Application of San Diego Gas & Electric Company (U 902 E) for Authority to Update Marginal Costs, Cost Allocation, and Electric Rate Design.

Application: 19-03-002 Exhibit No.:

CHAPTER 6 REVISED PREPARED DIRECT TESTIMONY OF BENJAMIN A. MONTOYA ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

MAY 2019



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REVISED PREPARED DIRECT TESTIMONY OF

BENJAMIN A. MONTOYA

(CHAPTER 6)

I. PURPOSE AND OVERVIEW

The purpose of this testimony is to provide the marginal cost basis for the development of commodity rates as well as the cost basis for the allocation of commodity costs and ongoing Competition Transition Charge ("CTC") costs to San Diego Gas & Electric Company's ("SDG&E") customer classes. Marginal commodity costs are the incremental electric commodity costs incurred on behalf of utility customers and are composed of marginal energy costs ("MEC") and marginal generation capacity costs ("MGCC"). Marginal energy costs are the added energy costs incurred to meet electricity consumption. Marginal generation capacity costs relate to the added costs incurred to meet electric demand. SDG&E is proposing in this General Rate Case ("GRC") Phase 2 Application to allocate costs to reflect the marginal commodity costs developed herein.

The purpose of this testimony also includes support of SDG&E's current Time of Use ("TOU") periods. Current TOU periods were approved in SDG&E's 2016 GRC Phase 2 proceeding. This testimony will provide the results of the Loss of Load Expectation ("LOLE") analysis supporting the current TOU periods. SDG&E is also required to provide a deadband tolerance range analysis to determine if a change to base TOU rates is warranted.¹

My testimony is organized as follows:

Section II – Calculation of Marginal Energy Costs: MEC are the projected energy costs incurred to meet electricity consumption. Since SDG&E transacts in the California

¹ D.17-01-006 at Ordering Paragraph ("OP") 4.

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CALCULATION OF MARGINAL ENERGY COSTS

MEC reflect expected future energy market conditions and are developed by assessing hourly electricity prices. Since the goal is to forecast future hourly prices, SDG&E used a forecasted hourly profile for 2020 based upon net demand in the SP-15 market and projected monthly CAISO on-peak and off-peak 2020 SP-15 electric market prices. The result is a profile of hourly electric prices for calendar year 2020. The prices in SP-15 are used since SDG&E's service territory load is in the SP-15 market area and forward prices are available for SP-15.

Attachment D – Grandfathered Marginal Energy Costs

The SDG&E forecasted 2020 hourly price shape, based on SP-15, is illustrated in Chart BAM-1 and Chart BAM-2 for the average summer and winter non-holiday weekdays, compared to the actual SDG&E Default Load Aggregation Point ("DLAP") prices observed in 2017 and $2018.^{2}$

http://oasis.caiso.com/mrioasis/logon.do. See Locational Marginal Prices, From 01/01/2017 To 12/31/2018, Market: DAM, Node: DLAP SDGE-APND. Note that these prices are not weather adjusted.

² California ISO OASIS, Locational Marginal Prices ("LMP"), available at

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Chart BAM-1: Summer Weekday Average Hourly Shape

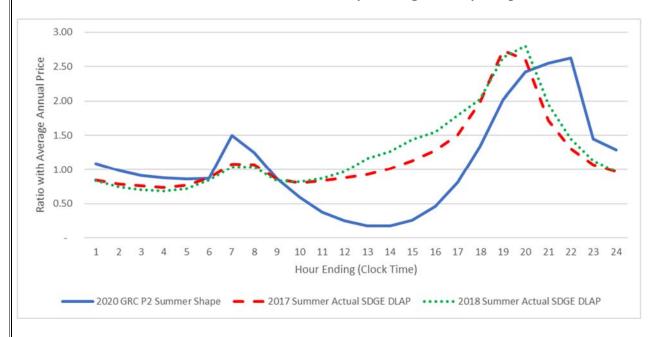
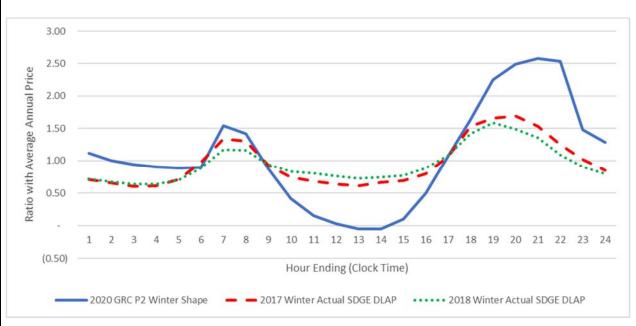


Chart BAM-2: Winter Weekday Average Hourly Shape



For the development of the average hourly prices, the monthly CAISO on-peak and offpeak forward prices are multiplied by the monthly CAISO on-peak and off-peak hourly demand

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profiles to arrive at hourly prices. The hourly prices are then aggregated by the appropriate

SDG&E TOU periods to develop the SDG&E TOU marginal energy prices. The resulting MEC ratios with the annual average price by current standard SDG&E TOU period are shown in Table BAM-1. The average annual price is calculated to be \$32.98 per MWh, or 3.298 cents per kWh. The same calculation is done using grandfathered SDG&E TOU periods to develop SDG&E grandfathered TOU marginal energy prices. The resulting MEC ratios with the annual average price by grandfathered SDG&E TOU period are shown in Attachment D, attached herein.

Table BAM-1: MEC Factors and Prices by SDG&E Standard TOU Period

SDG&E Standard TOU Periods*											
	MEC F	actors		MEC Cent	s per kWh						
	Summer	Winter	x Average	Summer	Winter						
On-Peak	1.631	1.857	Annual Price	5.378	6.126						
Off-Peak	0.869	0.926	(3.298	2.866	3.054						
Super Off-Peak	0.749	9 0.657 ¢/I		2.471	2.167						
* Adopted in D.17-0	* Adopted in D.17-08-030										

The SP-15 forward prices represent the wholesale cost of energy in 2020. However, incremental energy will not be entirely purchased from the wholesale market because of California's 33 percent RPS mandate: thirty-three percent of incremental energy in 2020 is required to be provided by renewable generation pursuant to legislation.³ In order to capture the full marginal cost of energy, an RPS premium is added to the wholesale energy prices after they are grouped by SDG&E Standard TOU period. The RPS premium is defined as the "Green Value," calculated by the California Public Utilities Commission's ("CPUC") Energy Division, minus the average annual SP-15 energy price, then multiplied by the RPS Target for 2020 of

[.]

³ Established in 2002 under Senate Bill ("SB") 1078, accelerated in 2006 under SB 107 and expanded in 2011 under SB 2 1X. *See* SB 1078, Stats. 2001-2002, Ch. 516 (Cal. 2002); SB 107, Stats. 2005-2006, Ch. 464 (Cal. 2006); SB 2 1X.

33% (\$0.05993/kWh – \$0.03298/kWh) x 33% = \$0.00889/kWh). The RPS adder is a single value for all hours of the year, as the RPS requirement is an annual target (*i.e.* it is a % of annual energy sales). The resulting total marginal energy prices by SDG&E Standard TOU period are shown in Table BAM-2 below. The same calculation is done for grandfathered SDG&E TOU periods and the resulting total marginal energy prices by grandfathered SDG&E TOU period are shown in Attachment D, attached herein.

Table BAM-2: Total Marginal Energy Prices⁴

SDG&E Standard TOU Periods* Summer (June 1 - October 31)	A Wholesale (¢/kWh)	B RPS Adder (¢/kWh)	A + B Total (¢/kWh)
	5.378	0.889	6.268
<i>On-peak</i> : 4pm - 9pm daily	5.576	0.669	0.208
<i>Off-peak:</i> All other hours	2.866	0.889	3.755
Super off-peak: 12am - 6am non-holiday weekdays and 12am - 2pm weekends/holidays	2.471	0.889	3.360
Winter (November 1 - May 31)			
<i>On-peak:</i> 4pm - 9pm daily	6.126	0.889	7.015
<i>Off-peak</i> : All other hours	3.054	0.889	3.943
Super off-peak: 12am - 6am non-holiday weekdays and 12am - 2pm weekends/holidays 10am - 2pm (March & April)	2.167	0.889	3.057
* Adopted in D.17-08-030	RPS Premium RPS %	2.695 33%	

⁴ Shortly before submitting this testimony, SDG&E determined that the RPS Adder in Table BAM-2 is incorrect. Table BAM-2 now includes these corrections and all attachments to this testimony have been corrected.

The total marginal energy prices shown in Table BAM-2 above are input values for the commodity cost allocation to customer classes presented in Section IV.

III. CALCULATION OF MARGINAL GENERATION CAPACITY COSTS

The methodology employed by SDG&E in calculating MGCC can be viewed as a net cost of new entry approach. MGCC answers the question: What price would be required to incent a new generator to enter the market and sell firm capacity? The answer is calculated based on the cost of building the facility less anticipated revenues from California's energy markets. SDG&E computes MGCC by calculating the cost of building a new CT, including all permitting, financing, and development costs, and deducting expected earnings in California energy and ancillary service markets. SDG&E uses publicly available information to provide a transparent calculation.

To estimate a CT's fixed cost, SDG&E uses the installed cost for an advanced CT addition, \$1,085/kW, and fixed and variable Operations & Maintenance ("O&M") from the California Energy Commission's ("CEC") Estimated Cost of New Renewable and Fossil Generation in California Report, CEC-200-2014-003-SF.⁵ The installed cost is converted to a short-term annual cost using a real economic carrying charge ("RECC") approach, then adding fixed O&M and various loaders.⁶ Finally, the cost is escalated to 2020 dollars using escalators developed in SDG&E's 2019 GRC Phase 1.⁷

⁵ California Energy Commission, *Estimated Cost of New Renewable and Fossil Generation in California* (March 2015) at 139-141. Tables 59 and 60.

⁶ SDG&E RECC factors include property tax.

⁷ Application ("A.") 17-10-007, SDG&E Direct Testimony of Scott R. Wilder (Cost Escalation) (October 6, 2017), Ex. SDG&E-39/Wilder at SRW-5, Table SRW-2: Summary of Cost Escalation Indexes.

To calculate the net cost of capacity, projected market earnings from California's energy markets are deducted from the annualized cost of a CT. SDG&E uses an average of three scenarios of SP-15 net revenues (energy revenues minus operating costs) from the CAISO Department of Market Monitoring Annual Report on Market Issues & Performance.⁸ The resulting MGCC calculation is shown in Table BAM-3 below.

Table BAM-3: MGCC

Marginal Generation Capacity Cost							
Short-term Marginal Cost of a Combustion Turbine	2020 \$/kW-Yr \$156.69						
Less Energy Market Earnings	\$16.26						
Marginal Generation Capacity Costs	\$140.43						

The MGCC is an input for the commodity cost allocation to customer classes presented in Section IV.

SDG&E used LOLE results presented in Section VI for generation capacity cost allocation. The top 100 hours of forecasted need resulting from the LOLE analysis is used to determine the percentage allocation of MGCC to each SDG&E Standard TOU period and grandfathered SDG&E TOU period. This LOLE approach is an accepted methodology to allocate generation capacity needs to months, days, and hours and is consistent with SDG&E's previous approach in the GRC Phase 2.9 SDG&E proposes to continue basing commodity

⁸ California ISO, 2016 Annual Report on Market Issues & Performance (May 2017) at 57, Table 1.8 Financial analysis of new combustion turbine (2016).

⁹ A.15-04-012, Prepared Direct Testimony of Jeffrey J. Shaughnessy (Chapter 7) (February 9, 2016), Ex. SDG&E-07/Shaughnessy.

capacity allocation on the top 100 hours of forecasted need. SDG&E allocated capacity to seasons, days (weekdays/weekends), hours and TOU periods as shown in Table BAM-4 below.

Table BAM-4: Top 100 Hour Loss of Load Expectation

LOLE % by TOU Period		
SDG&E Standard TOU Periods	Summer	Winter
On-peak : 4pm - 9pm daily	66.7%	0.0%
<i>Off-peak:</i> All other hours	33.3%	0.0%
Super off-peak: 12am - 6am non-holiday weekdays and 12am - 2pm weekends/holidays	0.0%	0.0%
Total	100.0%	0.0%

IV. COMMODITY REVENUE ALLOCATION

SDG&E proposes no change to the current methodology to use the EPMC revenue allocation methodology to allocate the authorized commodity revenue requirement to customer classes.

Under SDG&E's commodity revenue allocation proposal, the authorized commodity revenue requirement is allocated among customer classes based on the proposed marginal generation capacity and energy revenue cost responsibilities by customer class. The unit marginal generation capacity and energy costs, presented in Sections II and III above, are multiplied by the appropriate cost drivers to develop the marginal commodity revenue allocations by customer class.

Marginal energy cost revenues by customer class are developed by multiplying the applicable marginal energy prices (\$/kWh) by the 2020 forecasted TOU energy usage in each SDG&E Standard TOU period for each customer class. The same is done for grandfathered SDG&E TOU periods for each customer class.

Marginal capacity cost revenues by customer class are developed by multiplying the unit MGCC (\$/kW-year) by each class' estimated contribution to total bundled load based on the top 100 hours with the highest expected need for new resources, described in Section III above.

The sum of the marginal generation capacity and energy revenues is the marginal commodity cost revenues. This is used to determine the commodity EPMC allocation factor, defined as the commodity revenue requirement divided by the marginal commodity cost revenues. The EPMC allocation factor is then used to scale the marginal commodity cost revenues to ensure that the sum equals the authorized commodity revenue requirement. The EPMC rates and resulting commodity class allocations are shown in Attachment A and Attachment B, respectively.

V. CTC REVENUE ALLOCATION

CTC revenues are also allocated based on the "Top 100 hours" allocation methodology, as adopted by the Commission in Decision 00-06-034. In this proceeding, SDG&E does not propose to change the allocation methodology. Instead, SDG&E merely proposes to update the top 100-hour data consistent with the method used in the previous GRC. Based on the original filing schedule, the most recent three years available 90 days after A.17-10-007 was filed, 2014-2016, were used to allocate the CTC revenue requirement. The "Top 100 hours" methodology allocates revenues based on the customer classes' contribution to the top 100 hours of system

load during a given annual period. The resulting CTC class allocations are shown in Attachment C.

VI. SUPPORT OF TOU PERIODS

Current TOU periods were approved in D.17-08-030 and implemented on December 1, 2017. The Commission has stated that a base TOU period analysis should be provided in each GRC Phase 2 proceeding even if the IOU does not propose a change in base TOU periods. 10 Given that the current TOU periods have only recently been approved and implemented, SDG&E believes it is premature to make a change at this time, as discussed in the testimony of witness Stein, Chapter 1. Regardless, this section provides an evaluation of SDG&E's TOU periods using two different methods: a "LOLE" analysis, used to support the current TOU periods adopted in the 2016 GRC D.17-08-030, and the Deadband Tolerance methodology, recently approved through Advice letter. 11

LOLE Analysis: This analysis identifies periods with the greatest likelihood of needing additional resources. The analysis provides the expectation of the hours with the highest need for new resources given the variable nature of customer demands due to weather and the variable nature of solar and wind energy production.

LOLE is the probability of not meeting load in an hour when key system variables are analyzed stochastically. SDG&E determined the LOLE for the SDG&E system using the ABB Planning and Risk model, a system dispatch model tailored to the SDG&E system.¹² In order to

¹⁰ D.17-01-006, Appendix 1, Policy Guidelines #6.

¹¹ AL 3064-E/E-A, approved and effective January 2, 2019.

¹² It is the same production cost model used by SDG&E to forecast procurement costs in the Energy Resource Recovery Account ("ERRA") proceeding. The focus in this analysis is on local capacity and the needs for local capacity that can be reduced through the use of appropriate consumer price signals in TOU periods and demand response availability periods to provide incentives for load modification. The

model real world uncertainties, different load and variable renewable production levels are generated by a stochastic process based on historical data. The Planning and Risk model then performs an hourly economic dispatch of generation resources against loads for each hour of the year. By running multiple iterations of the model, a probability distribution of hours with relative expected loss of load can be developed.

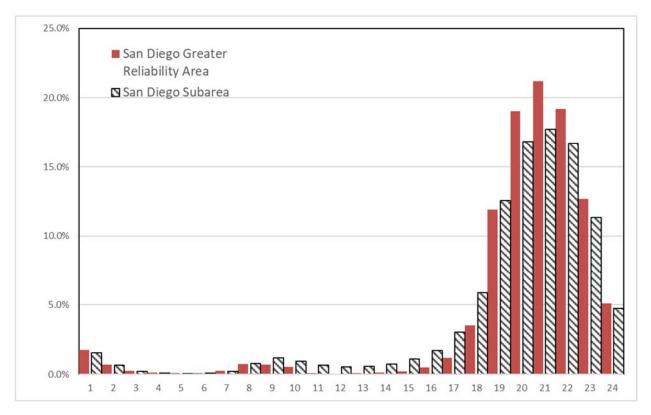
Available generation resources in the analysis include generation units (both new renewable and conventional generation) that exist or are expected to be constructed by 2020 in the San Diego Greater Reliability area (both SDG&E service area and Imperial Valley).

SDG&E is unique in that local capacity is defined in both the San Diego Greater Reliability area and separately in the San Diego sub-area (excluding generation from Imperial Valley). SDG&E analyzed LOLE for both areas separately and combined. The resulting analysis is not a measure of need for new capacity, but, instead, if there were a need, what hours of the year would experience the highest likelihood of a loss of load.

Chart BAM-3 below is a comparison of relative LOLE results for local capacity in the San Diego Greater Reliability area and for local capacity in the San Diego sub-area. The results show a relative need for capacity during SDG&E's current standard on peak TOU period when considering both the Greater Reliability area and the San Diego sub-area. These results show that the current TOU periods are in alignment with the hours of relative capacity need.

Planning and Risk model accommodates detailed hour-by-hour simulation of the operations of electric systems. It considers a complex set of generation operating constraints to simulate the least-cost operation of the system. The model's unit commitment and dispatch logic is designed to mimic "real world" power system hourly operation, minimizing system production cost, enforcing the constraints specified for the system, generation stations, associated transmission, fuel, etc..

Chart BAM-3: Relative Loss of Load Expectation for the San Diego Local Capacity Areas by Hour



using this methodology in each GRC Phase 2 proceeding (even if SDG&E does not propose a change in Base TOU periods). Per Resolution E-4948, SDG&E will utilize a deadband tolerance methodology approved in AL 3064-E/E-A that compares its top 100 hours with existing TOU periods to determine if a proposal to update TOU periods is warranted. This analysis utilizes forecasted marginal energy and capacity costs. SDG&E's approved methodology utilizes a 7.5 percent differential as a trigger; the deadband will be considered exceeded when there is a decline of at least 7.5 percent in the number of top 100 hours that fall

Deadband Tolerance Methodology: D.17-01-006 directs SDG&E to provide analysis

¹³ Decision 17-01-006 at Ordering Paragraph 4.

within the summer peak and off-peak period, or a decline of at least 7.5 percent in the number of top 100 lowest hours that fall within the winter off-peak and super-off-peak periods.

The top 100 hours used to calculate marginal generation capacity costs in the 2016 and 2019 Phase 2 GRCs were compared. In both cases, all top 100 hours were in the current SDG&E TOU period summer on and off-peak periods so there is no differential between them and no trigger to evaluate the need to update TOU periods. The top 100 lowest hours used to calculate the marginal energy costs in the 2016 and 2019 Phase 2 GRCs were also compared. In both cases all 100 hours were in the current SDG&E TOU period super off-peak and off-peak periods. The number of top 100 lowest hours that occurred in the winter increased from 17 in the 2016 GRC Phase 2 to 52 in this 2019 GRC Phase 2. Since this was not a decrease in the number of hours that occurred in the winter, the trigger threshold to evaluate the need to update the TOU periods was not met.

VII. SUMMARY AND CONCLUSION

For the foregoing reasons, the marginal commodity costs presented herein as well as the proposal to use the EPMC revenue allocation methodology to allocate the authorized commodity revenue requirement to customer classes are reasonable and should be adopted. In addition, SDG&E recommends that the Commission adopt its proposal to update the data used to allocate the CTC authorized revenue requirement under the "Top 100 hours" allocation methodology. SDG&E recommends no change to the current base TOU periods as it is not warranted at this time.

This concludes my prepared direct testimony.

VIII. WITNESS QUALIFICATIONS

My name is Benjamin A. Montoya. My business address is 8330 Century Park Court, San Diego, California, 92123.

I have been employed as a Principal Resource Planner in the Resource Planning group of SDG&E since 2000. Prior to that, I was employed in positions of increasing responsibility in the following SDG&E departments: Gas Engineering, Gas Operations, Gas Control, and Gas System Planning. I also served as a project engineer with Sempra International for two years. I have been employed with SDG&E for 32 years.

I received a Bachelor of Science in Engineering from the United States Naval Academy and a Master of Business Administration from the University of San Diego. I am a licensed professional Mechanical Engineer in the state of California.

I have previously testified before this Commission.

Commodity Marginal Costs

1 RESIDENTIAL 2 Secondary 3 Summer	\$80,501,511 5 3,048 \$160,340,666 6 \$39,609,600 7 8	2 3 3,595 4 511 5 666 6
'	3,595 \$183,453,595 4 0 \$80,501,511 5 3,048 \$160,340,666 6 0 \$39,609,600 7 8	3 5,595 4 5,511 5 5,666 6
2 Summer	\$3,595 \$183,453,595 4 \$ \$80,501,511 5 3,048 \$160,340,666 6 \$ \$39,609,600 7 8	5,595 4 511 5 1,666 6
3 Juliinici	\$80,501,511 5 3,048 \$160,340,666 6 \$39,609,600 7 8	,511 5 ,666 6
4 On-Peak Demand \$/kW 0.00 6.35 \$0 \$117,874,017 \$117,874,017 0.00 9.88 \$0 \$183,453,	3,048 \$160,340,666 6 \$39,609,600 7 8	,666 6
5 On-Peak Energy \$/kWh 0.06650 0.00000 \$51,724,451 \$0 \$51,724,451 0.10349 0.00 \$80,501,511 \$0	\$39,609,600 7 8	
6 Off-Peak Energy \$/kWh 0.03981 0.05920 \$41,422,230 \$61,601,089 \$103,023,319 0.06195 0.09213 \$64,467,618 \$95,873,000 \$100,000 \$10	8	
7 Super Off-Peak Energy \$/kWh 0.03540 0.00000 \$25,450,265 \$0 \$25,450,265 0.05510 0.00000 \$39,609,600 \$0		,600 7
8	۵	
9 Winter		9
10 On-Peak Demand \$/kW 0.00 0.00 \$0 \$0 \$0 0.00 0.00 \$0 \$0		
11 On-Peak Energy \$/kWh 0.07432 0.00000 \$70,155,350 \$0 \$70,155,350 0.11567 0.00 \$109,186,498 \$0		
12 Off-Peak Energy \$/kWh 0.04167 0.00000 \$49,607,407 \$0 \$49,607,407 0.06485 0.00000 \$77,206,644 \$0		
13 Super Off-Peak Energy \$/kWh 0.03219 0.00000 \$32,451,064 \$0 \$32,451,064 0.05010 0.00000 \$50,505,315 \$0		
14	14	14
15 SMALL COMMERCIAL	15	15
16 Secondary	16	16
17 Summer		17
18 On-Peak Demand \$/kW 0.00 7.11 \$0 \$26,439,563 \$26,439,563 0.00 11.06 \$0 \$41,149,		
19 On-Peak Energy \$/kWh 0.06650 0.00000 \$14,735,710 \$0 \$14,735,710 0.10349 0.00 \$22,933,969 \$0		
20 Off-Peak Energy \$/kWh 0.03981 0.02368 \$19,342,509 \$11,508,767 \$30,851,276 0.06195 0.03686 \$30,103,774 \$17,911,		
21 Super Off-Peak Energy \$/kWh 0.03540 0.00000 \$8,803,620 \$0 \$8,803,620 0.05510 0.00000 \$13,701,541 \$0		
22		22
23 Winter		23
24 On-Peak Demand \$/kW 0.00 0.00 \$0 \$0 \$0 0.00 0.00 \$0 \$0		24
25 On-Peak Energy \$/kWh 0.07432 0.00000 \$19,836,541 \$0 \$19,836,541 0.11567 0.00 \$30,872,663 \$0		
26 Off-Peak Energy \$/kWh 0.04167 0.000000 \$21,421,560 \$0 \$21,421,560 0.06485 0.00000 \$33,339,511 \$0		
27 Super Off-Peak Energy \$/kWh 0.03219 0.00000 \$12,106,211 \$0 \$12,106,211 0.05010 0.00000 \$18,841,540 \$0 28		,540 27 28
29 Primary		29
29 Finiary 30 Summer		30
30 Sammer 3 31 On-Peak Demand \$/kW 0.00 7.07 \$0 \$189,718 \$189,718 0.00 11.01 \$0 \$295,21		
32 On-Peak Energy KikWh		
33 Off-Peak Energy (AWN 0.03962 0.02357 \$60,865 \$36,214 \$97,079 0.06166 0.03669 \$94,727 \$56,36		
34 Super Off-Peak Energy \$/kWh 0.03528 0.00000 \$35,819 \$0 \$35,819 0.05491 0.00000 \$55,747 \$0		
35		35
36 Winter		36
37 On-Peak Demand \$/kW 0.00 0.00 \$0 \$0 \$0 0.00 0.00 \$0 \$0		
38 On-Peak Energy SkWh 0.07398 0.00000 \$43,918 \$0 \$43,918 0.11514 0.00 \$68,352 \$0		
39 Off-Peak Energy 5/kWh 0.04149 0.00000 \$64,465 \$0 \$64,465 0.06458 0.00000 \$100,330 \$0		
40 Super Off-Peak Energy \$/kWh 0.03209 0.00000 \$51,825 \$0 \$51,825 0.04994 0.00000 \$80,658 \$0		

Line No.	Description Uni	Marginal Energy Rate w/ losses	Marginal Capacity Rate w/ losses	Marginal Energy Rate Revenue	Marginal Capacity Rate Revenue	Total Marginal Rate Revenue	EPMC Energy Rate	EPMC Capacity Rate	EPMC Energy Rate Revenue	EPMC Capacity Rate Revenue	Total EPMC Rate Revenue	Line No.
	(A) (B)	(C)	(D)	(E)	(F)	(G)	(H)	(1)	(J)	(K)	(L)	
	MEDIUM & LARGE COMME	CIAL /INDUSTRIAL										
1	Secondary	KCIAL/INDUSTRIAL										2
2	Summer											3
4	On-Peak Demand \$/kW	0.00	12.22	\$0	\$67,595,068	\$67,595,068	0.00	19.01	\$0	\$105,201,797	\$105,201,797	4
5	On-Peak Energy \$/kWh	0.06650	0.00000	\$33,164,508	\$0	\$33,164,508	0.10349	0.00	\$51,615,686	\$0	\$51,615,686	5
6	Off-Peak Energy \$/kWh	0.03981	0.03028	\$41,978,801	\$31,933,717	\$73,912,518	0.06195	0.04713	\$65,333,838	\$49,700,140	\$115,033,979	6
7	Super Off-Peak Energy \$/kWh	0.03540	0.00000	\$21,317,378	\$0	\$21,317,378	0.05510	0.00000	\$33,177,368	\$0	\$33,177,368	7
8												8
9	Winter											9
10	On-Peak Demand \$/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	10
11	On-Peak Energy \$/kWh	0.07432	0.00000	\$43,485,644	\$0	\$43,485,644	0.11567	0.00	\$67,679,018	\$0	\$67,679,018	11
12	Off-Peak Energy \$/kWh	0.04167	0.00000	\$45,985,032	\$0	\$45,985,032	0.06485	0.00000	\$71,568,949	\$0	\$71,568,949	12
13	Super Off-Peak Energy \$/kWh	0.03219	0.00000	\$27,465,307	\$0	\$27,465,307	0.05010	0.00000	\$42,745,717	\$0	\$42,745,717	13
14												14
15	Primary											15
16 17	Summer On-Peak Demand S/kW	0.00	12.16	\$0	\$10,590,441	\$10,590,441	0.00	18.92	\$0	\$16,482,466	\$16,482,466	16 17
18	On-Peak Energy \$/kWh	0.06618	0.00000	\$6,092,236	\$10,590,441	\$6,092,236	0.10300	0.00	\$9,481,671	\$16,482,466	\$9,481,671	18
19	Off-Peak Energy \$/kWh	0.03962	0.03014	\$7,800,854	\$5,934,192	\$13,735,046	0.10300	0.04691	\$12,140,884	\$9,235,698	\$21,376,582	19
20	Super Off-Peak Energy \$/kWh	0.03528	0.00000	\$4,756,845	\$3,534,152	\$4,756,845	0.05491	0.00000	\$7,403,330	\$9,233,038	\$7,403,330	20
21	Super Off Feak Effergy S/KWII	0.05520	0.00000	Ç4,730,043	30	Ş4,730,043	0.03431	0.00000	\$7,403,550	ĢŪ	\$7,403,330	21
22	Winter											22
23	On-Peak Demand \$/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	23
24	On-Peak Energy \$/kWh	0.07398	0.00000	\$8,044,755	\$0	\$8,044,755	0.11514	0.00	\$12,520,479	\$0	\$12,520,479	24
25	Off-Peak Energy \$/kWh	0.04149	0.00000	\$8,802,010	\$0	\$8,802,010	0.06458	0.00000	\$13,699,036	\$0	\$13,699,036	25
26	Super Off-Peak Energy \$/kWh	0.03209	0.00000	\$5,785,980	\$0	\$5,785,980	0.04994	0.00000	\$9,005,028	\$0	\$9,005,028	26
27												27
28	Transmission											28
29	Summer											29
30	On-Peak Demand \$/kW	0.00	11.64	\$0	\$1,023,395	\$1,023,395	0.00	18.11	\$0	\$1,592,764	\$1,592,764	30
31	On-Peak Energy \$/kWh	0.06334	0.00000	\$268,441	\$0	\$268,441	0.09858	0.00	\$417,789	\$0	\$417,789	31
32	Off-Peak Energy \$/kWh	0.03793	0.02886	\$394,277	\$299,930	\$694,207	0.05904	0.04491	\$613,634	\$466,798	\$1,080,431	32
33	Super Off-Peak Energy \$/kWh	0.03386	0.00000	\$242,721	\$0	\$242,721	0.05270	0.00000	\$377,759	\$0	\$377,759	33
34 35	Winter											34
36	On-Peak Demand S/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	35
36	On-Peak Demand 5/kW On-Peak Energy \$/kWh	0.00	0.0000	\$376,598	\$0 \$0	\$376,598	0.11028	0.00	\$0 \$586,120	\$0 \$0	\$0 \$586,120	36 37
38	Off-Peak Energy \$/kWh	0.03979	0.00000	\$445,491	\$0	\$445,491	0.06193	0.00000	\$693,341	\$0 \$0	\$693,341	38
39	Super Off-Peak Energy \$/kWh	0.03079	0.00000	\$302,726	\$0	\$302,726	0.04793	0.00000	\$471,148	\$0	\$471,148	39
33	Super of Teak Energy S/KWII	0.03073	0.00000	\$30Z,7Z0	ÇÜ	4302,720	0.04733	0.0000	y 1,140	ÇÜ	y-,-1,140	33

Line No.		Unit (B)	Marginal Energy Rate w/ losses (C)	Marginal Capacity Rate w/ losses (D)	Marginal Energy Rate Revenue (E)	Marginal Capacity Rate Revenue (F)	Total Marginal Rate Revenue (G)	EPMC Energy Rate (H)	EPMC Capacity Rate (I)	EPMC Energy Rate Revenue (J)	EPMC Capacity Rate Revenue (K)	Total EPMC Rate Revenue (L)	Line No.
1	AGRICULTURE												1
2	Secondary												2
3	Summe	r											3
4	On-Peak Demand	d \$/kW	0.00	6.95	\$0	\$3,008,026	\$3,008,026	0.00	10.82	\$0	\$4,681,551	\$4,681,551	4
5	On-Peak Energy	y \$/kWh	0.06650	0.00000	\$1,571,531	\$0	\$1,571,531	0.10349	0.00	\$2,445,857	\$0	\$2,445,857	5
6	Off-Peak Energy	y \$/kWh	0.03981	0.03413	\$2,136,632	\$1,832,106	\$3,968,738	0.06195	0.05312	\$3,325,354	\$2,851,405	\$6,176,758	6
7	Super Off-Peak Energy	y \$/kWh	0.03540	0.00000	\$1,575,579	\$0	\$1,575,579	0.05510	0.00000	\$2,452,157	\$0	\$2,452,157	7
8													8
9	Winte	r											9
10	On-Peak Demand	d \$/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	10
11	On-Peak Energy		0.07432	0.00000	\$1,830,180	\$0	\$1,830,180	0.11567	0.00	\$2,848,406	\$0	\$2,848,406	11
12	Off-Peak Energy		0.04167	0.00000	\$2,189,991	\$0	\$2,189,991	0.06485	0.00000	\$3,408,399	\$0	\$3,408,399	12
13	Super Off-Peak Energy	y \$/kWh	0.03219	0.00000	\$1,589,616	\$0	\$1,589,616	0.05010	0.00000	\$2,474,004	\$0	\$2,474,004	13
14													14
15	Primary												15
16	Summe									4-			16
17	On-Peak Demand		0.00	6.92	\$0	\$434,513	\$434,513	0.00	10.77	\$0	\$676,256	\$676,256	17
18	On-Peak Energy		0.06618	0.00000	\$314,122	\$0	\$314,122	0.10300	0.00	\$488,884	\$0	\$488,884	18
19	Off-Peak Energy		0.03962	0.03397	\$397,153	\$340,548	\$737,701	0.06166	0.05288	\$618,110	\$530,013	\$1,148,123	19
20	Super Off-Peak Energy	y \$/kWh	0.03528	0.00000	\$250,619	\$0	\$250,619	0.05491	0.00000	\$390,052	\$0	\$390,052	20
21	****												21
22	Winte		0.00	0.00	ćo.	Ć0	\$0	0.00	0.00	\$0	ćo	\$0	22 23
23 24	On-Peak Demand On-Peak Energ		0.00 0.07398	0.00 0.00000	\$0 \$388,913	\$0 \$0	\$388,913	0.11514	0.00	\$0 \$605,286	\$0 \$0	\$0 \$605,286	23
25	Off-Peak Energy		0.04149	0.00000	\$417,869	\$0	\$417,869	0.06458	0.00000	\$650,351	\$0 \$0	\$650,351	25
26	Super Off-Peak Energy		0.03209	0.00000	\$285,017	\$0 \$0	\$285,017	0.04994	0.00000	\$443,587	\$0 \$0	\$443,587	26
27	Super Off-Feak Efferg	y <i>3</i> /KVVII	0.03209	0.00000	3203,017	30	\$203,017	0.04954	0.00000	3443,387	30	3443,367	27
	LIGHTING												
28													28
29	Secondary												29
30	Summe		0.00	42.47	ćo.	\$1,339,519	\$1,339,519	0.00	40.44	źo.	62.004.764	62 004 764	30
31	On-Peak Demand		0.00 0.06650	12.47	\$0	\$1,339,519	\$1,339,519 \$369,586	0.00	19.41 0.00	\$0	\$2,084,764 \$0	\$2,084,764	31
32 33	On-Peak Energy		0.03981	0.00000	\$369,586	\$0 \$1,045,512	\$1,438,231	0.10349 0.06195	0.16493	\$575,206 \$611,210	\$0 \$1,627,185	\$575,206 \$2,238,396	32 33
	Off-Peak Energy			0.10597	\$392,719			0.05510	0.16493	\$948,180			
34 35	Super Off-Peak Energy	y ş/KVVN	0.03540	0.00000	\$609,232	\$0	\$609,232	0.05510	0.00000	\$948,180	\$0	\$948,180	34 35
36	Winte												36
37	On-Peak Demand		0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	37
38	On-Peak Demand		0.07432	0.0000	\$1,025,195	\$0 \$0	\$1,025,195	0.11567	0.00	\$0 \$1,595,565	\$0 \$0	\$0 \$1,595,565	38
39	Off-Peak Energy		0.04167	0.00000	\$572,199	\$0 \$0	\$572,199	0.06485	0.0000	\$890,544	\$0 \$0	\$890,544	39
40	Super Off-Peak Energy		0.03219	0.00000	\$804,315	\$0 \$0	\$804,315	0.05010	0.00000	\$1,251,797	\$0 \$0	\$1,251,797	40
40	Juper On-reak Ellerg	y ->/KVVII	0.03213	0.00000	20U4,313	ŞU	2004,313	0.03010	0.0000	21,231,131	ŞŪ	21,231,131	40

Line No.	Description Unit	Marginal Energy Rate w/ losses (C)	Marginal Capacity Rate w/ losses (D)	Marginal Energy Rate Revenue (E)	Marginal Capacity Rate Revenue (F)	Total Marginal Rate Revenue (G)	EPMC Energy Rate (H)	EPMC Capacity Rate (I)	EPMC Energy Rate Revenue (J)	EPMC Capacity Rate Revenue (K)	Total EPMC Rate Revenue (L)	Line No.
1	SCHOOLS											1
2	Secondary											2
3	Summer											3
4	On-Peak Demand \$/kW	0.00	7.85	\$0	\$2,987,247	\$2,987,247	0.00	12.21	\$0	\$4,649,211	\$4,649,211	4
5	On-Peak Energy \$/kWh	0.06650	0.00000	\$1,327,206	\$0	\$1,327,206	0.10349	0.00	\$2,065,602	\$0	\$2,065,602	5
6	Off-Peak Energy \$/kWh	0.03981	0.01766	\$2,764,813	\$1,226,831	\$3,991,644	0.06195	0.02749	\$4,303,025	\$1,909,382	\$6,212,407	6
7	Super Off-Peak Energy \$/kWh	0.03540	0.00000	\$778,299	\$0	\$778,299	0.05510	0.00000	\$1,211,308	\$0	\$1,211,308	7
8												8
9	Winter											9
10	On-Peak Demand \$/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	10
11	On-Peak Energy \$/kWh	0.07432	0.00000	\$2,109,334	\$0	\$2,109,334	0.11567	0.00	\$3,282,868	\$0	\$3,282,868	11
12	Off-Peak Energy \$/kWh	0.04167	0.00000	\$3,304,644	\$0	\$3,304,644	0.06485	0.00000	\$5,143,193	\$0	\$5,143,193	12
13	Super Off-Peak Energy \$/kWh	0.03219	0.00000	\$1,322,494	\$0	\$1,322,494	0.05010	0.00000	\$2,058,267	\$0	\$2,058,267	13
14	0-1											14 15
15 16	Primary Summer											16
17	On-Peak Demand \$/kW	0.00	7.81	\$0	\$309,747	\$309,747	0.00	12.15	\$0	\$482,075	\$482,075	17
18	On-Peak Energy \$/kWh	0.06618	0.00000	\$174,160	\$0	\$174,160	0.10300	0.00	\$271,055	\$0	\$271,055	18
19	Off-Peak Energy \$/kWh	0.03962	0.01758	\$337,092	\$149,578	\$486,670	0.06166	0.02736	\$524,634	\$232,796	\$757,430	19
20	Super Off-Peak Energy \$/kWh	0.03528	0.00000	\$114,558	\$0	\$114,558	0.05491	0.00000	\$178,293	\$0	\$178,293	20
21	3, 1,			, ,		, ,					,	21
22	Winter											22
23	On-Peak Demand \$/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	23
24	On-Peak Energy \$/kWh	0.07398	0.00000	\$295,422	\$0	\$295,422	0.11514	0.00	\$459,781	\$0	\$459,781	24
25	Off-Peak Energy \$/kWh	0.04149	0.00000	\$400,280	\$0	\$400,280	0.06458	0.00000	\$622,977	\$0	\$622,977	25
26	Super Off-Peak Energy \$/kWh	0.03209	0.00000	\$173,909	\$0	\$173,909	0.04994	0.00000	\$270,664	\$0	\$270,664	26
27												27
28	Transmission											28
29	Summer											29
30	On-Peak Demand \$/kW	0.00	7.47	\$0	\$0	\$0	0.00	11.63	\$0	\$0	\$0	30
31	On-Peak Energy \$/kWh	0.06334	0.00000	\$0	\$0	\$0	0.09858	0.00	\$0	\$0	\$0	31
32	Off-Peak Energy \$/kWh	0.03793	0.01683	\$0 \$0	\$0 \$0	\$0 \$0	0.05904	0.02620 0.00000	\$0 \$0	\$0 \$0	\$0 \$0	32 33
33 34	Super Off-Peak Energy \$/kWh	0.03386	0.00000	ŞU	\$0	\$0	0.05270	0.00000	\$0	ŞU	\$0	33
35	Winter											35
36	On-Peak Demand \$/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	36
37	On-Peak Energy \$/kWh	0.07086	0.00000	\$0	\$0	\$0	0.11028	0.00	\$0	\$0	\$0	37
38	Off-Peak Energy \$/kWh	0.03979	0.00000	\$0	\$0	\$0	0.06193	0.00000	\$0	\$0	\$0	38
39	Super Off-Peak Energy \$/kWh	0.03079	0.00000	\$0	\$0	\$0	0.04793	0.00000	\$0	\$0	\$0	39
40												40
41	TOTAL RATE REVENUE SUMM	IΔRY										41
42	TO TAL MATERIES REVENUE SOUTH	irsist.		Energy	Capacity	Total			Energy	Capacity	Total	42
43	RESIDENTIAL			\$270,810,767	\$179,475,106	\$450,285,873			\$421,477,185	\$279,326,643	\$700,803,829	43
44	SMALL COMMERCIAL			\$96,541,025	\$38,174,262	\$134,715,287			\$150,251,927	\$59,412,632	\$209,664,559	44
45	MEDIUM/LARGE C&I			\$256,709,604	\$117,376,744	\$374,086,347			\$399,530,796	\$182,679,663	\$582,210,459	45
46	AGRICULTURAL			\$12,947,220	\$5,615,194	\$18,562,414			\$20,150,447	\$8,739,224	\$28,889,671	46
47	LIGHTING			\$3,773,245	\$2,385,031	\$6,158,276			\$5,872,502	\$3,711,950	\$9,584,452	47
48	SCHOOLS			\$13,102,212	\$4,673,402	\$17,775,615			\$20,391,669	\$7,273,464	\$27,665,134	48
49	TOTAL		·-	\$653,884,073	\$347,699,738	\$1,001,583,812			\$1,017,674,526	\$541,143,577	\$1,558,818,103	49

1 RESIDENTIAL		1
2 Secondary		2
2 Scottoniy 3 Summer		3
	83,157 \$9,983,157	4
5 Grandfathering TOU	,	5
6 On-Peak Energy \$/kWh 0.02705 0.00000 \$13,247,760 \$0 \$13,247,760 0.04285 0.00000 \$20,984,552	\$0 \$20,984,552	6
7 Semi-Peak Energy \$/kWh 0.06475 0.20518 \$45,203,575 \$143,231,922 \$188,435,497 0.10257 0.32500 \$71,602,805 \$226,4	880,447 \$298,483,251	7
		8
9 Schedule DRTOU		9
		10
		11
12 Schedule DRSES 13 On-Peak Energy \$/kWh 0.02705 0.00000 -\$769,081 \$0 -\$769,081 0.04285 0.00000 -\$1,218,231 \$		12 13
		14
		15
16 Schedule EVTOU		16
		17
	,824 \$8,952	18
		19
20 Schedule EVTOU2		20
		21
		22
		23
24		24
25 Winter		25
26 On-Peak Demand \$/kW 0.00 0.00 \$0 \$0 \$0 0.00 0.00 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$		26 27
		28
		29
		30
31 Schedule DRTOU		31
32 On-Peak Energy \$/kWh 0.02788 0.00000 \$12,228 \$0 \$12,228 0.04416 0.00000 \$19,370	\$0 \$19,370	32
33 Off-Peak Energy \$/kWh 0.04823 0.00000 \$168,953 \$0 \$168,953 0.07640 0.00000 \$267,622	\$0 \$267,622	33
34 Schedule DRSES		34
		35
		36
		37
38 Schedule EVTOU		38
		39
		40
41 Super UT-react Energy 5/kWn 0.04290 0.00000 57,899 50 57,899 0.06796 0.00000 51,512 5 42 Schedule EVTD02		41 42
		43
		44
		45

Line No.		Unit (B)	Marginal Energy Rate w/ losses (C)	Marginal Capacity Rate w/ losses (D)	Marginal Energy Rate Revenue (E)	Marginal Capacity Rate Revenue (F)	Total Marginal Rate Revenue (G)	EPMC Energy Rate (H)	EPMC Capacity Rate (I)	EPMC Energy Rate Revenue (J)	EPMC Capacity Rate Revenue (K)	Total EPMC Rate Revenue (L)	Line No.
1	SMALL COMMERCIAL												1
2	Secondary												2
3	Summer												3
4	On-Peak Demand	l \$/kW	0.00	0.65	\$0	\$2,537,315	\$2,537,315	0.00	1.04	\$0	\$4,019,125	\$4,019,125	4
5	On-Peak Energy	\$/kWh	0.02705	0.00000	\$7,745,627	\$0	\$7,745,627	0.04285	0.00000	\$12,269,132	\$0	\$12,269,132	5
6	Semi-Peak Energy	\$/kWh	0.06475	0.11935	\$17,229,781	\$31,757,378	\$48,987,159	0.10257	0.18905	\$27,292,103	\$50,303,927	\$77,596,030	6
7	Super Off-Peak Energy	\$/kWh	0.03990	0.00929	\$16,108,206	\$3,750,273	\$19,858,479	0.06320	0.01471	\$25,515,520	\$5,940,460	\$31,455,980	7
8													8
9	Winter	•											9
10	On-Peak Demand	l \$/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	10
11	On-Peak Energy	\$/kWh	0.08398	0.00000	\$9,743,747	\$0	\$9,743,747	0.13302	0.00000	\$15,434,168	\$0	\$15,434,168	11
12	Semi-Peak Energy	\$/kWh	0.03936	0.00000	\$20,692,613	\$0	\$20,692,613	0.06234	0.00000	\$32,777,256	\$0	\$32,777,256	12
13	Super Off-Peak Energy	\$/kWh	0.04217	0.00000	\$21,731,192	\$0	\$21,731,192	0.06680	0.00000	\$34,422,372	\$0	\$34,422,372	13
14													14
15	Primary												15
16	Summer	•											16
17	On-Peak Demand	\$/kW	0.00	0.65	\$0	\$17,984	\$17,984	0.00	1.03	\$0	\$28,487	\$28,487	17
18	On-Peak Energy	\$/kWh	0.02691	0.00000	\$20,534	\$0	\$20,534	0.04262	0.00000	\$32,526	\$0	\$32,526	18
19	Semi-Peak Energy		0.06445	0.11879	\$52,631	\$97,009	\$149,640	0.10209	0.18816	\$83,369	\$153,662	\$237,031	19
20	Super Off-Peak Energy	\$/kWh	0.03975	0.00925	\$61,438	\$14,304	\$75,741	0.06297	0.01466	\$97,318	\$22,657	\$119,975	20
21													21
22	Winter	•											22
23	On-Peak Demand	.,	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	23
24	On-Peak Energy		0.08357	0.00000	\$19,813	\$0	\$19,813	0.13238	0.00000	\$31,384	\$0	\$31,384	24
25	Semi-Peak Energy		0.03918	0.00000	\$63,079	\$0	\$63,079	0.06207	0.00000	\$99,917	\$0	\$99,917	25
26	Super Off-Peak Energy	\$/kWh	0.04203	0.00000	\$80,504	\$0	\$80,504	0.06657	0.00000	\$127,518	\$0	\$127,518	26

Line No.	Description Unit	Marginal Energy Rate w/ losses (C)	Marginal Capacity Rate w/ losses (D)	Marginal Energy Rate Revenue (E)	Marginal Capacity Rate Revenue (F)	Total Marginal Rate Revenue (G)	EPMC Energy Rate (H)	EPMC Capacity Rate (I)	EPMC Energy Rate Revenue (J)	EPMC Capacity Rate Revenue (K)	Total EPMC Rate Revenue (L)	Line No.
1	MEDIUM & LARGE COMMERC	CIAL/INDUSTRIAL										1
2	Secondary											2
3	Summer											3
4	On-Peak Demand \$/kW	0.00	0.92	\$0	\$5,281,723	\$5,281,723	0.00	1.46	\$0	\$8,366,289	\$8,366,289	4
5	On-Peak Energy \$/kWh	0.02705	0.00000	\$15,401,325	\$0	\$15,401,325	0.04285	0.00000	\$24,395,815	\$0	\$24,395,815	5
6	Semi-Peak Energy \$/kWh	0.06475	0.13282	\$40,112,071	\$82,277,836	\$122,389,907	0.10257	0.21039	\$63,537,824	\$130,328,714	\$193,866,538	6
7	Super Off-Peak Energy \$/kWh	0.03990	0.01064	\$38,564,360	\$10,282,530	\$48,846,889	0.06320	0.01685	\$61,086,237	\$16,287,605	\$77,373,842	7
8												8
9	Winter											9
10	On-Peak Demand \$/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	10
11	On-Peak Energy \$/kWh	0.08398	0.00000	\$21,302,857	\$0	\$21,302,857	0.13302	0.00000	\$33,743,886	\$0	\$33,743,886	11
12	Semi-Peak Energy \$/kWh	0.03936	0.00000	\$43,403,370	\$0	\$43,403,370	0.06234	0.00000	\$68,751,266	\$0	\$68,751,266	12
13	Super Off-Peak Energy \$/kWh	0.04217	0.00000	\$49,993,002	\$0	\$49,993,002	0.06680	0.00000	\$79,189,293	\$0	\$79,189,293	13
14 15	Orderson											14
16	Primary Summer											15 16
17	On-Peak Demand \$/kW	0.00	0.92	\$0	\$821,161	\$821,161	0.00	1.45	\$0	\$1,300,725	\$1,300,725	17
18	On-Peak Energy \$/kWh	0.02691	0.00000	\$2,605,977	\$0	\$2,605,977	0.04262	0.00000	\$4,127,888	\$0	\$4,127,888	18
19	Semi-Peak Energy \$/kWh	0.06445	0.13220	\$7,592,262	\$15,573,240	\$23,165,502	0.10209	0.20940	\$12,026,201	\$24,668,130	\$36,694,331	19
20	Super Off-Peak Energy \$/kWh	0.03975	0.01060	\$8,312,510	\$2,216,389	\$10,528,899	0.06297	0.01679	\$13,167,078	\$3,510,777	\$16,677,855	20
21				+-//	7-,,	+,,			7-0,-0-,	+-//	+,,	21
22	Winter											22
23	On-Peak Demand \$/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	23
24	On-Peak Energy \$/kWh	0.08357	0.00000	\$3,861,164	\$0	\$3,861,164	0.13238	0.00000	\$6,116,112	\$0	\$6,116,112	24
25	Semi-Peak Energy \$/kWh	0.03918	0.00000	\$7,999,682	\$0	\$7,999,682	0.06207	0.00000	\$12,671,557	\$0	\$12,671,557	25
26	Super Off-Peak Energy \$/kWh	0.04203	0.00000	\$10,541,933	\$0	\$10,541,933	0.06657	0.00000	\$16,698,501	\$0	\$16,698,501	26
27												27
28	Transmission											28
29	Summer											29
30	On-Peak Demand \$/kW	0.00	0.88	\$0	\$86,756	\$86,756	0.00	1.39	\$0	\$137,422	\$137,422	30
31	On-Peak Energy \$/kWh	0.02571	0.00000	\$131,200	\$0	\$131,200	0.04073	0.00000	\$207,822	\$0	\$207,822	31
32	Semi-Peak Energy \$/kWh	0.06171	0.12657	\$353,745	\$725,602	\$1,079,347	0.09774	0.20049	\$560,335	\$1,149,359	\$1,709,694	32
33	Super Off-Peak Energy \$/kWh	0.03814	0.01017	\$418,205	\$111,507	\$529,713	0.06041	0.01611	\$662,440	\$176,628	\$839,069	33
34 35	Winter											34 35
36	On-Peak Demand S/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	36
37	On-Peak Energy \$/kWh	0.07999	0.00000	\$168,994	\$0 \$0	\$168,994	0.12670	0.0000	\$267,687	\$0 \$0	\$267,687	37
38	Semi-Peak Energy \$/kWh	0.03755	0.00000	\$419,696	\$0 \$0	\$419,696	0.05948	0.00000	\$664,801	\$0 \$0	\$664,801	38
39	Super Off-Peak Energy \$/kWh	0.04033	0.00000	\$526,463	\$0	\$526,463	0.06389	0.00000	\$833,921	\$0	\$833,921	39
33	Super on Teak Energy S/KWIII	0.04033	0.0000	\$323,403	Ç0	Ç323,403	0.0000	0.0000	Q033,321	ÇÜ	4000,021	33

Line No.	Description Uni	Marginal Energy t Rate w/ losses	Marginal Capacity Rate w/ losses	Marginal Energy Rate Revenue	Marginal Capacity Rate Revenue	Total Marginal Rate Revenue	EPMC Energy Rate	EPMC Capacity Rate	EPMC Energy Rate Revenue	EPMC Capacity Rate Revenue	Total EPMC Rate Revenue	Line No.
	(A) (B)	(C)	(D)	(E)	(F)	(G)	(H)	(1)	(J)	(K)	(L)	
1	<u>AGRICULTURE</u>											1
2	Secondary											2
3	Summer											3
4	On-Peak Demand \$/kW	0.00	0.52	\$0	\$211,081	\$211,081	0.00	0.82	\$0	\$334,354	\$334,354	4
5	On-Peak Energy \$/kWh	0.02705	0.00000	\$560,049	\$0	\$560,049	0.04285	0.00000	\$887,121	\$0	\$887,121	5
6	Semi-Peak Energy \$/kWh		0.11567	\$2,153,553	\$3,846,839	\$6,000,392	0.10257	0.18322	\$3,411,244	\$6,093,423	\$9,504,667	6
7	Super Off-Peak Energy \$/kWh	0.03990	0.01062	\$2,706,985	\$720,373	\$3,427,358	0.06320	0.01682	\$4,287,885	\$1,141,076	\$5,428,961	7
8												8
9	Winter			4-	4-					4-		9
10	On-Peak Demand \$/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	10
11	On-Peak Energy \$/kWh	0.08398	0.00000	\$832,532	\$0	\$832,532	0.13302	0.00000	\$1,318,737	\$0	\$1,318,737	11
12	Semi-Peak Energy \$/kWh	0.03936	0.00000	\$1,862,638	\$0	\$1,862,638	0.06234	0.00000	\$2,950,433	\$0	\$2,950,433	12
13	Super Off-Peak Energy \$/kWh	0.04217	0.00000	\$2,923,559	\$0	\$2,923,559	0.06680	0.00000	\$4,630,939	\$0	\$4,630,939	13
14												14
15	Primary											15
16	Summer	2.22	0.54	\$0	\$32,027	622.027	0.00	0.82	\$0	\$50,731	ć50 724	16 17
17	On-Peak Demand \$/kW	0.00 0.02691	0.51	\$116,341		\$32,027			\$184,286		\$50,731	
18	On-Peak Energy \$/kWh		0.00000		\$0	\$116,341	0.04262	0.00000		\$0	\$184,286	18
19 20	Semi-Peak Energy \$/kWh	0.06445 0.03975	0.11512 0.01058	\$381,733	\$681,880	\$1,063,613	0.10209	0.18235	\$604,668	\$1,080,103	\$1,684,771	19
20	Super Off-Peak Energy \$/kWh	0.03975	0.01058	\$462,179	\$122,993	\$585,173	0.06297	0.01676	\$732,096	\$194,822	\$926,918	20 21
22	Winter											22
22	On-Peak Demand S/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	22
23	On-Peak Energy \$/kWh		0.00000	\$167,225	\$0 \$0	\$167,225	0.13238	0.0000	\$264,886	\$0 \$0	\$264,886	24
25	Semi-Peak Energy \$/kWh		0.00000	\$355,017	\$0	\$355,017	0.06207	0.00000	\$562,350	\$0 \$0	\$562,350	25
26	Super Off-Peak Energy \$/kWh		0.00000	\$552,622	\$0	\$552,622	0.06657	0.00000	\$875,358	\$0 \$0	\$875,358	26
27	Super Off-Feak Effergy 3/kWff	0.04203	0.00000	3332,022	30	3332,022	0.00037	0.00000	3873,338	ŞÜ	3673,336	27
	LIGHTING											
28 29	Secondary											28 29
30	Summer											30
	On-Peak Demand S/kW	0.00	0.00	ćo	¢0	\$0	0.00	0.00	\$0	ćo	\$0	31
31 32	On-Peak Demand \$/kW On-Peak Energy \$/kWh	0.00 0.02705	0.0000	\$0 \$150,336	\$0 \$0	\$150,336	0.04285	0.0000	\$0 \$238,133	\$0 \$0	\$238,133	32
33	Semi-Peak Energy \$/kWh		0.20444	\$638,857	\$2,016,972	\$2,655,828	0.10257	0.32383	\$1,011,954	\$3,194,898	\$4,206,852	33
34			0.02139	\$686,547	\$368,059	\$1,054,606	0.10237	0.03388	\$1,087,496	\$583,008	\$1,670,504	34
35	Super Off-Peak Energy \$/kWh	0.03990	0.02139	\$660,547	\$308,039	\$1,054,000	0.06320	0.03366	\$1,087,496	\$363,006	\$1,670,504	35
36	Winter											36
37	On-Peak Demand \$/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	37
38	On-Peak Demand \$/kW On-Peak Energy \$/kWh	0.00	0.0000	\$0 \$1,158,412	\$0 \$0	\$0 \$1,158,412	0.13302	0.0000	\$0 \$1,834,933	\$0 \$0	\$0 \$1,834,933	38
39	Semi-Peak Energy \$/kWh	0.03936	0.00000	\$540,494	\$0 \$0	\$1,158,412 \$540,494	0.13302	0.00000	\$856,146	\$0 \$0	\$856,146	39
40	Super Off-Peak Energy \$/kWh		0.00000	\$1,053,638	\$0	\$1,053,638	0.06680	0.00000	\$1,668,971	\$0 \$0	\$1,668,971	40
40	Juper Off-reak Life(8) 3/KWII	0.04217	0.0000	\$1,033,030	ŞU	21,030,030	0.00080	0.00000	\$1,000,5/1	ŞU	31,000,371	40

Line No.		Marginal Energy Rate w/ losses (C)	Marginal Capacity Rate w/ losses (D)	Marginal Energy Rate Revenue (E)	Marginal Capacity Rate Revenue (F)	Total Marginal Rate Revenue (G)	EPMC Energy Rate (H)	EPMC Capacity Rate (I)	EPMC Energy Rate Revenue (J)	EPMC Capacity Rate Revenue (K)	Total EPMC Rate Revenue (L)	Line No.
1	SCHOOLS											1
2	Secondary											2
3	Summer											3
4	On-Peak Demand \$/kW	0.00	0.54	\$0	\$319,272	\$319,272	0.00	0.86	\$0	\$505,729	\$505,729	4
5	On-Peak Energy \$/kWh	0.02705	0.00000	\$1,079,184	\$0	\$1,079,184	0.04285	0.00000	\$1,709,436	\$0	\$1,709,436	5
6	Semi-Peak Energy \$/kWh	0.06475	0.09132	\$2,407,252	\$3,394,856	\$5,802,108	0.10257	0.14465	\$3,813,105	\$5,377,478	\$9,190,583	6
7	Super Off-Peak Energy \$/kWh	0.03990	0.01170	\$1,369,552	\$401,488	\$1,771,041	0.06320	0.01853	\$2,169,381	\$635,961	\$2,805,342	7
8	140-4											8
10	Winter On-Peak Demand \$/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	9 10
11	On-Peak Benergy \$/kWh	0.08398	0.00000	\$1,106,656	\$0	\$1,106,656	0.13302	0.00000	\$1,752,951	\$0 \$0	\$1,752,951	11
12	Semi-Peak Energy \$/kWh	0.03936	0.00000	\$3,397,464	\$0	\$3,397,464	0.06234	0.00000	\$5,381,608	\$0	\$5,381,608	12
13	Super Off-Peak Energy \$/kWh	0.04217	0.00000	\$2,077,968	\$0	\$2,077,968	0.06680	0.00000	\$3,291,516	\$0	\$3,291,516	13
14	3, 1,											14
15	Primary											15
16	Summer											16
17	On-Peak Demand \$/kW	0.00	0.54	\$0	\$31,433	\$31,433	0.00	0.86	\$0	\$49,789	\$49,789	17
18	On-Peak Energy \$/kWh	0.02691	0.00000	\$114,564	\$0	\$114,564	0.04262	0.00000	\$181,471	\$0	\$181,471	18
19	Semi-Peak Energy \$/kWh	0.06445	0.09089	\$332,118	\$468,373	\$800,491	0.10209	0.14397	\$526,077	\$741,907	\$1,267,984	19
20	Super Off-Peak Energy \$/kWh	0.03975	0.01165	\$197,781	\$57,980	\$255,761	0.06297	0.01846	\$313,286	\$91,841	\$405,127	20
21 22	Winter											21 22
23	On-Peak Demand \$/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	23
24	On-Peak Energy \$/kWh	0.08357	0.00000	\$157,121	\$0	\$157,121	0.13238	0.00000	\$248,881	\$0	\$248,881	24
25	Semi-Peak Energy \$/kWh	0.03918	0.00000	\$400,570	\$0	\$400,570	0.06207	0.00000	\$634,506	\$0	\$634,506	25
26	Super Off-Peak Energy \$/kWh	0.04203	0.00000	\$292,388	\$0	\$292,388	0.06657	0.00000	\$463,144	\$0	\$463,144	26
27												27
28	Transmission											28
29	Summer											29
30	On-Peak Demand \$/kW	0.00	0.52	\$0	\$0	\$0	0.00	0.82	\$0	\$0	\$0	30
31	On-Peak Energy \$/kWh	0.02571	0.00000	\$0	\$0	\$0	0.04073	0.00000	\$0	\$0	\$0	31
32 33	Semi-Peak Energy \$/kWh Super Off-Peak Energy \$/kWh	0.06171 0.03814	0.08702 0.01118	\$0 \$0	\$0 \$0	\$0 \$0	0.09774 0.06041	0.13785 0.01771	\$0 \$0	\$0 \$0	\$0 \$0	32 33
33	Super Off-Peak Energy \$7kWfi	0.03814	0.01118	ŞU	ŞU	\$0	0.06041	0.01771	ŞU	ŞU	\$0	33
35	Winter											35
36	On-Peak Demand \$/kW	0.00	0.00	\$0	\$0	\$0	0.00	0.00	\$0	\$0	\$0	36
37	On-Peak Energy \$/kWh	0.07999	0.00000	\$0	\$0	\$0	0.12670	0.00000	\$0	\$0	\$0	37
38	Semi-Peak Energy \$/kWh	0.03755	0.00000	\$0	\$0	\$0	0.05948	0.00000	\$0	\$0	\$0	38
39	Super Off-Peak Energy \$/kWh	0.04033	0.00000	\$0	\$0	\$0	0.06389	0.00000	\$0	\$0	\$0	39
40												40
41	TOTAL RATE REVENUE SUMM	IARY										41
42	•			Energy	Capacity	Total			Energy	Capacity	Total	42
43	RESIDENTIAL			\$260,202,467	\$180,177,232	\$440,379,699			\$412,162,673	\$285,402,097	\$697,564,770	43
44	SMALL COMMERCIAL			\$93,549,164	\$38,174,262	\$131,723,426			\$148,182,582	\$60,468,319	\$208,650,902	44
45	MEDIUM/LARGE C&I			\$251,708,814	\$117,376,744	\$369,085,558			\$398,708,663	\$185,925,649	\$584,634,312	45
46	AGRICULTURAL			\$13,074,435	\$5,615,194	\$18,689,628			\$20,710,003	\$8,894,509	\$29,604,512	46
47	LIGHTING			\$4,228,283	\$2,385,031	\$6,613,314			\$6,697,632	\$3,777,906	\$10,475,539	47
48	SCHOOLS		-	\$12,932,617	\$4,673,402	\$17,606,020	=		\$20,485,364	\$7,402,705	\$27,888,068	48
49	TOTAL			\$635,695,780	\$348,401,865	\$984,097,644			\$1,006,946,918	\$551,871,185	\$1,558,818,103	49

ATTACHMENT B Commodity Revenue Allocations

SAN DIEGO GAS & ELECTRIC COMPANY 2019 GENERAL RATE CASE (GRC) PHASE 2 - APPLICATION 19-03-XXX ELECTRIC COMMODITY REVENUE ALLOCATION - CHAPTER 6 (MONTOYA)

Commodity Marginal Cost Allocation by Customer Class

PROPOSED GRC P2 (STANDARD TOU)

		MARGINAL EN	NERGY COSTS	MARGINAL CA	PACITY COSTS	
Line No.	Customer Class (A)	% Allocation (B)	\$ Allocation (C)	% Allocation (D)	\$ Allocation (E)	Line No.
1	RESIDENTIAL	41.42%	\$270,810,767	51.62%	\$179,475,106	1
2	SMALL COMMERCIAL	14.76%	\$96,541,025	10.98%	\$38,174,262	2
3	MEDIUM/LARGE C&I	39.26%	\$256,709,604	33.76%	\$117,376,744	3
4	AGRICULTURAL	1.98%	\$12,947,220	1.61%	\$5,615,194	4
5	LIGHTING	0.58%	\$3,773,245	0.69%	\$2,385,031	5
6	SCHOOLS	2.00%	\$13,102,212	1.34%	\$4,673,402	6
7	TOTAL	100.00%	\$653,884,073	100.00%	\$347,699,738	7

SAN DIEGO GAS & ELECTRIC COMPANY 2019 GENERAL RATE CASE (GRC) PHASE 2 - APPLICATION 19-03-XXX ELECTRIC COMMODITY REVENUE ALLOCATION - CHAPTER 6 (MONTOYA)

Commodity Allocation by Customer Class

		CURRENT	(D.17-08-030)	PROPOSED GRC P	2 (STANDARD TOU)			
Line	Customer Class	% Allocation	\$ Allocation	% Allocation	\$ Allocation	\$ Change	% Change	Line
No.	(A)	(B)	(C)	(D)	(E)	(F)	(G)	No.
1	RESIDENTIAL	41.97%	\$667,638,761	44.96%	\$700,803,829	\$33,165,068	4.97%	1
2	SMALL COMMERCIAL	13.01%	\$206,877,426	13.45%	\$209,664,559	\$2,787,133	1.35%	2
3	MEDIUM/LARGE C&I	41.19%	\$655,184,225	37.35%	\$582,210,459	-\$72,973,767	-11.14%	3
4	AGRICULTURAL	1.47%	\$23,370,301	1.85%	\$28,889,671	\$5,519,370	23.62%	4
5	LIGHTING	0.36%	\$5,747,390	0.61%	\$9,584,452	\$3,837,062	66.76%	5
6	SCHOOLS	2.00%	\$31,836,798	1.77%	\$27,665,134	-\$4,171,664	-13.10%	6
7	TOTAL	100.00%	\$1,590,654,901	100.00%	\$1,558,818,103	-\$31,836,798	-2.00%	7

ATTACHMENT C CTC Revenue Allocation

ATTACHMENT C

SAN DIEGO GAS & ELECTRIC COMPANY 2019 GENERAL RATE CASE (GRC) PHASE 2 - APPLICATION 19-03-XXX CTC REVENUE ALLOCATION - CHAPTER 6 (MONTOYA)

CTC Allocation by Customer Class

		CURRENT (D.17-08-030)	PROPOSE	D GRC P2			
Line	Customer Class	% Allocation	\$ Allocation	% Allocation	\$ Allocation	\$ Change	% Change	Line
No.	(A)	(B)	(C)	(D)	(E)	(F)	(G)	No.
1	RESIDENTIAL	38.55%	\$4,874,869	38.55%	\$4,874,863	-\$5	0.00%	1
2	SMALL COMMERCIAL	12.56%	\$1,588,766	12.49%	\$1,579,646	-\$9,119	-0.57%	2
3	MEDIUM/LARGE C&I	47.79%	\$6,042,646	45.87%	\$5,800,467	-\$242,178	-4.01%	3
4	AGRICULTURAL	1.06%	\$134,269	1.06%	\$133,872	-\$397	-0.30%	4
5	LIGHTING	0.03%	\$3,951	0.03%	\$3,951	\$0	0.00%	5
6	SCHOOLS			1.99%	\$251,700	\$251,700		6
7	TOTAL	100.00%	\$12,644,500	100.00%	\$12,644,500	\$0	0.00%	7

ATTACHMENT D

Grandfathered Marginal Energy Costs

SAN DIEGO GAS & ELECTRIC COMPANY 2019 GENERAL RATE CASE (GRC) PHASE 2 - APPLICATION 19-03-XXX GRANDFATHERED TOU PERIODS - CHAPTER 6 (MONTOYA)

Grandfathered Marginal Energy Costs

SDG&E Grandfathered TOU Periods							
	MEC Factors				s per kWh		
	Summer	Winter	y Avorago	Summer	Winter		
On-Peak	0.501	2.130	x Average Annual Price	1.653	7.026		
Semi_Peak	1.582	0.858	(3.298 ¢/kWh)	5.218	2.830		
Off-Peak	0.877	0.944		2.894	3.113		

SAN DIEGO GAS & ELECTRIC COMPANY 2019 GENERAL RATE CASE (GRC) PHASE 2 - APPLICATION 19-03-XXX GRANDFATHERED TOU PERIODS - CHAPTER 6 (MONTOYA)

Grandfathered TOU Marginal Energy Prices

SDG&E Grandfathered TOU Periods	A Wholesale (¢/kWh)	B RPS Adder (¢/kWh)	A + B Total (¢/kWh)
Summer (May 1 - October 31)			, , ,
<i>On-peak</i> : 11am - 6pm non-holiday weekdays	1.653	0.889	2.542
Semi- <i>peak:</i> All other hours	5.218	0.889	6.107
Off-peak: 10pm-6am non-holiday weekdays and all weekends/holidays	2.894	0.889	3.783
Winter (November 1 - April 30)			
<i>On-peak</i> : 5pm - 8pm non-holiday weekdays	7.026	0.889	7.915
Semi- <i>peak:</i> All other hours	2.830	0.889	3.719
Off-peak: 10pm-6am non-holiday weekdays and all weekends/holidays	3.113	0.889	4.003
	RPS Premium RPS %	2.695 33%	

SDG&E 2019 GRC Phase 2 Testimony Revision Log – May 2019

Witness	Page	Line	Revision Detail
			II 1 . 1 (DDC A 11 .) 1 (F . 1)
Montoya (Chapter 6)	BAM-6	Table BAM-2	Updated "RPS Adder" and "Total" columns. Revised RPS Premium.
Montoya (Chapter 6)	BAM-6	Footnote 4	States that testimony and attachments that display rates now reflect the updated RPS adder.
Montoya (Chapter 6)	BAM-9	Table BAM-4	Revised wording to "SDG&E Standard" TOU Periods from "Proposed".
Montoya (Chapter 6)	BAM-14	10	Revised number from "66" to "52".
Montoya (Chapter 6)	Attachments A, B and D		Marginal Costs, Rates and Revenue Allocations now reflect updated RPS adder.