841	\$86,437	\$256,279	\$0	\$349,576	\$461,069
25	79,001 - 377,000	Turbine	\$12,774	\$0	\$0	\$0	\$77,901	\$0	\$37,370	\$115,271	\$38,557	\$24,787	\$63,344	\$109,584	\$0	\$109,584	\$0	\$172,929	\$288,200
26	377,001 - 600,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
27	600,001 - 4,250,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
28	> 4,250,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
29	Total		\$1,617,226,580	\$33,059,859	\$473,163	\$561,213	\$1,695,702,596	\$158,091	\$68,823,294	\$1,764,683,982	\$485,442	\$112,581	\$598,023	\$553,438	\$224,228	\$777,666	\$0	\$1,375,689	\$1,766,059,671
30	Forecast Customers		856,297	17,291	234	245	874,067	28	30,937	905,032	44	9	53	72	18	90	-	143	905,175
31	Average SRM Cost		\$1,889	\$1,912	\$2,019	\$2,286	\$1,940	\$5,720	\$2,225	\$1,950	\$11,033	\$12,509	\$11,283	\$7,687	\$12,457	\$8,641	\$0	\$9,620	\$1,951

REPORT 1

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

	E-380.00	E-381.00	E-381.01	E-382.00	E-382.01	TOTAL
	C	D	F	F	F	G
December 2015	255,375,162	81,888,711	71,837,708	68,029,770	25,306,522	502,437,872
January 2016	256,372,667	82,083,784	72,337,873	68,271,233	25,307,820	504,373,377
February 2016	256,714,289	82,401,931	72,339,111	68,415,471	25,311,868	505,182,669
March 2016	256,829,553	82,441,024	72,337,980	68,629,579	25,316,377	505,554,513
April 2016	257,159,166	82,349,202	72,337,980	68,533,884	25,321,460	505,701,691
May 2016	257,580,963	82,600,184	72,613,067	68,812,167	25,322,325	506,928,705
June 2016	258,131,125	82,672,754	72,978,939	69,097,777	25,311,462	508,192,056
July 2016	260,055,504	82,754,854	72,978,939	69,222,162	25,310,927	510,322,387
August 2016	262,429,624	82,817,974	72,965,352	69,341,367	25,313,220	512,867,536
September 2016	263,967,498	83,171,127	72,965,914	69,628,481	25,314,612	515,047,632
October 2016	264,934,541	83,330,853	73,460,064	70,082,560	25,315,713	517,123,732
November 2016	265,834,331	83,462,391	73,859,033	70,339,510	25,316,527	518,811,792
December 2016	267,051,853	83,507,614	74,080,213	70,465,457	25,316,035	520,421,173
Total	3,382,436,275	1,075,482,402	947,092,173	898,869,417	329,084,869	6,632,965,136
Less 1/2 First & Last Month	261,213,507	82,698,163	72,958,961	69,247,613	25,311,279	511,429,522
Total 12 Mos Wtd Average	3,121,222,768	992,784,240	874,133,212	829,621,804	303,773,590	6,121,535,614
Monthly Weighted Average	260,101,897	82,732,020	72,844,434	69,135,150	25,314,466	510,127,968

REPORT 2

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

	E-380.00	E-381.00	E-381.01	E-382.00	E-382.01	TOTAL
	C	D	F	F	F	G
December 2015	(294,310,608)	(29,443,945)	(19,130,901)	(26,454,512)	(9,208,469)	(378,548,435)
January 2016	(294,715,141)	(29,578,105)	(19,556,567)	(26,678,736)	(9,349,062)	(379,877,611)
February 2016	(295,123,111)	(29,662,808)	(19,983,715)	(26,842,272)	(9,489,670)	(381,101,576)
March 2016	(295,486,052)	(29,791,598)	(20,409,732)	(27,066,753)	(9,629,906)	(382,384,041)
April 2016	(295,851,632)	(29,640,396)	(20,836,876)	(27,024,720)	(9,770,564)	(383,124,189)
May 2016	(296,167,852)	(29,770,181)	(21,141,076)	(27,251,897)	(9,911,239)	(384,242,245)
June 2016	(295,303,756)	(29,981,672)	(21,570,923)	(27,464,969)	(10,051,885)	(384,373,205)
July 2016	(295,479,474)	(30,053,393)	(22,001,851)	(27,610,086)	(10,192,501)	(385,337,304)
August 2016	(295,636,517)	(29,996,641)	(22,419,152)	(27,621,830)	(10,333,121)	(386,007,260)
September 2016	(295,819,545)	(30,141,937)	(22,850,002)	(27,790,783)	(10,473,751)	(387,076,018)
October 2016	(296,016,227)	(30,283,039)	(23,282,312)	(28,013,140)	(10,614,388)	(388,209,107)
November 2016	(296,163,528)	(30,394,576)	(23,717,260)	(28,194,308)	(10,755,031)	(389,224,704)
December 2016	(296,360,474)	(30,539,837)	(24,154,038)	(28,418,414)	(10,895,675)	(390,368,438)
Total	(3,842,433,916)	(389,278,129)	(281,054,405)	(356,432,421)	(130,675,264)	(4,999,874,134)
Less 1/2 First & Last Month	(295,335,541)	(29,991,891)	(21,642,469)	(27,436,463)	(10,052,072)	(384,458,436)
Total 12 Mos Wtd Average	(3,547,098,375)	(359,286,238)	(259,411,935)	(328,995,958)	(120,623,192)	(4,615,415,698)
Monthly Weighted Average	(295,591,531)	(29,940,520)	(21,617,661)	(27,416,330)	(10,051,933)	(384,617,975)

REPORT 3

DETERMINATION OF WEIGHTED ADDITIONS
 MATERIALS AND SUPPLIES
 December 31, 2016

	E-380.00 C	E-381.00 D	E-381.01 F	E-382.00 F	E-382.01 F	TOTAL G
December 2015	674,616	-	292,818	-	-	967,434
January 2016	669,627	-	292,818	-	-	962,445
February 2016	681,871	-	292,818	-	-	974,689
March 2016	697,148	-	292,818	-	-	989,966
April 2016	710,717	-	292,818	-	-	1,003,534
May 2016	706,332	-	292,818	-	-	999,150
June 2016	697,397	-	292,818	-	-	990,215
July 2016	684,712	-	292,818	-	-	977,529
August 2016	675,551	-	292,818	-	-	968,369
September 2016	678,771	-	292,818	-	-	971,589
October 2016	673,114	-	292,818	-	-	965,932
November 2016	675,552	-	292,818	-	-	968,369
December 2016	676,305	-	292,818	-	-	969,122
Total	8,901,713	-	3,806,631	-	-	12,708,344
Less 1/2 First & Last Month	675,460	-	292,818	-	-	968,278
Total 12 Mos Wtd Average	8,226,252	-	3,513,814	-	-	11,740,066
Monthly Weighted Average	685,521	-	292,818	-	-	978,339

REPORT 4

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

	E-380.00 C	E-381.00 D	E-381.01 F	E-382.00 F	E-382.01 F	TOTAL G
December 2015	(590,876)	-	-	-	-	(590,876)
January 2016	(589,169)	-	-	-	-	(589,169)
February 2016	(551,560)	-	-	-	-	(551,560)
March 2016	(565,871)	-	-	-	-	(565,871)
April 2016	(547,446)	-	-	-	-	(547,446)
May 2016	(527,681)	-	-	-	-	(527,681)
June 2016	(522,595)	-	-	-	-	(522,595)
July 2016	(507,694)	-	-	-	-	(507,694)
August 2016	(503,621)	-	-	-	-	(503,621)
September 2016	(530,764)	-	-	-	-	(530,764)
October 2016	(527,310)	-	-	-	-	(527,310)
November 2016	(566,549)	-	-	-	-	(566,549)
December 2016	(550,327)	-	-	-	-	(550,327)
Total	(7,081,461)	-	-	-	-	(7,081,461)
Less 1/2 First & Last Month	(570,601)	-	-	-	-	(570,601)
Total 12 Mos Wtd Average	(6,510,860)	-	-	-	-	(6,510,860)
Monthly Weighted Average	(542,572)	-	-	-	-	(542,572)

Summary of Book Depreciation Expense - SRM

	G-380.00	G-381.00	G-381.01	G-382.00	G-382.01	Total
Jan-16	477,648	137,066	425,667	222,291	140,593	1,403,265
Feb-16	478,898	137,495	427,147	222,920	140,608	1,407,068
Mar-16	479,324	137,794	427,147	223,504	140,632	1,408,402
Apr-16	479,740	137,750	427,144	223,698	140,658	1,408,989
May-16	480,441	137,883	427,956	223,995	140,675	1,410,950
Jun-16	(746,936)	215,761	429,847	210,687	140,646	250,004
Jul-16	277,197	151,273	430,929	223,191	140,615	1,223,204
Aug-16	279,497	151,406	430,888	223,584	140,620	1,225,995
Sep-16	281,589	151,786	430,850	224,239	140,630	1,229,095
Oct-16	282,929	152,255	432,311	225,435	140,637	1,233,568
Nov-16	283,928	152,522	434,947	226,583	140,643	1,238,622
Dec-16	285,061	152,683	436,778	227,200	140,644	1,242,366
Total	3,339,316	1,815,672	5,161,612	2,677,327	1,687,601	14,681,528

SDG&E 2020 TCAP

Section 6

Minimum Customer Costs Model for LRM Capital Cost

SDG&E Cost Allocation LRMC Customer Costs Costs Results

A	Residential B
Customer Costs Rental Method	\$198.72
Customer Costs NCO Method	\$78.84
Customer Costs NCO RCA	\$263.67

Table 4: SDG&E's Residential Minimum Connection Cost Per Month

	Rental method	NCO Method	ARM 1	ARM2
SDG&E	\$16.56	\$21.97	\$5.77	\$14.08

	Rental Capital	ARM Factor 1	ARM Capital	O&M + O&M Loaders	Total
ARM 1	\$136.88	5%	\$7.37	\$61.84	\$69.21
ARM 2	\$136.88	78%	\$107.07	\$61.84	\$168.91

LRMC O&M Loader Model

	Input	Source (1)
O&M w/o A&G HPD	\$768.63	LF-O&M Tab
O&M w/o A&G MPD	\$16,671.72	LF-O&M Tab
Marginal Percent of O&M HPD	74.63%	Dist O&M MC
Marginal Percent of O&M MPD	74.63%	Dist O&M MC
Marginal A&G/Payroll Taxes Loading Factor as a % of O&M expenses	23.95%	LF-A&G Tab
General Plant Loading Factor as a % of O&M expenses	17.59%	LF-GPL Tab
Annualized M&S Customer Related Costs \$000/yr	\$135,355.32	LF-M&S Tab
Annualized M&S HDP Distribution Load Related Costs \$000/yr	\$46,364.81	LF-M&S Tab
Annualized M&S MDP Distribution Load Related Costs \$000/yr	\$189,326.29	LF-M&S Tab
O&M WEF for Escalation	1.10	O&M WEF Tab
Marginal Cust-Rel O&M		
870 - Operation Supervision & Engineering	\$5,679	Dist O&M MC
871 - Distribution Load Dispatching	\$26	Dist O&M MC
874 - Mains & Services Expenses	\$3,346	Dist O&M MC
875 - Measuring & Regulating Station Expenses	\$0	Dist O&M MC
878 - Meter & House Regulator Expenses	\$4,772	Dist O&M MC
879 - Customer Installations Expenses	\$10,019	Dist O&M MC
880 - Other Expenses	\$6,601	Dist O&M MC
881 - Rents	\$0	Dist O&M MC
885 - Maint Supervision & Engineering	\$10	Dist O&M MC
887 - Maintenance of Mains	\$1,002	Dist O&M MC
888 - Maintenance Of Compressor Station Eq	\$0	Dist O&M MC
889 - Maintenance of Meas. & Reg Station Eq	\$0	Dist O&M MC
892 - Maintenance of Services	\$1,792	Dist O&M MC
893 - Maint of Meters & House Regulators	\$1,266	Dist O&M MC
894 - Maintenance of Other Equipment	\$325	Dist O&M MC

Notes:

(1) from "SDGE OM Loaders" file:

TABLE 11 - LRMC Customer Cost

0

A	Res					NGV	GN-3	Total Core
	G-R	G-M	G-S	G-T	Total Res			
B	C	D	E	F	G	H	I	
Annualized SRM Cost \$/customer/yr 2020\$s	\$136.88	\$136.87	\$136.86	\$136.89	\$136.88	\$136.88	\$136.87	\$136.88
O&M \$/customer/yr								
FERC 870 - 894: Distribution O&M (M\$)	\$31,559	\$637	\$9	\$9	\$32,214	\$1	\$2,267	\$17,681
FERC 901 - 910: Customer O&M (M\$)	\$2,075	\$42	\$1	\$1	\$2,118	\$0	\$76	\$2,195
Total Cust-Rel O&M (M\$)	\$33,634	\$679	\$9	\$10	\$34,332	\$1	\$2,344	\$19,876
2016 Number of Customers	847,654	17,116	232	243	865,245	58	31,920	897,223
Cust-Rel O&M per Customer (2016 \$'s)	\$40	\$40	\$40	\$40	\$40	\$16	\$73	\$22
escalator 2016\$'s to 2020\$'s	1.098	1.098	1.098	1.098	1.098	1.098	1.098	1.098
O&M \$/customer/yr 2020\$s	\$43.58	\$43.58	\$43.58	\$43.58	\$43.58	\$17.61	\$80.64	\$24.33
O&M Loaders:								
Materials & Supplies Loader:								
allocator = total Customer Related O&M as % of total	91.7%	1.9%	0.0%	0.0%	93.6%	0.0%	6.4%	54.2%
Allocated Materials & Supplies Loader (\$'s) \$135,355	\$124,110	\$2,506	\$34	\$36	\$126,685	\$3	\$8,649	\$73,342
2016 Number of Customers	847,654	17,116	232	243	865,245	58	31,920	897,223
M&S Loader per Customer (2016 \$'s)	\$0.15	\$0.15	\$0.15	\$0.15	\$0.15	\$0.06	\$0.27	\$0.08
escalator 2016\$'s to 2020\$'s	1.098	1.098	1.098	1.098	1.098	1.098	1.098	1.098
M&S Loader \$/customer/yr 2020\$s	\$0.16	\$0.16	\$0.16	\$0.16	\$0.16	\$0.06	\$0.30	\$0.09
Administrative & General as % of O&M	23.95%	23.95%	23.95%	23.95%	23.95%	23.95%	23.95%	23.95%
Administrative & General \$/customer/yr 2020\$'s	\$10.44	\$10.44	\$10.44	\$10.44	\$10.44	\$4.22	\$19.32	\$5.83
General Plant as % of O&M	17.59%	17.59%	17.59%	17.59%	17.59%	17.59%	17.59%	17.59%
General Plant \$/customer/yr 2020\$'s	\$7.67	\$7.67	\$7.67	\$7.67	\$7.67	\$3.10	\$14.19	\$4.28
TOTAL O&M LOADERS \$/customer/yr	\$18.27	\$18.27	\$18.27	\$18.27	\$18.27	\$7.38	\$33.80	\$10.20
LRMC Rental Customer Cost \$/customer/year	\$198.72	\$198.72	\$198.71	\$198.73	\$198.72	\$161.87	\$251.31	\$171.40
					\$16.56			
NCO Method:								
LRMC Rental Customer Cost \$/customer/year					\$198.72	\$161.87	\$251.31	\$171.40
less annualized SRM rental					(\$136.88)	(\$136.88)	(\$136.87)	(\$136.88)
plus annualized SRM NCO					\$17.00	\$69.79	\$22.39	\$17.22
NCO Customer Cost \$/customer/year					\$78.84	\$94.78	\$136.83	\$51.75
					\$6.57			
NCO with Replacement Cost Adder Method:								
LRMC Rental Customer Cost \$/customer/year					\$198.72	\$161.87	\$251.31	\$171.40
less annualized SRM rental					(\$136.88)	(\$136.88)	(\$136.87)	(\$136.88)
plus annualized SRM					\$201.83	\$262.93	\$208.76	\$202.07
NCO w/ Replacement Customer Cost \$/cstmr/yr					\$263.67	\$287.92	\$323.20	\$236.60
					\$21.97			

GTNC			EG			Total Noncore	System Total
MPD	HPD	Total	< 3 MM	> 3 MM	Total		
J	K	L	M	N	O	P	Q
\$136.86	\$136.86	\$136.86	\$136.91	\$136.87	\$136.90	\$136.89	\$136.88
\$1	\$0	\$1	\$2	\$1	\$3	\$3	\$34,486
\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$2,195
\$1	\$0	\$1	\$2	\$1	\$3	\$3	\$36,681
44	14	58	76	16	92	150	897,373
\$32	\$24	\$21	\$33	\$35	\$33	\$22	\$41
1.098	1.098	1.098	1.098	1.098	1.098	1.098	1.098
\$35.51	\$26.67	\$23.44	\$36.11	\$38.40	\$36.51	\$24.28	\$44.89
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
\$5	\$1	\$5	\$9	\$2	\$11	\$12	\$73,354
44	14	58	76	16	92	150	897,373
\$0.12	\$0.09	\$0.08	\$0.12	\$0.13	\$0.12	\$0.08	\$0.08
1.098	1.098	1.098	1.098	1.098	1.098	1.098	1.098
\$0.13	\$0.10	\$0.09	\$0.13	\$0.14	\$0.13	\$0.09	\$0.09
23.95%	23.95%	23.95%	23.95%	23.95%	23.95%	23.95%	23.95%
\$8.51	\$6.39	\$5.62	\$8.65	\$9.20	\$8.75	\$5.82	\$10.75
17.59%	17.59%	17.59%	17.59%	17.59%	17.59%	17.59%	17.59%
\$6.25	\$4.69	\$4.12	\$6.35	\$6.75	\$6.42	\$4.27	\$7.90
\$14.89	\$11.18	\$9.83	\$15.13	\$16.09	\$15.30	\$10.18	\$18.74
\$187.26	\$174.72	\$170.13	\$188.16	\$191.35	\$188.71	\$171.34	\$200.51
\$187.26	\$174.72	\$170.13	\$188.16	\$191.35	\$188.71	\$171.34	\$200.51
(\$136.86)	(\$136.86)	(\$136.86)	(\$136.91)	(\$136.87)	(\$136.90)	(\$136.89)	(\$136.88)
\$157.13	\$240.38	\$171.27	\$170.97	\$252.13	\$100.85	\$95.21	\$95.21
\$207.53	\$278.23	\$204.54	\$222.22	\$306.62	\$152.66	\$129.67	\$158.85
\$187.26	\$174.72	\$170.13	\$188.16	\$191.35	\$188.71	\$171.34	\$200.51
(\$136.86)	(\$136.86)	(\$136.86)	(\$136.91)	(\$136.87)	(\$136.90)	(\$136.89)	(\$136.88)
\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
\$50.40	\$37.85	\$33.27	\$51.24	\$54.49	\$51.81	\$34.46	\$63.63

**TABLE LRMCC-1
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**METER SET ASSEMBLY (MSA) EXPENSE
2020 TCAP**

	Max Meter Flow Range	Meter Type	Meter, Regulator & Fitting Costs	Installation Costs	Total MSA Costs		
	A	B	C	E	F		
	Cfh		(Dollars)	(Dollars)	(Dollars)		
1	<i>Medium Pressure</i>						1
2	0-275	250	\$187.21	\$72.22	\$259.43	2	
3	276 - 425	425	\$473.51	\$146.94	\$620.46	3	
4	426-630	630	\$784.30	\$146.94	\$931.25	4	
5	631 - 800	8C	\$1,232.02	\$293.88	\$1,525.90	5	
6	801 - 1,100	11C	\$1,255.22	\$293.88	\$1,549.11	6	
7	1,101 - 1,500	15C	\$1,978.61	\$930.39	\$2,908.99	7	
8	1,501 - 2,000	2M	\$2,555.65	\$1,471.42	\$4,027.07	8	
9	2,001 - 3,000	3M	\$2,579.99	\$1,471.42	\$4,051.41	9	
10	3,001 - 5,000	5M	\$3,336.62	\$1,471.42	\$4,808.04	10	
11	5,001 - 7,000	7M	\$3,965.69	\$1,471.42	\$5,437.10	11	
12							12
13	<i>High Pressure</i>						13
14	0 - 940	425	\$1,339.29	\$930.39	\$2,269.68	14	
15	941 - 1,050	8C	\$2,847.10	\$1,471.42	\$4,318.52	15	
16	1,051 - 2,000	2M	\$1,650.08	\$930.39	\$2,580.47	16	
17	2,001 - 2,700	2M	\$2,898.94	\$1,471.42	\$4,370.35	17	
18	2,701 - 4,000	3M	\$2,922.51	\$1,471.42	\$4,393.92	18	
19	4,001 - 6,600	5M	\$4,266.66	\$1,678.17	\$5,944.83	19	
20	6,601 - 9,200	7M	\$5,001.44	\$1,678.17	\$6,679.61	20	
21	9,201 - 14,500	11M	\$5,431.52	\$1,979.40	\$7,410.92	21	
22	14,501 - 21,400	16M	\$6,910.85	\$1,979.40	\$8,890.24	22	
23	21,401 - 24,000	Turbine	\$11,616.33	\$4,295.73	\$15,912.06	23	
24	24,001 - 46,000	Turbine	\$12,532.26	\$4,341.53	\$16,873.79	24	
25	46,001 - 79,000	Turbine	\$20,618.81	\$8,023.58	\$28,642.39	25	
26	79,001 - 377,000	Turbine	\$40,407.56	\$11,875.08	\$52,282.64	26	
27	377,001 - 600,000	Turbine			\$0.00	27	
28	600,001 - 4,250,000	Turbine			\$0.00	28	
29	> 4,250,000	Turbine			\$0.00	29	

Notes:

1. Col. (F) = Col. (C) + Col. (D) + Col. (E).
2. MSA costs expressed in Year 2020 \$'s.
3. Data Source: SDG&E Gas Distribution Engineering Department.

**TABLE LRMCC-2
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**WEIGHTED MSA RECC FACTOR
2020 TCAP**

	Max Meter Flow Range	Meter, Regulator, & Fitting Costs	Meter & Regulator RECC Factor	Installation Costs	Installation Costs RECC Factor	Weighted Average RECC Factor	
	A	B	C	D	E	F	
	Cfh	(Dollars)	(Percent)	(Dollars)	(Percent)	(Percent)	
1	<i>Medium Pressure</i>						1
2	0-275	\$187.21	8.44%	\$72.22	8.82%	8.55%	2
3	276 - 425	\$473.51	8.44%	\$146.94	8.82%	8.53%	3
4	426-630	\$784.30	8.44%	\$146.94	8.82%	8.50%	4
5	631 - 800	\$1,232.02	8.44%	\$293.88	8.82%	8.52%	5
6	801 - 1,100	\$1,255.22	8.44%	\$293.88	8.82%	8.52%	6
7	1,101 - 1,500	\$1,978.61	8.44%	\$930.39	8.82%	8.56%	7
8	1,501 - 2,000	\$2,555.65	8.44%	\$1,471.42	8.82%	8.58%	8
9	2,001 - 3,000	\$2,579.99	8.44%	\$1,471.42	8.82%	8.58%	9
10	3,001 - 5,000	\$3,336.62	8.44%	\$1,471.42	8.82%	8.56%	10
11	5,001 - 7,000	\$3,965.69	8.44%	\$1,471.42	8.82%	8.55%	11
12							12
13	<i>High Pressure</i>						13
14	0 - 940	\$1,339.29	8.44%	\$930.39	8.82%	8.60%	14
15	941 - 1,050	\$2,847.10	8.44%	\$1,471.42	8.82%	8.57%	15
16	1,051 - 2,000	\$1,650.08	8.44%	\$930.39	8.82%	8.58%	16
17	2,001 - 2,700	\$2,898.94	8.44%	\$1,471.42	8.82%	8.57%	17
18	2,701 - 4,000	\$2,922.51	8.44%	\$1,471.42	8.82%	8.57%	18
19	4,001 - 6,600	\$4,266.66	8.44%	\$1,678.17	8.82%	8.55%	19
20	6,601 - 9,200	\$5,001.44	8.44%	\$1,678.17	8.82%	8.54%	20
21	9,201 - 14,500	\$5,431.52	8.44%	\$1,979.40	8.82%	8.54%	21
22	14,501 - 21,400	\$6,910.85	8.44%	\$1,979.40	8.82%	8.53%	22
23	21,401 - 24,000	\$11,616.33	8.44%	\$4,295.73	8.82%	8.55%	23
24	24,001 - 46,000	\$12,532.26	8.44%	\$4,341.53	8.82%	8.54%	24
25	46,001 - 79,000	\$20,618.81	8.44%	\$8,023.58	8.82%	8.55%	25
26	79,001 - 377,000	\$40,407.56	8.44%	\$11,875.08	8.82%	8.53%	26
27	377,001 - 600,000					8.53%	27
28	600,001 - 4,250,000					8.53%	28
29	> 4,250,000					8.53%	29

Notes:

1. Col. (F) = [Col. (B) x Col. (C)] + [Col. (D) x Col. (E)] ÷ [Col. (B) + Col. (D)]
2. Rows (27) - (29): Weighted Average RECC Factor meter & installation weights from Row (26).
3. Data Source: RECC Factors from Finance Group

TABLE LRMCC-3
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
ANNUALIZED SERVICE, REGULATOR & METER (SRM) MARGINAL INVESTMENT
2020 TCAP

	Max Meter Flow Range	Meter & Regulator			Pipe & Installation			Total SRM Annualized Marg. Invstmt.			
		Meter Type	M&R Cost	RECC Factor	Annualized Marg. Invstmt.	Service Type	Service Cost		RECC Factor	Annualized Marg. Invstmt.	
	A	B	C	D	E	F	G	H	I	J	
	Cfh		(Dollars)	(Percent)	(Dollars)		(Dollars)	(Percent)	(Dollars)	(Dollars)	
1	<i>Medium Pressure</i>										1
2	0-275	250	\$259	8.55%	\$22	Poly-0.5"	\$1,482	7.74%	\$115	\$137	2
3	276 - 425	425	\$259	8.53%	\$22	Poly-0.5"	\$1,482	7.74%	\$115	\$137	3
4	426-630	630	\$259	8.50%	\$22	Poly-1"	\$1,482	7.74%	\$115	\$137	4
5	631 - 800	8C	\$259	8.52%	\$22	Poly-1"	\$1,482	7.74%	\$115	\$137	5
6	801 - 1,100	11C	\$259	8.52%	\$22	Poly-1"	\$1,482	7.74%	\$115	\$137	6
7	1,101 - 1,500	15C	\$259	8.56%	\$22	Poly-1"	\$1,482	7.74%	\$115	\$137	7
8	1,501 - 2,000	2M	\$259	8.58%	\$22	Poly-1"	\$1,482	7.74%	\$115	\$137	8
9	2,001 - 3,000	3M	\$259	8.58%	\$22	Poly-1"	\$1,482	7.74%	\$115	\$137	9
10	3,001 - 5,000	5M	\$259	8.56%	\$22	Poly-2"	\$1,482	7.74%	\$115	\$137	10
11	5,001 - 7,000	7M	\$259	8.55%	\$22	Poly-2"	\$1,482	7.74%	\$115	\$137	11
12	<i>High Pressure</i>										12
13	0 - 940	425	\$259	8.60%	\$22	Poly-1"	\$1,482	7.74%	\$115	\$137	13
14	941 - 1,050	8C	\$259	8.57%	\$22	Poly-1"	\$1,482	7.74%	\$115	\$137	14
15	1,051 - 2,000	2M	\$259	8.58%	\$22	Poly-1"	\$1,482	7.74%	\$115	\$137	15
16	2,001 - 2,700	2M	\$259	8.57%	\$22	Poly-1"	\$1,482	7.74%	\$115	\$137	16
17	2,701 - 4,000	3M	\$259	8.57%	\$22	Poly-2"	\$1,482	7.74%	\$115	\$137	17
18	4,001 - 6,600	5M	\$259	8.55%	\$22	Poly-2"	\$1,482	7.74%	\$115	\$137	18
19	6,601 - 9,200	7M	\$259	8.54%	\$22	Poly-2"	\$1,482	7.74%	\$115	\$137	19
20	9,201 - 14,500	11M	\$259	8.54%	\$22	Poly-3"	\$1,482	7.74%	\$115	\$137	20
21	14,501 - 21,400	16M	\$259	8.53%	\$22	Poly-3"	\$1,482	7.74%	\$115	\$137	21
22	21,401 - 24,000	Turbine	\$259	8.55%	\$22	Poly-4"	\$1,482	7.74%	\$115	\$137	22
23	24,001 - 46,000	Turbine	\$259	8.54%	\$22	Poly-4"	\$1,482	7.74%	\$115	\$137	23
24	46,001 - 79,000	Turbine	\$259	8.55%	\$22	Steel-4"	\$1,482	7.74%	\$115	\$137	24
25	79,001 - 377,000	Turbine	\$259	8.53%	\$22	Steel-6"	\$1,482	7.74%	\$115	\$137	25
26	377,001 - 600,000	Turbine	\$0	8.53%	\$0	Steel-8"	\$1,482	7.74%	\$115	\$115	26
27	600,001 - 4,250,000	Turbine	\$0	8.53%	\$0	Steel-16"	--	7.74%	\$0	\$0	27
28	> 4,250,000	Turbine	\$0	8.53%	\$0	Steel-24"	--	7.74%	\$0	\$0	28

Notes:

1. Col. (E) = Col. (C) x Col. (D). Col. (I) = Col. (G) x Col. (H).
2. Col. (J) = Col. (E) + Col. (I).

Data Sources: MSA Cost, MSA RECC

TABLE LRMCC-4
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
MSA ASSIGNMENT FACTORS BY CUSTOMER CLASS
2020 TCAP

	Max Meter Flow Range	Meter Type	Res				Total	NGV	GN-3	Total Core	GTNC			EG			Total Noncore	System Total
			G-R	G-M	G-S	G-I					MPD	HPD	Total	< 3 MM	> 3 MM	Total		
	A	B	C				D	E	F	G	H	I	J	K	L	N	O	
	Cfm																	
1	<i>Medium Pressure</i>		98%	2%	0%	0%												
2	0-275	250	800,113	13,343	84	5	813,545	17	15,718	829,280	-	-	-	1	-	1	829,281	
3	276 - 425	425	25,734	1,271	34	4	27,043	-	3,002	30,045	-	-	-	-	-	-	30,045	
4	426-630	630	8,003	470	4	7	8,484	-	1,715	10,199	-	-	-	-	-	-	10,199	
5	631 - 800	8C	9,637	741	20	7	10,405	2	3,061	13,468	-	-	-	-	-	-	13,468	
6	801 - 1,100	11C	3,004	531	33	8	3,576	-	2,249	5,825	-	-	-	-	-	-	5,825	
7	1,101 - 1,500	15C	843	225	6	3	1,077	-	1,463	2,540	-	-	-	-	-	-	2,540	
8	1,501 - 2,000	2M	224	86	6	4	320	4	1,252	1,576	-	-	-	28	-	28	1,604	
9	2,001 - 3,000	3M	73	275	18	39	405	5	1,868	2,278	-	-	-	6	-	6	2,284	
10	3,001 - 5,000	5M	10	85	8	74	177	6	788	971	1	-	-	7	-	7	979	
11	5,001 - 7,000	7M	3	31	6	35	75	1	331	407	6	-	-	6	-	6	421	
12																		
13	<i>High Pressure</i>																	
14	0 - 940	425	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	
15	941 - 1,050	8C	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	
16	1,051 - 2,000	2M	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	
17	2,001 - 2,700	2M	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	
18	2,701 - 4,000	3M	0	1	0	0	1	-	-	1	-	-	-	1	-	1	2	
19	4,001 - 6,600	5M	0	0	0	0	-	1	-	1	-	1	1	-	1	2	3	
20	6,601 - 9,200	7M	1	0	0	0	1	1	1	3	-	1	1	4	2	6	7	
21	9,201 - 14,500	11M	0	31	9	45	85	-	292	377	10	6	16	3	-	3	19	
22	14,501 - 21,400	16M	6	23	3	12	44	13	144	201	12	1	13	5	2	7	20	
23	21,401 - 24,000	Turbine	0	3	1	0	4	3	18	25	4	1	5	-	1	1	6	
24	24,001 - 46,000	Turbine	1	0	0	0	1	4	13	18	7	2	9	3	7	10	19	
25	46,001 - 79,000	Turbine	0	0	0	0	-	1	4	5	3	1	4	7	3	10	14	
26	79,001 - 377,000	Turbine	2	0	0	0	2	-	1	3	1	1	2	3	-	3	5	
27	377,001 - 600,000	Turbine	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	
28	600,001 - 4,250,000	Turbine	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	
29	> 4,250,000	Turbine	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	
30																		
31	Total Customers		847,654	17,116	232	243	865,245	58	31,920	897,223	44	14	58	76	16	92	150	897,373

TABLE MISC-1
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT

DEMAND DETERMINANT SUMMARY
2020 TCAP

Billing Determinants	Res						NGV	GN-3	Core	GTNC			EG			Power Plants	Noncore	System
	G-R	G-M	G-S	G-T	Total	MPD				HPD	Total	< 3 MM	> 3 MM	Total				
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	
TCAP Customers	856,297	17,291	234	245	874,067	28	30,937	905,032	44	9	53	72	18	90	-	143	905,175	
2016 Customers	847,654	17,116	232	243	865,245	58	31,920	897,223	44	14	58	76	16	92	-	150	897,373	

Demand Forecast per 2017 TCAP in Mtherms		Res	NGV	Core C&I	Total Core	Non Core C&I	EG Tier 1	EG Tier 2	Total EG	Total Non Core	Total System
1	DIRECT Demand										
2	Transmission										
3	Average Year Throughput (MTh)	0	0	0	0	17,569	5,074	456,289	461,363	478,932	478,932
4	Cold Year Throughput (1-in-35) (MTh)	0	0	0	0	17,569	5,074	456,289	461,363	478,932	478,932
5	Cold Year Peak Month (December) (MTh)	0	0	0	0	1,477	191	35,479	35,670	37,147	37,147
6	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	0	0	0	0	48	6	1,684	1,690	1,738	1,738
7	Number of Customers	0	0	0	0	9	3	12	15	24	24
8	High Pressure										
9	Average Year Throughput (MTh)	67	8,874	3,116	12,057	7,497	3,531	36,209	39,740	47,237	59,294
10	Cold Year Throughput (1-in-35) (MTh)	74	8,874	3,251	12,199	7,497	3,531	36,209	39,740	47,237	59,436
11	Cold Year Peak Month (December) (MTh)	11	721	373	1,105	630	287	3,027	3,314	3,944	5,049
12	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	1	23	18	42	20	9	98	107	127	169
13	Number of Customers	2	4	5	11	9	5	4	9	18	29
14	Medium Pressure										
15	Average Year Throughput (MTh)	313,167	15,255	191,661	520,083	21,879	21,131	7,997	29,127	51,006	571,089
16	Cold Year Throughput (1-in-35) (MTh)	343,334	15,255	199,985	558,574	21,879	21,131	7,997	29,127	51,006	609,580
17	Cold Year Peak Month (December) (MTh)	50,177	1,239	22,957	74,374	1,839	1,767	669	2,435	4,275	78,649
18	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	2,943	40	1,098	4,081	59	57	22	79	138	4,219
19	Number of Customers	874,065	24	30,932	905,021	35	64	2	66	101	905,122
20	CUMULATIVE Demand										
21	Transmission										
22	Average Year Throughput (MTh)	313,234	24,129	194,777	532,140	46,945	29,736	500,494	530,230	577,175	1,109,315
23	Cold Year Throughput (1-in-35) (MTh)	343,408	24,129	203,236	570,773	46,945	29,736	500,494	530,230	577,175	1,147,948
24	Cold Year Peak Month (December) (MTh)	50,188	1,960	23,331	75,479	3,947	2,244	39,175	41,419	45,366	120,845
25	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	2,944	63	1,115	4,123	127	72	1,803	1,876	2,003	6,126
26	Number of Customers	874,067	28	30,937	905,032	53	72	18	90	143	905,175
27	High Pressure										
28	Average Year Throughput (MTh)	313,234	24,129	194,777	532,140	29,376	24,662	44,206	68,867	98,243	630,384
29	Cold Year Throughput (1-in-35) (MTh)	343,408	24,129	203,236	570,773	29,376	24,662	44,206	68,867	98,243	669,016
30	Cold Year Peak Month (December) (MTh)	50,188	1,960	23,331	75,479	2,470	2,053	3,696	5,749	8,219	83,698
31	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	2,944	63	1,115	4,123	80	66	119	185	265	4,388
32	Number of Customers	874,067	28	30,937	905,032	44	69	6	75	119	905,151
33	Medium Pressure										
34	Average Year Throughput (MTh)	313,167	15,255	191,661	520,083	21,879	21,131	7,997	29,127	51,006	571,089
35	Cold Year Throughput (1-in-35) (MTh)	343,334	15,255	199,985	558,574	21,879	21,131	7,997	29,127	51,006	609,580
36	Cold Year Peak Month (December) (MTh)	50,177	1,239	22,957	74,374	1,839	1,767	669	2,435	4,275	78,649
37	Peak Day (1-in-35 Core; 1-in-10 Noncore) (MTh)	2,943	40	1,098	4,081	59	57	22	79	138	4,219
38	Number of Customers	874,065	24	30,932	905,021	35	64	2	66	101	905,122

TABLE LRMCC-5
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
MSA ASSIGNMENT FACTORS BY CUSTOMER CLASS
2020 TCAP

	Max Meter Flow Range	Meter Type	Res					NGV	GN-3	Total Core	GTNC			EG			Total Noncore	System Total
			G-R	G-M	G-S	G-T	Total				MPD	HPD	Total	< 3 MM	> 3 MM	Total		
	A	B	C					D	E	F	G	H	I	J	K	L	N	O
1	<i>Medium Pressure</i>																	1
2	0-275	250	94.39%	77.96%	36.21%	2.06%	94.02%	29.31%	49.24%	92.43%	0.00%	0.00%	0.00%	1.32%	0.00%	1.09%	0.67%	92.41%
3	276 - 425	425	3.04%	7.43%	14.66%	1.65%	3.13%	0.00%	9.40%	3.35%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.35%
4	426-630	630	0.94%	2.75%	1.72%	2.88%	0.98%	0.00%	5.37%	1.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.14%
5	631 - 800	8C	1.14%	4.33%	8.62%	2.88%	1.20%	3.45%	9.59%	1.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.50%
6	801 - 1,100	11C	0.35%	3.10%	14.22%	3.29%	0.41%	0.00%	7.05%	0.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.65%
7	1,101 - 1,500	15C	0.10%	1.31%	2.59%	1.23%	0.12%	0.00%	4.58%	0.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.28%
8	1,501 - 2,000	2M	0.03%	0.50%	2.59%	1.65%	0.04%	6.90%	3.92%	0.18%	0.00%	0.00%	0.00%	36.84%	0.00%	30.43%	18.67%	0.18%
9	2,001 - 3,000	3M	0.01%	1.61%	7.76%	16.05%	0.05%	8.62%	5.85%	0.25%	0.00%	0.00%	0.00%	7.89%	0.00%	6.52%	4.00%	0.25%
10	3,001 - 5,000	5M	0.00%	0.50%	3.45%	30.45%	0.02%	10.34%	2.47%	0.11%	2.27%	0.00%	1.72%	9.21%	0.00%	7.61%	5.33%	0.11%
11	5,001 - 7,000	7M	0.00%	0.18%	2.59%	14.40%	0.01%	1.72%	1.04%	0.05%	13.64%	0.00%	10.34%	10.53%	0.00%	8.70%	9.33%	0.05%
12	<i>High Pressure</i>																	12
13	<i>High Pressure</i>																	13
14	0 - 940	425	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
15	941 - 1,050	8C	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
16	1,051 - 2,000	2M	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
17	2,001 - 2,700	2M	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
18	2,701 - 4,000	3M	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.25%	1.09%	0.67%	0.00%
19	4,001 - 6,600	5M	0.00%	0.00%	0.00%	0.00%	0.00%	1.72%	0.00%	0.00%	0.00%	7.14%	1.72%	1.32%	0.00%	1.09%	1.33%	0.00%
20	6,601 - 9,200	7M	0.00%	0.00%	0.00%	0.00%	0.00%	1.72%	0.00%	0.00%	0.00%	7.14%	1.72%	5.26%	12.50%	6.52%	4.67%	0.00%
21	9,201 - 14,500	11M	0.00%	0.18%	3.88%	18.52%	0.01%	0.00%	0.91%	0.04%	22.73%	42.86%	27.59%	3.95%	0.00%	3.26%	12.67%	0.04%
22	14,501 - 21,400	16M	0.00%	0.13%	1.29%	4.94%	0.01%	22.41%	0.45%	0.02%	27.27%	7.14%	22.41%	6.58%	12.50%	7.61%	13.33%	0.02%
23	21,401 - 24,000	Turbine	0.00%	0.02%	0.43%	0.00%	0.00%	5.17%	0.06%	0.00%	9.09%	7.14%	8.62%	0.00%	6.25%	1.09%	4.00%	0.00%
24	24,001 - 46,000	Turbine	0.00%	0.00%	0.00%	0.00%	0.00%	6.90%	0.04%	0.00%	15.91%	14.29%	15.52%	3.95%	43.75%	10.87%	12.67%	0.00%
25	46,001 - 79,000	Turbine	0.00%	0.00%	0.00%	0.00%	0.00%	1.72%	0.01%	0.00%	6.82%	7.14%	6.90%	9.21%	18.75%	10.87%	9.33%	0.00%
26	79,001 - 377,000	Turbine	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.27%	7.14%	3.45%	3.95%	0.00%	3.26%	3.33%	0.00%
27	377,001 - 600,000	Turbine	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
28	600,001 - 4,250,000	Turbine	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29	> 4,250,000	Turbine	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
30	Total Customers																	30
31	Total Customers																	31

Notes:

- 1. Factors derived from meter capacity analysis results in Table "LRMCC-4" (tab MSAallocv1)
 Data Sources: Tabs: MSA Cost, MSAalloc v1

TABLE LRMCC-6
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
FORECAST CUSTOMERS BY METER TYPE BY CUSTOMER CLASS
2020 TCAP

	Max Meter Flow Range	Meter Type	Res					NGV	GN-3	Total Core	GTNC			EG			Power Plant	Total Noncore	System Total
			G-R	G-M	G-S	G-T	Total				MPD	HPD	Total	< 3 MM	> 3 MM	Total			
	A	B	C					D	E	F	G	H	I	J	K	L	M	N	O
1	<i>Medium Pressure</i>																		1
2	0-275	250	808,271	13,479	85	5	821,840	8	15,234	837,082	-	-	-	1	-	1	-	1	837,083
3	276 - 425	425	25,996	1,284	34	4	27,319	-	2,910	30,228	-	-	-	-	-	-	-	-	30,228
4	426-630	630	8,085	475	4	7	8,571	-	1,662	10,233	-	-	-	-	-	-	-	-	10,233
5	631 - 800	8C	9,735	749	20	7	10,511	1	2,967	13,479	-	-	-	-	-	-	-	-	13,479
6	801 - 1,100	11C	3,035	536	33	8	3,612	-	2,180	5,792	-	-	-	-	-	-	-	-	5,792
7	1,101 - 1,500	15C	852	227	6	3	1,088	-	1,418	2,506	-	-	-	-	-	-	-	-	2,506
8	1,501 - 2,000	2M	226	87	6	4	323	2	1,213	1,539	-	-	-	27	-	27	-	27	1,565
9	2,001 - 3,000	3M	74	278	18	39	409	2	1,810	2,222	-	-	-	6	-	6	-	6	2,228
10	3,001 - 5,000	5M	10	86	8	75	179	3	764	945	1	-	1	7	-	7	-	8	953
11	5,001 - 7,000	7M	3	31	6	35	76	0	321	397	6	-	6	8	-	8	-	14	411
12	<i>High Pressure</i>																		12
13	0 - 940	425	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	941 - 1,050	8C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	1,051 - 2,000	2M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	2,001 - 2,700	2M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	2,701 - 4,000	3M	-	1	-	-	1	-	-	1	-	-	-	-	1	1	-	1	2
18	4,001 - 6,600	5M	-	-	-	-	-	0	-	0	-	1	1	1	1	1	-	2	2
19	6,601 - 9,200	7M	1	-	-	-	1	0	1	2	-	1	1	4	2	6	-	7	9
20	9,201 - 14,500	11M	-	31	9	45	86	-	283	369	10	4	14	3	-	3	-	17	386
21	14,501 - 21,400	16M	6	23	3	12	44	6	140	190	12	1	13	5	2	7	-	20	210
22	21,401 - 24,000	Turbine	-	3	1	-	4	1	17	23	4	1	5	-	1	1	-	6	29
23	24,001 - 46,000	Turbine	1	-	-	-	1	2	13	16	7	1	8	3	8	11	-	19	35
24	46,001 - 79,000	Turbine	-	-	-	-	-	0	4	4	3	1	4	7	3	10	-	14	18
25	79,001 - 377,000	Turbine	2	-	-	-	2	-	1	3	1	1	2	3	-	3	-	4	7
26	377,001 - 600,000	Turbine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	600,001 - 4,250,000	Turbine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	> 4,250,000	Turbine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29																			29
30																			30
31	Total Customers		856,297	17,291	234	245	874,067	28	30,937	905,032	44	9	53	72	18	90	-	143	905,175

- Notes:
- Row (31) = forecast annual average number of customers during proposed 2020 - 2022 TCAP period
 - Rows (2) - (29) = Row (31) x MSA assignment factors for each market segment for each flow range.

verify 856,297 17,291 234 245 874,067 28 30,937 905,032 44 9 53 72 18 90 - 143 905,175
 Data Sources: tabs: MSA Cost, MSAAlloc v2

TABLE LRMCC-7
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT

ANNUALIZED SRM MARGINAL INVESTMENT BY CUSTOMER CLASS
2020 TCAP

	Max Meter Flow Range	Meter Type	Res					NGV	GN-3	Total Core	GTNC			EG			Power Plant	Total Noncore	System Total
			G-R	G-M	G-S	G-T	Total				MPD	HPD	Total	< 3 MM	> 3 MM	Total			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
	Cfh																		
	(Dollars)																		
1	<i>Medium Pressure</i>																		
2	0-275	250	\$110,637,350	\$1,845,032	\$11,615	\$691	\$112,494,689	\$1,109	\$2,085,241	\$114,581,039	\$0	\$0	\$0	\$130	\$0	\$130	\$0	\$130	\$114,581,169
3	276 - 425	425	\$3,557,365	\$175,698	\$4,700	\$553	\$3,738,316	\$0	\$398,144	\$4,136,461	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,136,461
4	426-630	630	\$1,105,676	\$64,934	\$553	\$967	\$1,172,130	\$0	\$227,325	\$1,399,455	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,399,455
5	631 - 800	8C	\$1,331,758	\$102,400	\$2,764	\$967	\$1,437,890	\$130	\$405,841	\$1,843,861	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,843,861
6	801 - 1,100	11C	\$415,121	\$73,379	\$4,560	\$1,106	\$494,165	\$0	\$298,176	\$792,341	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$792,341
7	1,101 - 1,500	15C	\$116,602	\$31,122	\$830	\$415	\$148,969	\$0	\$194,148	\$343,116	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$343,116
8	1,501 - 2,000	2M	\$30,993	\$11,899	\$830	\$553	\$44,276	\$261	\$166,201	\$210,738	\$0	\$0	\$0	\$3,633	\$0	\$3,633	\$0	\$3,633	\$214,372
9	2,001 - 3,000	3M	\$10,100	\$38,049	\$2,491	\$5,396	\$56,036	\$326	\$247,970	\$304,333	\$0	\$0	\$0	\$779	\$0	\$779	\$0	\$779	\$305,111
10	3,001 - 5,000	5M	\$1,383	\$11,756	\$1,106	\$10,235	\$24,480	\$391	\$104,561	\$129,433	\$137	\$0	\$137	\$908	\$0	\$908	\$0	\$1,045	\$130,478
11	5,001 - 7,000	7M	\$415	\$4,286	\$830	\$4,839	\$10,370	\$65	\$43,910	\$54,345	\$821	\$0	\$821	\$1,037	\$0	\$1,037	\$0	\$1,859	\$56,204
12																			
13	<i>High Pressure</i>																		
14	0 - 940	425	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15	941 - 1,050	8C	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16	1,051 - 2,000	2M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
17	2,001 - 2,700	2M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
18	2,701 - 4,000	3M	\$0	\$138	\$0	\$0	\$138	\$0	\$0	\$138	\$0	\$0	\$0	\$0	\$154	\$154	\$0	\$154	\$292
19	4,001 - 6,600	5M	\$0	\$0	\$0	\$0	\$0	\$65	\$0	\$65	\$0	\$88	\$88	\$130	\$0	\$130	\$0	\$218	\$283
20	6,601 - 9,200	7M	\$138	\$0	\$0	\$0	\$138	\$65	\$133	\$336	\$0	\$88	\$88	\$519	\$308	\$827	\$0	\$915	\$1,251
21	9,201 - 14,500	11M	\$0	\$4,286	\$1,244	\$6,222	\$11,753	\$0	\$38,735	\$50,488	\$1,369	\$528	\$1,897	\$389	\$0	\$389	\$0	\$2,286	\$52,774
22	14,501 - 21,400	16M	\$829	\$3,179	\$415	\$1,659	\$6,082	\$848	\$19,096	\$26,026	\$1,642	\$88	\$1,730	\$648	\$308	\$956	\$0	\$2,686	\$28,712
23	21,401 - 24,000	Turbine	\$0	\$415	\$138	\$0	\$553	\$196	\$2,388	\$3,137	\$547	\$88	\$635	\$0	\$154	\$154	\$0	\$789	\$3,926
24	24,001 - 46,000	Turbine	\$138	\$0	\$0	\$0	\$138	\$261	\$1,724	\$2,124	\$958	\$176	\$1,134	\$389	\$1,078	\$1,467	\$0	\$2,601	\$4,724
25	46,001 - 79,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$65	\$531	\$596	\$411	\$88	\$499	\$908	\$462	\$1,370	\$0	\$1,868	\$2,464
26	79,001 - 377,000	Turbine	\$276	\$0	\$0	\$0	\$276	\$0	\$133	\$409	\$137	\$88	\$225	\$389	\$0	\$389	\$0	\$614	\$1,023
27	377,001 - 600,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
28	600,001 - 4,250,000	Turbine																	
29	> 4,250,000	Turbine																	
30	Total		\$117,208,147	\$2,366,574	\$32,076	\$33,603	\$119,640,400	\$3,783	\$4,234,258	\$123,878,441	\$6,022	\$1,232	\$7,254	\$9,858	\$2,464	\$12,321	\$0	\$19,575	\$123,898,016
31	Forecast Customers		856,297	17,291	234	245	874,067	28	30,937	905,032	44	9	53	72	18	90	-	143	905,175
32																			
33	Average SRM Cost		\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$0	\$137	\$137

Notes:

- Rows (2) - (29) = SRM Annualized Marginal Investment x Number of MSA's per Customer Segment for each particular flow range.
- Row (33) = Row (30) ÷ Row (31).

Data Sources: tabs: MSA Fcst, MSA Rental, Factors

TABLE LRMCC-backup.2
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
O&M ALLOCATION FACTOR: Number of Customers Weighted by MSA Cost
2020 TCAP

	Max Meter Flow Range	Meter Type	MSA Capital Investment	Res					Total	NGV	GN-3	Total Core	GTNC			EG		Total Noncore	System Total
				G-R	G-M	G-S	G-T						MPD	HPD	Total	< 3 MM	> 3 MM		
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
	(Thousand Dollars)																		
1	<i>Medium Pressure</i>																		
2	0-275	250	\$0	\$209,690	\$3,497	\$22	\$1	\$213,210	\$2	\$3,952	\$217,164	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$217,165
3	276 - 425	425	\$0	\$6,744	\$333	\$9	\$1	\$7,087	\$0	\$755	\$7,842	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$7,842
4	426-630	630	\$0	\$2,097	\$123	\$1	\$2	\$2,223	\$0	\$431	\$2,655	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,655
5	631 - 800	8C	\$0	\$2,526	\$194	\$5	\$2	\$2,727	\$0	\$770	\$3,497	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,497
6	801 - 1,100	11C	\$0	\$787	\$139	\$9	\$2	\$937	\$0	\$565	\$1,503	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,503
7	1,101 - 1,500	15C	\$0	\$221	\$59	\$2	\$1	\$282	\$0	\$368	\$650	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$650
8	1,501 - 2,000	2M	\$0	\$59	\$23	\$2	\$1	\$84	\$0	\$315	\$399	\$0	\$0	\$0	\$7	\$0	\$7	\$7	\$406
9	2,001 - 3,000	3M	\$0	\$19	\$72	\$5	\$10	\$106	\$1	\$470	\$576	\$0	\$0	\$0	\$1	\$0	\$1	\$1	\$578
10	3,001 - 5,000	5M	\$0	\$3	\$22	\$2	\$19	\$46	\$1	\$198	\$245	\$0	\$0	\$0	\$2	\$0	\$2	\$2	\$247
11	5,001 - 7,000	7M	\$0	\$1	\$8	\$2	\$9	\$20	\$0	\$83	\$103	\$2	\$0	\$0	\$2	\$0	\$2	\$4	\$107
12	<i>High Pressure</i>																		
13	0 - 940	425	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
14	941 - 1,050	8C	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15	1,051 - 2,000	2M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
16	2,001 - 2,700	2M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
17	2,701 - 4,000	3M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1
18	4,001 - 6,600	5M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1
19	6,601 - 9,200	7M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$0	\$0	\$0	\$1	\$1	\$2	\$2	\$2
20	9,201 - 14,500	11M	\$0	\$0	\$8	\$2	\$12	\$22	\$0	\$73	\$96	\$3	\$1	\$4	\$1	\$0	\$1	\$4	\$100
21	14,501 - 21,400	16M	\$0	\$2	\$6	\$1	\$3	\$12	\$2	\$36	\$49	\$3	\$0	\$3	\$1	\$1	\$2	\$5	\$54
22	21,401 - 24,000	Turbine	\$0	\$0	\$1	\$0	\$0	\$1	\$0	\$5	\$6	\$1	\$0	\$1	\$0	\$0	\$0	\$1	\$7
23	24,001 - 46,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3	\$4	\$2	\$0	\$2	\$1	\$2	\$3	\$5	\$9
24	46,001 - 79,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$1	\$1	\$0	\$1	\$2	\$1	\$3	\$4	\$5
25	79,001 - 377,000	Turbine	\$0	\$1	\$0	\$0	\$0	\$1	\$0	\$0	\$1	\$0	\$0	\$0	\$1	\$0	\$1	\$1	\$2
26	377,001 - 600,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
27	600,001 - 4,250,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
28	> 4,250,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
29			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
30	Total	N/A		\$222,149	\$4,486	\$61	\$64	\$226,759	\$7	\$8,026	\$234,792	\$11	\$2	\$14	\$19	\$5	\$23	\$37	\$234,830

Note:
1. Rows (2) - (31) = Gross MSA Capital Investment Cost (Table LRMCC-1) x Number of MSA's per Customer Segment for each particular flow range (Table LRMCC-6).

Data Sources: tabs: MSA Cost, MSA Fcst

**TABLE LRMCC-nco.1
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**WEIGHTED MSA PVRR FACTOR
2020 TCAP**

	Max Meter Flow Range	Meter, Regulator, & Fitting Costs	Meter & Regulator PVRR Factor	Installation Costs	Installation Costs PVRR Factor	Weighted Average PVRR Factor	
	A	B	C	D	E	F	
	Cfh	(Dollars)	(Percent)	(Dollars)	(Percent)	(Percent)	
1	<i>Medium Pressure</i>						1
2	0-275	\$187.21	132.96%	\$72.22	132.37%	132.80%	2
3	276 - 425	\$473.51	132.96%	\$146.94	132.37%	132.82%	3
4	426-630	\$784.30	132.96%	\$146.94	132.37%	132.87%	4
5	631 - 800	\$1,232.02	132.96%	\$293.88	132.37%	132.85%	5
6	801 - 1,100	\$1,255.22	132.96%	\$293.88	132.37%	132.85%	6
7	1,101 - 1,500	\$1,978.61	132.96%	\$930.39	132.37%	132.77%	7
8	1,501 - 2,000	\$2,555.65	132.96%	\$1,471.42	132.37%	132.74%	8
9	2,001 - 3,000	\$2,579.99	132.96%	\$1,471.42	132.37%	132.75%	9
10	3,001 - 5,000	\$3,336.62	132.96%	\$1,471.42	132.37%	132.78%	10
11	5,001 - 7,000	\$3,965.69	132.96%	\$1,471.42	132.37%	132.80%	11
12							12
13	<i>High Pressure</i>						13
14	0 - 940	\$1,339.29	132.96%	\$930.39	132.37%	132.72%	14
15	941 - 1,050	\$2,847.10	132.96%	\$1,471.42	132.37%	132.76%	15
16	1,051 - 2,000	\$1,650.08	132.96%	\$930.39	132.37%	132.75%	16
17	2,001 - 2,700	\$2,898.94	132.96%	\$1,471.42	132.37%	132.76%	17
18	2,701 - 4,000	\$2,922.51	132.96%	\$1,471.42	132.37%	132.76%	18
19	4,001 - 6,600	\$4,266.66	132.96%	\$1,678.17	132.37%	132.79%	19
20	6,601 - 9,200	\$5,001.44	132.96%	\$1,678.17	132.37%	132.81%	20
21	9,201 - 14,500	\$5,431.52	132.96%	\$1,979.40	132.37%	132.80%	21
22	14,501 - 21,400	\$6,910.85	132.96%	\$1,979.40	132.37%	132.83%	22
23	21,401 - 24,000	\$11,616.33	132.96%	\$4,295.73	132.37%	132.80%	23
24	24,001 - 46,000	\$12,532.26	132.96%	\$4,341.53	132.37%	132.81%	24
25	46,001 - 79,000	\$20,618.81	132.96%	\$8,023.58	132.37%	132.79%	25
26	79,001 - 377,000	\$40,407.56	132.96%	\$11,875.08	132.37%	132.83%	26
27	377,001 - 600,000					132.83%	27
28	600,001 - 4,250,000					132.83%	28
29	> 4,250,000					132.83%	29

Notes:

- Col. (F) = [Col. (B) x Col. (C)] + [Col. (D) x Col. (E)] ÷ [Col. (B) + Col. (D)]
- Rows (27) - (29): Weighted Average PVRR Factor meter & installation weights from Row (26).

**TABLE LRMCC-nc0.2
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**NCO ANNUAL SERVICE, REGULATOR & METER (SRM) NEW HOOKUP INVESTMENT
2020 TCAP**

	Max Meter Flow Range	Meter & Regulator			Pipe & Installation			Residential Cost Line X	PVRR Factor	NCO Hookup Investment	NCO Residential Cost Line X	Forecast New Hookups
		Meter Type	M&R Cost	PVRR Factor	NCO Hookup Investment	Service Type	Service Cost					
	A	B	C	D	E	F	G	H	I		J	
	Cfh		(Dollars)	(Percent)	(Dollars)		(Dollars)	(Percent)	(Dollars)			
1	<i>Medium Pressure</i>											
2	0-275	250	\$259	132.80%	\$345	Poly-0.5"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	6,055
3	276 - 425	425	\$620	132.82%	\$824	Poly-0.5"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	209
4	426-630	630	\$931	132.87%	\$1,237	Poly-1"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	68
5	631 - 800	8C	\$1,526	132.85%	\$2,027	Poly-1"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	87
6	801 - 1,100	11C	\$1,549	132.85%	\$2,058	Poly-1"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	34
7	1,101 - 1,500	15C	\$2,909	132.77%	\$3,862	Poly-1"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	13
8	1,501 - 2,000	2M	\$4,027	132.74%	\$5,346	Poly-1"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	8
9	2,001 - 3,000	3M	\$4,051	132.75%	\$5,378	Poly-1"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	9
10	3,001 - 5,000	5M	\$4,808	132.78%	\$6,384	Poly-2"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	4
11	5,001 - 7,000	7M	\$5,437	132.80%	\$7,220	Poly-2"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	2
12												
13	<i>High Pressure</i>											
14	0 - 940	425	\$2,270	132.72%	\$3,012	Poly-1"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	-
15	941 - 1,050	8C	\$4,319	132.76%	\$5,733	Poly-1"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	-
16	1,051 - 2,000	2M	\$2,580	132.75%	\$3,425	Poly-1"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	-
17	2,001 - 2,700	2M	\$4,370	132.76%	\$5,802	Poly-1"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	-
18	2,701 - 4,000	3M	\$4,394	132.76%	\$5,833	Poly-2"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	0
19	4,001 - 6,600	5M	\$5,945	132.79%	\$7,894	Poly-2"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	0
20	6,601 - 9,200	7M	\$6,680	132.81%	\$8,871	Poly-2"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	0
21	9,201 - 14,500	11M	\$7,411	132.80%	\$9,842	Poly-3"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	2
22	14,501 - 21,400	16M	\$8,890	132.83%	\$11,809	Poly-3"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	1
23	21,401 - 24,000	Turbine	\$15,912	132.80%	\$21,131	Poly-4"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	0
24	24,001 - 46,000	Turbine	\$16,874	132.81%	\$22,410	Poly-4"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	0
25	46,001 - 79,000	Turbine	\$28,642	132.79%	\$38,036	Steel-4"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	0
26	79,001 - 377,000	Turbine	\$52,283	132.83%	\$69,445	Steel-6"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	0
27	377,001 - 600,000	Turbine	\$0	132.83%	\$0	Steel-8"	\$1,482	\$1,482	132.82%	\$1,968	\$1,968	-
28	600,001 - 4,250,000	Turbine	\$0	132.83%	\$0	Steel-16"	--	\$1,863	132.82%			-
29	> 4,250,000	Turbine	\$0	132.83%	\$0	Steel-24"	--	\$1,863	132.82%			-

Notes:

1. Col. (E) = Col. (C) x Col. (D).
2. Col. (I) = Col. (G) x Col. (H).
3. Col. (K) = [Col. (E) + Col. (I)] x Col. (J).

**TABLE LRMCC-nco.3
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**WEIGHTED MSA BOOK LIFE
2020 TCAP**

	Max Meter Flow Range	Meter, Regulator, & Fitting Costs	Meter & Regulator Book Life	Installation Costs	Installation Costs Book Life	Weighted Average PVR Factor	
	A	B	C	D	E	F	
	Cfh	(Dollars)	(Years)	(Dollars)	(Years)	(Percent)	
1	<i>Medium Pressure</i>						1
2	0-275	\$187.21	41.0	\$72.22	35.0	39.3	2
3	276 - 425	\$473.51	41.0	\$146.94	35.0	39.6	3
4	426-630	\$784.30	41.0	\$146.94	35.0	40.1	4
5	631 - 800	\$1,232.02	41.0	\$293.88	35.0	39.8	5
6	801 - 1,100	\$1,255.22	41.0	\$293.88	35.0	39.9	6
7	1,101 - 1,500	\$1,978.61	41.0	\$930.39	35.0	39.1	7
8	1,501 - 2,000	\$2,555.65	41.0	\$1,471.42	35.0	38.8	8
9	2,001 - 3,000	\$2,579.99	41.0	\$1,471.42	35.0	38.8	9
10	3,001 - 5,000	\$3,336.62	41.0	\$1,471.42	35.0	39.2	10
11	5,001 - 7,000	\$3,965.69	41.0	\$1,471.42	35.0	39.4	11
12							12
13	<i>High Pressure</i>						13
14	0 - 940	\$1,339.29	41.0	\$930.39	35.0	38.5	14
15	941 - 1,050	\$2,847.10	41.0	\$1,471.42	35.0	39.0	15
16	1,051 - 2,000	\$1,650.08	41.0	\$930.39	35.0	38.8	16
17	2,001 - 2,700	\$2,898.94	41.0	\$1,471.42	35.0	39.0	17
18	2,701 - 4,000	\$2,922.51	41.0	\$1,471.42	35.0	39.0	18
19	4,001 - 6,600	\$4,266.66	41.0	\$1,678.17	35.0	39.3	19
20	6,601 - 9,200	\$5,001.44	41.0	\$1,678.17	35.0	39.5	20
21	9,201 - 14,500	\$5,431.52	41.0	\$1,979.40	35.0	39.4	21
22	14,501 - 21,400	\$6,910.85	41.0	\$1,979.40	35.0	39.7	22
23	21,401 - 24,000	\$11,616.33	41.0	\$4,295.73	35.0	39.4	23
24	24,001 - 46,000	\$12,532.26	41.0	\$4,341.53	35.0	39.5	24
25	46,001 - 79,000	\$20,618.81	41.0	\$8,023.58	35.0	39.3	25
26	79,001 - 377,000	\$40,407.56	41.0	\$11,875.08	35.0	39.6	26
27	377,001 - 600,000					39.6	27
28	600,001 - 4,250,000					39.6	28
29	> 4,250,000					39.6	29

Notes:

1. Col. (F) = [Col (B) x Col. (C)] + [Col. (D) x Col. (E)] ÷ [Col. (B) + Col. (D)]
2. Rows (27) - (29): Weighted Average Book Life meter & installation weights from Row (26).

Data Sources: MSA Cost tab and Finance Group for Book Life

TABLE LRMCC-nc0.4
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
NCO ANNUAL SERVICE, REGULATOR & METER (SRM) REPLACEMENT COST
2020 TCAP

	Meter & Regulator Replacement						Replacement Pipe & Installation					Number of Existing Customers	Total SRM Annual Cost Replacement	
	Max Meter Flow Range	Meter Type	M&R Cost	PVRR Factor	Replacement Investment	Replacement Rate	Service Type	Service Cost	PVRR Factor	Replacement Investment	Replacement Rate			
	A	B	C	D	E	F	G	H	I	J	K	L	M	
	Cfm		(Dollars)	(Percent)	(Dollars)	(Percent)		(Dollars)	(Percent)	(Dollars)	(Percent)		(Dollars)	
1	<i>Medium Pressure</i>													1
2	0-275	250	\$187	132.37%	\$248	2.5%	Poly-0.5"	\$9,088	132.82%	\$12,071	1.5%	829,281	\$154,627,428	
3	276 - 425	425	\$187	132.37%	\$248	2.5%	Poly-0.5"	\$9,088	132.82%	\$12,071	1.5%	30,045	\$5,600,987	
4	426-630	630	\$187	132.37%	\$248	2.5%	Poly-1"	\$9,088	132.82%	\$12,071	1.5%	10,199	\$1,900,541	
5	631 - 800	8C	\$187	132.37%	\$248	2.5%	Poly-1"	\$9,088	132.82%	\$12,071	1.5%	13,468	\$2,510,142	
6	801 - 1,100	11C	\$187	132.37%	\$248	2.5%	Poly-1"	\$9,088	132.82%	\$12,071	1.5%	5,825	\$1,085,638	
7	1,101 - 1,500	15C	\$187	132.37%	\$248	2.6%	Poly-1"	\$9,088	132.82%	\$12,071	1.5%	2,540	\$473,709	
8	1,501 - 2,000	2M	\$187	132.37%	\$248	2.6%	Poly-1"	\$9,088	132.82%	\$12,071	1.5%	1,604	\$299,217	
9	2,001 - 3,000	3M	\$187	132.37%	\$248	2.6%	Poly-1"	\$9,088	132.82%	\$12,071	1.5%	2,284	\$426,062	
10	3,001 - 5,000	5M	\$187	132.37%	\$248	2.6%	Poly-2"	\$9,088	132.82%	\$12,071	1.5%	979	\$182,570	
11	5,001 - 7,000	7M	\$187	132.37%	\$248	2.5%	Poly-2"	\$9,088	132.82%	\$12,071	1.5%	421	\$78,496	
12	<i>High Pressure</i>													12
13	<i>High Pressure</i>													13
14	0 - 940	425	\$187	132.37%	\$248	2.6%	Poly-1"	\$9,088	132.82%	\$12,071	1.5%	-	\$0	
15	941 - 1,050	8C	\$187	132.37%	\$248	2.6%	Poly-1"	\$9,088	132.82%	\$12,071	1.5%	-	\$0	
16	1,051 - 2,000	2M	\$187	132.37%	\$248	2.6%	Poly-1"	\$9,088	132.82%	\$12,071	1.5%	-	\$0	
17	2,001 - 2,700	2M	\$187	132.37%	\$248	2.6%	Poly-1"	\$9,088	132.82%	\$12,071	1.5%	-	\$0	
18	2,701 - 4,000	3M	\$187	132.37%	\$248	2.6%	Poly-2"	\$9,088	132.82%	\$12,071	1.5%	2	\$373	
19	4,001 - 6,600	5M	\$187	132.37%	\$248	2.5%	Poly-2"	\$9,088	132.82%	\$12,071	1.5%	3	\$559	
20	6,601 - 9,200	7M	\$187	132.37%	\$248	2.5%	Poly-2"	\$9,088	132.82%	\$12,071	1.5%	10	\$1,864	
21	9,201 - 14,500	11M	\$187	132.37%	\$248	2.5%	Poly-3"	\$9,088	132.82%	\$12,071	1.5%	396	\$73,834	
22	14,501 - 21,400	16M	\$187	132.37%	\$248	2.5%	Poly-3"	\$9,088	132.82%	\$12,071	1.5%	221	\$41,196	
23	21,401 - 24,000	Turbine	\$187	132.37%	\$248	2.5%	Poly-4"	\$9,088	132.82%	\$12,071	1.5%	31	\$5,780	
24	24,001 - 46,000	Turbine	\$187	132.37%	\$248	2.5%	Poly-4"	\$9,088	132.82%	\$12,071	1.5%	37	\$6,898	
25	46,001 - 79,000	Turbine	\$187	132.37%	\$248	2.5%	Steel-4"	\$9,088	132.82%	\$12,071	1.5%	19	\$3,543	
26	79,001 - 377,000	Turbine	\$187	132.37%	\$248	2.5%	Steel-6"	\$9,088	132.82%	\$12,071	1.5%	8	\$1,491	
27	377,001 - 600,000	Turbine	\$0	0.00%	\$0	2.5%	Steel-8"	\$9,088	132.82%	\$12,071	1.5%	-	\$0	
28	600,001 - 4,250,000	Turbine	\$0	0.00%	\$0	2.5%	Steel-16"	--	132.82%		1.5%	-	\$0	
29	> 4,250,000	Turbine	\$0	0.00%	\$0	2.5%	Steel-24"		132.82%	\$0	1.5%	-	\$0	

- Notes:
- Col. (E) = Col. (C) x Col. (D).
 - Col. (J) = Col. (H) x Col. (I).
 - For Rows (2) - (3): Col. (M) = [Col. (E) x Col. (L) x Col. (F) x [1 - Note 6]] + [Col. (J) x Col. (L) x Col. (K)]
 - For Rows (4) - (28): Col. (M) = [Col. (E) x Col. (L) x Col. (F) x [1 - Note 7]] + [Col. (J) x Col. (L) x Col. (K)]
 - Col. (L) Number of Existing Customers = 2016 Recorded Customers (Total at Inception of TCAP Period) x Proportion of Total @ Meter Flow.

Data Sources: tabs: MSA Cost, MSA PVRR, MSA NCOp1, MSA Life, Factors.
Data Sources: SDG&E Gas Engineering & Finance Group

TABLE LRMCC-nco.5
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
FORECAST NEW HOOKUPS FOR 2020, 2021, 2022
2020 TCAP

	Customer Class	Year-End		2020 Hookups	Year-End		2021 Hookups	Year-End		2022 Hookups	Average Annual New Hookups	
		2019	2020		2020	2021		2021	2022			
	A	B	C	D	E	F	G	E	F	G	H	
1	Residential	861,541	867,507	5,966	867,507	874,002	6,495	874,002	880,694	6,692	6,384	1
2	NGV	27	27	0	27	28	1	28	28	0	0	2
3	Core C&I - GN3	30,712	30,844	132	30,844	30,940	96	30,940	31,027	87	105	3
4	Noncore C&I - GTNC	50	51	1	51	51	0	51	51	0	0	4
5	EG - Cogen	90	93	3	93	96	3	96	99	3	3	5
6	Power Plants	-	-	-	-	-	-	-	-	-	-	6
7												7
8	Total Customers	892,419	898,521	6,102	898,521	905,116	6,595	905,116	911,898	6,782	6,493	8

- Notes:
1. Col. (D) = Col. (C) - Col (B).
 2. Col. (G) = Col. (F) - Col (E).
 3. Col. (J) = Col. (I) - Col (H).
 4. Col. (K) = Average Col. (D) & Col (G) & Col (J).

**TABLE LRMCC-nc0.6
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT**

**FORECAST NEW HOOKUPS BY METER TYPE BY CUSTOMER CLASS
2020 TCAP**

	Max Meter Flow Range	Meter Type	Res	NGV	GN-3	Total Core	GTNC			EG			Total Noncore	System Total
							MPD	HPD	Total	< 3 MM	> 3 MM	Total		
	A	B	C	D	E	F	G	H	I	J	K	L	N	O
	Cfh													
1	<i>Medium Pressure</i>													
2	0-275	250	6,003	0	52	6,055	-	-	-	0	-	0	0	6,055
3	276 - 425	425	200	-	10	209	-	-	-	-	-	-	-	209
4	426-630	630	63	-	6	68	-	-	-	-	-	-	-	68
5	631 - 800	8C	77	0	10	87	-	-	-	-	-	-	-	87
6	801 - 1,100	11C	26	-	7	34	-	-	-	-	-	-	-	34
7	1,101 - 1,500	15C	8	-	5	13	-	-	-	-	-	-	-	13
8	1,501 - 2,000	2M	2	0	4	7	-	-	-	1	-	1	1	8
9	2,001 - 3,000	3M	3	0	6	9	-	-	-	0	-	0	0	9
10	3,001 - 5,000	5M	1	0	3	4	0	-	0	0	-	0	0	4
11	5,001 - 7,000	7M	1	0	1	2	0	-	0	0	-	0	0	2
12														
13	<i>High Pressure</i>													
14	0 - 940	425	-	-	-	-	-	-	-	-	-	-	-	-
15	941 - 1,050	8C	-	-	-	-	-	-	-	-	-	-	-	-
16	1,051 - 2,000	2M	-	-	-	-	-	-	-	-	-	-	-	-
17	2,001 - 2,700	2M	-	-	-	-	-	-	-	-	-	-	-	-
18	2,701 - 4,000	3M	0	-	-	0	-	-	-	-	-	-	-	0
19	4,001 - 6,600	5M	-	0	-	0	-	-	-	0	-	0	0	0
20	6,601 - 9,200	7M	0	0	0	0	-	-	-	0	-	0	0	0
21	9,201 - 14,500	11M	1	-	1	2	0	-	0	0	-	0	0	2
22	14,501 - 21,400	16M	0	0	0	1	0	-	0	0	-	0	0	1
23	21,401 - 24,000	Turbine	0	0	0	0	0	-	0	-	-	0	0	0
24	24,001 - 46,000	Turbine	0	0	0	0	0	-	0	-	-	0	0	0
25	46,001 - 79,000	Turbine	-	0	0	0	0	-	0	-	-	0	0	0
26	79,001 - 377,000	Turbine	0	-	0	0	0	-	0	-	-	0	0	0
27	377,001 - 600,000	Turbine	-	-	-	-	-	-	-	-	-	-	-	-
28	600,001 - 4,250,000	Turbine	-	-	-	-	-	-	-	-	-	-	-	-
29	> 4,250,000	Turbine	-	-	-	-	-	-	-	-	-	-	-	-
30														
31	Total Customers		6,384	0	105	6,490	0	-	0	3	-	3	3	6,493

Note:
1. New Hookups Forecast on Basis on Average Annual Net Customer Gain for 2017 - 2019 TCAP Period.

verify 6,384 0 105 6,490 0 - 0 3 - 3 3 6,493
Data Sources: Tabs: MSA Cost, MSAlloc v2

TABLE LRMCC-nc0.7
SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT

NCO ANNUALIZED SRM NEW HOOKUP & NO REPLACEMENT INVESTMENT BY CUSTOMER CLASS
2020 TCAP

	Max Meter Flow Range	Meter Type	Per Customer SRM Invsmt	Res Per Customer G-R SRM Line X	Res	Other Res	NGV	GN-3	Total Core	GTNC			EG		Total	Total Noncore	
										MPD	HPD	Total	< 3 MM	> 3 MM			
	A	B	C		D		E	F	G	H	I	J	K	L	M	O	
	Cfh		(Dollars)														
1	<i>Medium Pressure</i>																
2	0-275	250	\$17	\$17	\$13,519,158	\$226,955	\$135	\$254,803	\$14,001,051	\$0	\$0	\$0	\$16	\$0	\$0	\$0	
3	276 - 425	425	\$19	\$19	\$502,830	\$25,577	\$0	\$56,277	\$584,684	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	426-630	630	\$21	\$21	\$172,811	\$10,386	\$0	\$35,530	\$218,727	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
4	631 - 800	8C	\$26	\$26	\$250,613	\$19,972	\$25	\$76,372	\$346,982	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
5	801 - 1,100	11C	\$23	\$23	\$71,254	\$13,568	\$0	\$51,181	\$136,002	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
6	1,101 - 1,500	15C	\$30	\$30	\$25,277	\$7,017	\$0	\$42,088	\$74,382	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
7	1,501 - 2,000	2M	\$36	\$36	\$8,045	\$3,448	\$68	\$43,143	\$54,704	\$0	\$0	\$0	\$943	\$0	\$0	\$0	
8	2,001 - 3,000	3M	\$31	\$31	\$2,286	\$10,395	\$74	\$56,117	\$68,872	\$0	\$0	\$0	\$176	\$0	\$0	\$0	
9	3,001 - 5,000	5M	\$37	\$37	\$373	\$6,237	\$106	\$28,234	\$34,950	\$37	\$0	\$37	\$245	\$0	\$0	\$37	
10	5,001 - 7,000	7M	\$45	\$45	\$136	\$3,268	\$21	\$14,415	\$17,841	\$270	\$0	\$270	\$341	\$0	\$0	\$270	
11																	
12	<i>High Pressure</i>																
13	0 - 940	425	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
14	941 - 1,050	8C	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
15	1,051 - 2,000	2M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
16	2,001 - 2,700	2M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
17	2,701 - 4,000	3M	\$27	\$27	\$0	\$27	\$0	\$0	\$27	\$0	\$0	\$0	\$0	\$30	\$61	\$30	
18	4,001 - 6,600	5M	\$218	\$218	\$0	\$0	\$104	\$0	\$104	\$0	\$140	\$140	\$207	\$0	\$0	\$140	
19	6,601 - 9,200	7M	\$207	\$207	\$209	\$0	\$99	\$201	\$509	\$0	\$133	\$133	\$786	\$466	\$933	\$600	
20	9,201 - 14,500	11M	\$55	\$55	\$0	\$4,680	\$0	\$15,425	\$20,105	\$545	\$210	\$755	\$155	\$0	\$0	\$755	
21	14,501 - 21,400	16M	\$76	\$76	\$464	\$2,936	\$474	\$10,673	\$14,546	\$918	\$49	\$967	\$362	\$172	\$344	\$1,139	
22	21,401 - 24,000	Turbine	\$110	\$110	\$0	\$445	\$158	\$1,922	\$2,525	\$441	\$71	\$512	\$0	\$124	\$248	\$636	
23	24,001 - 46,000	Turbine	\$173	\$173	\$175	\$0	\$330	\$2,180	\$2,684	\$1,211	\$222	\$1,433	\$492	\$1,362	\$2,725	\$2,796	
24	46,001 - 79,000	Turbine	\$706	\$706	\$0	\$0	\$336	\$2,737	\$3,074	\$2,118	\$454	\$2,572	\$4,683	\$2,383	\$4,766	\$4,955	
25	79,001 - 377,000	Turbine	\$1,374	\$1,374	\$2,776	\$0	\$0	\$1,332	\$4,108	\$1,374	\$883	\$2,258	\$3,905	\$0	\$0	\$2,258	
26	377,001 - 600,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
27	600,001 - 4,250,000	Turbine															
28	> 4,250,000	Turbine															
29	Total				\$14,556,408	\$334,911	\$1,929	\$692,630	\$15,585,878	\$6,914	\$2,163	\$9,077	\$12,310	\$4,538	\$9,077	\$13,615	
30	Forecast Customers				856,297	17,770	28	30,937	905,032	44	9	53	72	18	90	143	
31	Average SRM Cost				\$17	\$19	\$70	\$22	\$17	\$157	\$240	\$171	\$171	\$252	\$101	\$95	
32																	

- Notes:
1. Row (29) = Total of NCO Annualized SRM New Hookup & Replacement Investment x Number of MSA's per Customer Segment.
2. Row (32) = Row (29) ÷ Row (30).

Data Sources: tabs: MSA Cost, MSA Fcst, MSA NCOp1

TABLE LRMCC-nco.7
 SAN DIEGO GAS AND ELECTRIC - GAS DEPARTMENT
 NCO ANNUALIZED SRM NEW HOOKUP & REPLACEMENT INVESTMENT BY CUSTOMER CLASS
 2020 TCAP

	Max Meter Flow Range	Meter Type	Per Customer SRM Investmt	Res SRM Investmt	Res	Other Res	Res	NGV	GN-3	Total Core	GTNC			EG			Total Noncore	System Total		
											MPD	HPD	Total	< 3 MM	< 3 MM	> 3 MM			Total	
	A	B	C	D	D		D	E	F	G	H	I	J	K	L	M	N	O	P	
	(Dollars)																			
1	Medium Pressure																			
2	0-275	250	\$201	\$201	\$162,824,398	\$2,733,436	\$165,557,833	\$1,632	\$3,068,839	\$168,628,304	\$0	\$0	\$0	\$191	\$191	\$0	\$191	\$0	\$168,628,304	
3	276 - 425	425	\$205	\$205	\$5,319,691	\$270,594	\$5,590,286	\$0	\$595,386	\$6,185,672	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,185,672	
4	426-630	630	\$207	\$207	\$1,674,383	\$100,635	\$1,775,017	\$0	\$344,251	\$2,119,268	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,119,268	
5	631 - 800	800	\$212	\$212	\$2,065,604	\$164,454	\$2,229,058	\$202	\$628,864	\$2,857,922	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,857,922	
6	801 - 1,100	1100	\$211	\$211	\$640,038	\$121,871	\$761,909	\$0	\$459,731	\$1,221,640	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,221,640	
7	1,101 - 1,500	1500	\$219	\$219	\$186,259	\$51,702	\$237,961	\$0	\$310,130	\$548,091	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$548,091	
8	1,501 - 2,000	2000	\$227	\$227	\$51,305	\$21,988	\$73,293	\$432	\$275,124	\$348,850	\$0	\$0	\$0	\$6,014	\$6,014	\$0	\$6,014	\$0	\$348,850	
9	2,001 - 3,000	3000	\$222	\$222	\$16,390	\$74,541	\$90,931	\$530	\$402,386	\$493,847	\$0	\$0	\$0	\$1,263	\$1,263	\$0	\$1,263	\$0	\$493,847	
10	3,001 - 5,000	5000	\$229	\$229	\$2,309	\$38,555	\$40,864	\$653	\$174,541	\$216,059	\$229	\$229	\$229	\$1,516	\$1,516	\$0	\$1,516	\$229	\$216,287	
11	5,001 - 7,000	7000	\$236	\$236	\$716	\$17,172	\$17,888	\$113	\$75,741	\$93,742	\$1,417	\$0	\$1,417	\$1,789	\$1,789	\$0	\$1,789	\$1,417	\$95,158	
12	High Pressure																			
13	0 - 940	425	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
14	941 - 1,050	800	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
15	1,051 - 2,000	2000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
16	2,001 - 2,700	2000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
17	2,701 - 4,000	3000	\$202	\$202	\$204	\$204	\$204	\$0	\$204	\$204	\$0	\$0	\$0	\$0	\$0	\$227	\$227	\$227	\$431	
18	4,001 - 6,600	5000	\$489	\$489	\$0	\$0	\$233	\$0	\$233	\$0	\$314	\$314	\$463	\$463	\$0	\$463	\$463	\$463	\$314	
19	6,601 - 9,200	7000	\$411	\$411	\$416	\$416	\$196	\$399	\$1,010	\$0	\$264	\$264	\$1,559	\$1,559	\$926	\$2,484	\$1,190	\$2,200	\$190	
20	9,201 - 14,500	11000	\$246	\$246	\$0	\$21,123	\$21,123	\$0	\$69,618	\$90,741	\$2,460	\$949	\$3,409	\$699	\$699	\$0	\$699	\$3,409	\$94,150	
21	14,501 - 21,400	16000	\$273	\$273	\$1,653	\$10,472	\$12,126	\$1,690	\$38,073	\$51,889	\$3,274	\$175	\$3,449	\$1,292	\$1,292	\$614	\$1,906	\$4,063	\$55,951	
22	21,401 - 24,000	Turbine	\$312	\$312	\$0	\$1,259	\$1,259	\$446	\$5,438	\$7,143	\$1,247	\$200	\$1,447	\$0	\$0	\$351	\$351	\$1,798	\$8,941	
23	24,001 - 46,000	Turbine	\$373	\$373	\$377	\$0	\$377	\$711	\$4,698	\$5,785	\$2,610	\$479	\$3,089	\$1,060	\$1,060	\$2,936	\$3,996	\$6,025	\$11,811	
24	46,001 - 79,000	Turbine	\$903	\$903	\$0	\$0	\$0	\$430	\$3,500	\$3,931	\$2,709	\$580	\$3,289	\$5,988	\$5,988	\$3,047	\$9,035	\$6,337	\$10,267	
25	79,001 - 377,000	Turbine	\$1,574	\$1,574	\$3,179	\$0	\$3,179	\$0	\$1,525	\$4,705	\$1,574	\$1,012	\$2,585	\$4,472	\$4,472	\$0	\$4,472	\$2,585	\$7,290	
26	377,001 - 600,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
27	600,001 - 4,250,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
28	> 4,250,000	Turbine	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
29	Total							\$176,412,724	\$7,267	\$6,458,243	\$182,878,235	\$15,518	\$3,975	\$19,492	\$26,306	\$26,306	\$8,100	\$34,407	\$27,593	\$182,905,827
30	Forecast Customers							874,067	28	30,937	905,032	44	9	53	72	18	90	-	143	905,175
31	Average SRM Cost							\$202	\$263	\$209	\$202	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
32																				

Notes:
 1. Row (29) = Total of NCO Annualized SRM New Hookup & Replacement Investment x Number of MSA's per Customer Segment.
 2. Row (32) = Row (29) * Row (30).

Data Sources: tabs: MSA Cost, MSA Fost, MSA NCOp1, MSA NCOp2