# BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's Own Motion to Conduct a Comprehensive Examination of Investor Owned Electric Utilities' Residential Rate Structures, the Transition to Time Varying and Dynamic Rates, and Other Statutory Obligations.

Rulemaking 12-06-013 (Filed June 21, 2012)

# PHASE 1 ADDITIONAL SUPPLEMENTARY TESTIMONY OF SAN DIEGO GAS & ELECTRIC COMPANY (U902E) PURSUANT TO ALJ RULING

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Dated: July 23, 2014

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San Diego Gas & Electric Company ("SDG&E") hereby submits its Additional Supplementary Testimony pursuant to the Ruling of ALJ McKinney, issued July 11, 2014. In that Ruling, SDG&E was directed to answer the following question by no later than July 23, 2014:

- (5) Energy Efficiency, Demand Response and Distributed Generation Programs:
  - d. Estimate total load reduction and peak period reduction or load shifting using the "Conservation Tab" of the PG&E RROIR Bill Impact Calculator or an equivalent tool. Use an appropriate elasticity assumption and justify and explain your choice of elasticity assumption.

SDG&E's Additional Supplementary Testimony to the ALJ's Order is set forth herein as Appendix "A." SDG&E appreciates the opportunity to submit this Supplementary Testimony.

Dated: July 23, 2014 San Diego Gas & Electric Company

/s/ Thomas R. Brill

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# APPENDIX A SAN DIEGO GAS AND ELECTRIC COMPANY IN SUPPORT OF JULY 23, 2014 ADDITIONAL SUPPLEMENTAL TESTIMONY RULEMAKING 12-06-013 PHASE 1

In accordance with the ruling issued by Administrative Law Judge (ALJ) Jeanne M. McKinney on July 11, 2014 seeking additional supplementary testimony, San Diego Gas & Electric Company (SDG&E) hereby provides an answer to the following question:

(5) Energy Efficiency, Demand Response and Distributed Generation Programs: d. Estimate total load reduction and peak period reduction or load shifting using the "Conservation Tab" of the PG&E RROIR Bill Impact Calculator or an equivalent tool. Use an appropriate elasticity assumption and justify and explain your choice of elasticity assumption.

In this response, SDG&E provides its estimate of conservation related to the current residential rate reform efforts. Details of this estimate are provided in the attached spreadsheet. Please note that this additional response supplements SDG&E's response submitted on May 16, 2014.

SDG&E has provided its estimate of conservation related to rate residential rate reform with the ruling and has provided its response in the attached spreadsheet. SDG&E estimates the residential price elasticity to be close to -.1. Residential elasticity estimates are based on residential sales models developed to submit residential sales forecasts to the California Energy Commission's Integrated Energy Policy Report (IEPR) process. Therefore SDG&E's preferred elasticity is -.1. The elasticity was applied to both California Alternate Rates for Energy (CARE) and non-CARE customers for Schedules DR and DRLI. SDG&E provided responses for its current baseline and the proposed baseline in its Rate Design Window application (RDW). Additionally SDG&E included a scenario of -.2 elasticity so that a more direct comparison can be made with the response of Pacific Gas and Electric Company (PG&E) labeled as "PG&E Conservation Tab" in PG&E's RROIR Bill Impact Calculator.

SDG&E provides a "Summary" tab and has each scenario labeled as a separate tab. For instance: "Conservation Tab 1 (-.1)" provides SDG&E's scenario 1 that uses and elasticity of -.1. SDG&E also has created a separate tab labeled "TOU Conservation Tab" to provide its estimates of load reduction based on its default TOU rates to become effective in 2018.

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Results indicate that when applying an elasticity of (-.1) that SDG&E would expect an overall load growth of about .4% to .5% for all residential customers over the 2015-2017 timeframe – while holding everything else constant<sup>1</sup>.

The percentages of annual kWh change for CARE versus Non-CARE are as follows:

Current Baseline:	Non-CARE	CARE
(1) elasticity	.67%	59%
(2) elasticity	1.35%	-1.19%
Proposed RDW Baseline:		
(1) elasticity	.78%	47%
(2) elasticity	1.56%	93%

SDG&E is providing its default Time-of-Use (TOU) example for its non-CARE and CARE customers. The proposed default TOU rate has a monthly service fee as well as a baseline credit. CARE customers receive a discounted TOU rate, and therefore there is no separate TOU rate for CARE. To simplify the analysis a weighted average Schedule DR and Schedule DRLI rates have been calculated using tier usage and accompanying rates. This weighted average rate is then compared to the proposed default TOU rates (see TOU Conservation Tab). An elasticity of -.2 has also been assumed for the non-CARE TOU example and a conservative elasticity of -.1 is being used for the CARE TOU example. The summer onpeak to off-peak price ratio is approximately 1.4 for both non-CARE and CARE TOU rates. The effect of the non-CARE elasticity shows a summer peak period reduction of 3.5%. This level of reduction is consistent with SDG&E's prior estimates of summer on-peak load reduction being between 3%-5%.

The effect of the CARE elasticity assumption shows kWh reductions (conservation) in all TOU periods for both summer and winter. The reason for this lies in the current CARE discount being closer to 40%, and the desired discount being closer to 34% in 2018. That change along with the TOU differential creates kWh reductions in all TOU periods – which is not the typical

<sup>&</sup>lt;sup>1</sup>Other rate changes or changes to SDG&E's revenue requirements are not included, as economic and weather effects are also unknown.

# APPENDIX A SAN DIEGO GAS AND ELECTRIC COMPANY IN SUPPORT OF JULY 23, 2014 ADDITIONAL SUPPLEMENTAL TESTIMONY RULEMAKING 12-06-013 PHASE 1

result when applying TOU rates. Normally, the off-peak period shows kWh increases, and the on and semi-peak periods show kWh reductions.

SDG&E is providing the best elasticity assumptions it is able to provide based on currently available information. However, the exact elasticity that will be experienced once residential rate reforms have been implemented as a result of this proceeding, is currently unknown, and will depend on a number of factors. For example, under a scenario where the Net Energy Metering (NEM) program limit, established in Public Utilities Code Section 2827(c)(4)(B), is met in 2017, total residential consumption will go down by 7% when the NEM program limit has been realized (see Conservation Tab -.1 with NEM adj). Under this scenario, the upper tiers could show reductions of 14% and the bottom tiers could be reduced by 3%. However, the usage reductions will not be a direct result of rate design or rate reform, but instead result from other factors, many of which will not be under SDG&E's control.

Note: SDG&E is using its authorized sales from D.14-01-002. SDG&E did not apply its sales forecast to this response.

Elasticity Assumption	on of1			2015-2017 kWh Change	2015-2017 kWh Total	Total Percent Change
Total non-CARE annua	I kWh change over the three year period with SI	DG&E's current	Baseline:	37,510,285	5,566,762,291	0.67%
Total CARE annual kW	h change over the three year period with SDG&I	E's current Base	line:	(8,436,478)	1,419,814,967	-0.59%
	, ,			29,073,807	6,986,577,259	0.42%
Total non-CARE annua	I kWh change over the three year period with SI	DG&E's propose	d RDW Baseline:	43,282,684	5,566,762,291	0.78%
Total CARE annual kW	h change over the three year period with SDG&I	E's proposed RD	W Baseline:	(6,623,727)	1,419,814,967	-0.47%
				36,658,958	6,986,577,259	0.52%
Elasticity Assumptic	nn of - 2			2015-2017 kWh Change	2015-2017 kWh Total	Total Percent Change
• •	I kWh change over the three year period with SI	DG&E's current	Raseline:	75,020,571	5,566,762,291	1.35%
	h change over the three year period with SDG&I			(16,872,956)		
	, ,			58,147,615	6,986,577,259	
	I kWh change over the three year period with SI			86,565,369	5,566,762,291	
Total CARE annual kW	h change over the three year period with SDG&I	Ł's proposed RD	W Baseline:	(13,247,454)	1,419,814,967	
				73,317,915	6,986,577,259	1.05%
Elasticity Assumption	on of1 with NEM Cap reached					
Assumption that NEW	Cap is reached, effect is that total consumption		•			
	kWh total	•	New Annual kWh	Change in total consumption		
Bottom Tiers (1 &2)	4,660,836,287	139,313,503		-3%		
Upper Tiers (3 & 4) Total	2,325,740,971 6,986,577,259			-14% -7%		
Total	0,300,377,233	404,378,342	0,322,138,317	~170		
				2015-2017 kWh Change	2015-2017 kWh Total	Total Percent Change
Total non-CARE annua	I kWh change over the three year period with SI	DG&E's current	Baseline:	29,989,510	5,195,259,618	0.58%
Total CARE annual kW	h change over the three year period with SDG&I	E's current Base	line:	(8,743,676)	1,326,939,299	-0.66%
				21,245,834	6,522,198,917	0.33%
Total non-CARE annua	I kWh change over the three year period with SI	DG&E's propose	d RDW Baseline:	35,433,263	5,195,259,618	0.68%
Total CARE annual kW	h change over the three year period with SDG&I	E's proposed RD	W Baseline:	(7,037,441)	1,326,939,299	-0.53%
				28,395,822	6,522,198,917	0.44%
TOU Elasticity Assump	otion of2					
					2015-2017 kWh	
				2015-2017 kWh Change	Total	Total Percent Change
Total non-CARE annua	al kWh change over the three year period with	SDG&E's currer	ıt Baseline:	46,235,601	5,566,762,293	0.83%
Total CARE annual kW	/h change over the three year period with SDG	&E's current Ba	seline:	(40,351,397)	1,419,814,967	7 -2.84%

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#### Conservation Tab (-.1)

#### Total non-CARE annual kWh change over the three year period with SDG&E's current Baseline: Total CARE annual kWh change over the three year period with SDG&E's current Baseline:

 2015-2017 kWh

 2015-2017 kWh Change
 Total
 Total Percent Change

 37,510,285
 5,566,762,291
 0.67%

 (8,436,478)
 1,419,814,967
 -0.59%

 29,073,807
 6,986,577,259
 0.42%

 43,282,684
 5,566,762,291
 0.78%

 (6,623,727)
 1,419,814,967
 -0.47%

Total non-CARE annual kWh change over the three year period with SDG&E's proposed RDW Baseline: Total CARE annual kWh change over the three year period with SDG&E's proposed RDW Baseline:

Note: SDG&E is using its authorized sales from D.14-01-002. SDG&E did not apply its sales forecast to this response.

## SDG&E 2015-2017 Price Elasticity of Energy - non CARE

Energy (Tiers,	,	Non-CARE (Schedule DR) Determinants	Current Rate	Proposed Rate	Change in Price	Price Elasticity of Demand (E <sub>d</sub> )	Estimated Change in	Estimated Change in annual kWh	Estimated New
		(kWh)	(\$/kWh)	(\$/kWh)	%	<u>(dQ/Q )</u> (dP/P)	quantity %	(dP/P) x E <sub>d</sub> x Q	kWh Quantity
mmer									
	Tier 1	1,445,135,097	0.15396	0.18375	19%	(0.10)	-1.93%	(27,962,181)	1,473,097,278
	Tier 2	293,387,123	0.17778	0.18375	3%	(0.10)	-0.34%	(985,218)	294,372,341
	Tier 3	457,471,011	0.33323	0.23888	-28%	(0.10)	2.83%	12,952,732	444,518,279
	Tier 4	677,029,294	0.35323	0.23888	-32%	(0.30)	3.24%	21,917,249	655,112,045
inter									
	Tier 1	1,562,553,827	0.15396	0.15469	0%	(0.10)	-0.05%	(740,884)	1,563,294,710
	Tier 2	282,330,795	0.17778	0.15469	-13%	(0.10)	1.30%	3,666,902	278,663,893
	Tier 3	405,933,950	0.29351	0.20110	-31%	(0.10)	3.15%	12,780,606	393,153,344
	Tier 4	442,921,195	0.31351	0.20110	-36%	(0.10)	3.59%	15,881,079	427,040,116
	1161 4						Total	37.510.285	0.67%

## SDG&E 2015-2017 Price Elasticity of Energy CARE

Energy (Tiers)		CARE (Schedule DRLI)  Determinants	Current Rate	Proposed Rate	Change in Price %	Price Elasticity of Demand (E <sub>d</sub> )	Estimated Change in	Estimated Change in annual kWh	Estimated New
		(kWh)	(\$/kWh)	(\$/kWh)		(dQ/Q ) (dP/P)	quantity %	(dP/P) x E <sub>d</sub> x Q	kWh Quantity
mmer									
71	er 1	433,534,801	0.10051	0.12480	24%	(0.10)	-2.42%	(10,477,393)	423,057,408
11	er 2	73,848,096	0.11762	0.12480	6%	(0.10)	-0.61%	(450,727)	73,397,369
	er3	98,315,652	0.17344	0.16501	-5%	(0.10)	0.49%	477,944	98,793,597
Ti	er4	94,883,848	0.17344	0.16501	-5%	(0.10)	0.49%	461,261	95,345,109
inter									
TI	er 1	500,461,047	0.10051	0.10361	3%	(0.10)	-0.31%	(1,540,672)	498,920,375
Ti	er2	69,585,502	0.11762	0.10361	-12%	(0.10)	1.19%	829,279	70,414,781
Ti	er3	85,636,691	0.16204	0.13745	-15%	(0.20)	1.52%	1,299,497	86,936,188
Τi	er4	63,549,330	0.16204	0.13745	-15%	(0.10)	1.52%	964,332	64,513,662
		1,419,814,967					Total	(8,436,478)	-0.59%

6,986,577,259 69865772.59 7,056,443,031

#### SDG&E 2015-2017 Price Elasticity of Energy - non CARE

Energy (Tiers)	Non-CARE (Schedule DR) Determinants	Current Rate	Proposed Rate	Change in Price	Price Elasticity of Demand (E <sub>d</sub> )	Estimated Change in	Estimated Change in annual kWh	Estimated New
	(kWh)	(\$/kWh)	(\$/kWh)	%	<u>(dQ/Q )</u> (dP/P)	quantity %	(dP/P) x E <sub>d</sub> x Q	kWh Quantity
mmer								
Tier	1 1,445,135,097	0.15396	0.18187	18%	(0.10)	-1.81%	(26,197,532)	1,471,332,629
Tier	2 293,387,123	0.17778	0.18187	2%	(0.10)	-0.23%	(674,965)	294,062,088
Tier	3 457,471,011	0.33323	0.23643	-29%	(0.10)	2.90%	13,289,078	444,181,933
Tier	4 677,029,294	0.35323	0.23643	-33%	(0.10)	3.31%	22,386,836	654,642,458
inter								
Tier	1 1,562,553,827	0.15396	0.15281	-1%	(0(10)	0:07%	1,167,145	1,561,386,682
Tier	2 282,330,795	0.17778	0.15281	-14%	(0.10)	1.40%	3,965,463	278,365,332
Tier	405,933,950	0.29351	0.19865	-32%	(0.10)	3.23%	13,119,449	392,814,501
Tier	4 442,921,195	0.31351	0.19865	-37%	(0.10)	3.66%	16,227,211	426,693,984
	5,566,762,291					Total	43,282,684	0.78%

#### SDG&F 2015-2017 Price Flasticity of Energy CARE

Energy (Tiers)	CARE (Schedule DRLI) Determinants (kWh)	Current Rate (\$/kWh)	Proposed Rate (\$/kWh)	Change in Price %	Price Elasticity of Demand (E <sub>d</sub> ) (dQ/Q) (dP/P)	Estimated Change in quantity %	Estimated Change in annual kWh (dP/P) x E <sub>d</sub> x Q	Estimated New kWh Quantity
ummer					47.4			
Tier1	433,534,801	0.10051	0.12342	23%	(0.10)	-2.28%	(9,882,768)	423,652,033
Tier 2	73,848,096	0.11762	0.12342	5%	10.10)	-0.49%	(364,174)	73,483,922
Tier3	98,315,652	0.17344	0.16322	-6%	(0.10)	0.59%	579,246	98,894,898
Tier 4	94,883,848	0.17344	0.16322	-6%	(0.10)	0.59%	559,027	95,442,875
/inter								
Tier 1	500,461,047	0.10051	0.10223	2%	(0.10)	-0.17%	(854,253)	499,606,795
Tier 2	69,585,502	0.11762	0.10223	-13%	(0.40)	1.31%	910,836	70,496,337
Tier 3	85,636,691	0.16204	0.13566	-16%	(6.10)	1.63%	1,393,942	87,030,633
Tier4	63,549,330	0.16204	0.13566	-16%	(0.40)	1.63%	1,034,418	64,583,748
	1,419,814,967					Total	(6,623,727)	-0.47%

#### 2015-2017 kWh

Total non-CARE annual kWh change over the three year period with SDG&E's current Baseline:

Total non-CARE annual kWh change over the three year period with SDG&E's proposed RDW Baseline: Total CARE annual kWh change over the three year period with SDG&E's proposed RDW Baseline:

	LUZD LUZ, KILL	
2015-2017 kWh Change	Total	<b>Total Percent Change</b>
75,020,571	5,566,762,291	1.35%
(16,872,956)	1,419,814,967	-1.19%
58,147,615	6,986,577,259	0.83%
86,565,369	5,566,762,291	1.56%
(13,247,454)	1,419,814,967	-0.93%
73,317,915	6,986,577,259	1.05%

Note: SDG&E is using its authorized sales from D.14-01-002. SDG&E did not apply its sales forecast to this response.

## SDG&E 2015-2017 Price Elasticity of Energy - non CARE

Energy (Tiers)	Non-CARE (Schedule DR)  Determinants	Current Rate	Proposed Rate	Change in Price	Price Elasticity of Demand (E <sub>d</sub> )	Estimated Change in	Estimated Change in annual kWh	Estimated New
	(kWh)	(\$/kWh)	(\$/kWh)	%	(dQ/Q ) (dP/P)	quantity %	(dP/P) x E <sub>d</sub> x Q	kWh Quantity
ımmer								
Tier	1 1,445,135,097	0.15396	0.18375	19%	(0.20)	-3.87%	(55,924,363)	1,501,059,460
Tier	2 293,387,123	0.17778	0.18375	3%	(0.20)	-0.67%	(1,970,437)	295,357,559
Tier	3 457,471,011	0.33323	0.23888	-28%	(0.20)	5.66%	25,905,465	431,565,546
Tier	4 677,029,294	0.35323	0.23888	-32%	(0.29)	5.47%	43,834,499	633,194,796
Vinter								
Tier	1 1,562,553,827	0.15396	0.15469	0%	(0.20)	-0.09%	(1,481,767)	1,564,035,594
Tier	2 282,330,795	0.17778	0.15469	-13%	(0.20)	2.60%	7,333,804	274,996,991
Tier	3 405,933,950	0.29351	0.20110	-31%	(0.20)	6.30%	25,561,212	380,372,738
Tier	4 442,921,195	0.31351	0.20110	-36%	(0.20)	7.17%	31,762,158	411,159,036
	5,566,762,291					Total	75,020,571	1.35%

## SDG&E 2015-2017 Price Elasticity of Energy CARE

Energy (Tiers	s)	CARE (Schedule DRLI)  Determinants	Current Rate	Proposed Rate	Change in Price %	Price Elasticity of Demand (E <sub>d</sub> )	Estimated Change in	Estimated Change in annual kWh	Estimated New
		(kWh)	(\$/kWh)	(\$/kWh)		(dQ/Q ) (dP/P)	quantity %	$(dP/P) \times E_d \times Q$	kWh Quantity
mmer									
	Tier 1	433,534,801	0.10051	0.12480	24%	(0.20)	-4.83%	(20,954,786)	412,580,015
	Tier 2	73,848,096	0.11762	0.12480	6%	(0.20)	-1.22%	(901,454)	72,946,643
	Tier 3	98,315,652	0.17344	0.16501	-5%	(0.20)	0.97%	955,889	99,271,541
	Tier 4	94,883,848	0.17344	0.16501	-5%	(0.20)	0.97%	922,523	95,806,371
linter									
linter	Tier 1	500,461,047	0.10051	0.10361	3%	(0.20)	-0.62%	(3,081,344)	497,379,703
/inter	Tier 1	500,461,047 69,585,502	0.10051 0.11762	0.10361 0.10361	3% -12%	(0.20)	-0.62% 2.38%	(3,081,344) 1,658,558	497,379,703 71,244,060
linter	-								
inter	Tier 2	69,585,502	0.11762	0.10361	-12%	(0.20)	2.38%	1,658,558	71,244,060

6,986,577,259 69865772.59 7,056,443,031

### SDG&F 2015-2017 Price Flasticity of Energy - non CARE

Energy (T	iers)	Non-CARE (Schedule DR) Determinants	Current Rate	Proposed Rate	Change in Price	Price Elasticity of Demand (E <sub>d</sub> )	Estimated Change in	Estimated Change in annual kWh	Estimated New
		(kWh)	(\$/kWh)	(\$/kWh)	%	(dQ/Q) (dP/P)	quantity %	(dP/P) x E <sub>d</sub> x Q	kWh Quantity
nmer									
	Tier 1	1,445,135,097	0.15396	0.18187	18%	(0.20)	-3.63%	(52,395,064)	1,497,530,161
	Tier 2	293,387,123	0.17778	0.18187	2%	(0.20)	-0.46%	(1,349,931)	294,737,053
	Tier 3	457,471,011	0.33323	0.23643	-29%	(0.20)	5.81%	26,578,156	430,892,855
	Tier 4	677,029,294	0.35323	0.23643	-33%	(0,20)	6.61%	44,773,672	632,255,622
nter									
	Tier 1	1,562,553,827	0.15396	0.15281	-1%	(0.26)	0.15%	2,334,291	1,560,219,536
	Tier 2	282,330,795	0.17778	0.15281	-14%	(8.20)	2.81%	7,930,926	274,399,869
	Tier 3	405,933,950	0.29351	0.19865	-32%	(0.20)	6.46%	26,238,898	379,695,052
	Tier4	442,921,195	0.31351	0.19865	-37%	(0.20)	7.33%	32,454,422	410,466,773
		5,566,762,291					Total	86,565,369	1.56%

### SDG&E 2015-2017 Price Elasticity of Energy CARE

Energy (Tiers)	CARE (Schedule DRLI)  Determinants	Current Rate	Proposed Rate	Change in Price %	Price Elasticity of Demand (E <sub>d</sub> )	Estimated Change in	Estimated Change in annual kWh	Estimated New
	(kWh)	(\$/kWh)	(\$/kWh)		(dQ/Q ) (dP/P)	quantity %	(dP/P) x E <sub>d</sub> x Q	kWh Quantity
mmer								
Tier:	433,534,801	0.10051	0.12342	23%	(0.20)	-4.56%	(19,765,536)	413,769,265
Tier:	73,848,096	0.11762	0.12342	5%	(0.29)	-0.99%	(728,348)	73,119,748
Tier.	98,315,652	0.17344	0.16322	-6%	(0.20)	1.18%	1,158,491	99,474,144
Tier	94,883,848	0.17344	0.16322	-6%	(0.20)	1.18%	1,118,053	96,001,901
inter								
Tier	500,461,047	0.10051	0.10223	2%	(0.20)	-0.34%	(1,708,505)	498,752,542
Tier :	69,585,502	0.11762	0.10223	-13%	(0.20)	2.62%	1,821,671	71,407,173
Tier:	85,636,691	0.16204	0.13566	-16%	(0.20)	3.26%	2,787,885	88,424,576
Tiera	63,549,330	0.16204	0.13566	-16%	(0.20)	3.26%	2,068,835	65,618,165
	1,419,814,967					Total	(13,247,454)	-0.93%

28,395,822

2015-2017 kWh

Total non-CARE annual kWh change over the three year period with SDG&E's current Baseline: Total CARE annual kWh change over the three year period with SDG&E's current Baseline:

2015-2017 kWh Change Total T 29,989,510 5,195,259,618 (6,743,676) 1,326,939,299 21,245,834 6,522,198,917 Total Percent Change 5,195,259,618 1,326,939,299 6,522,198,917 0.68% -0.53% 0.44% 35,433,263 (7,037,441)

Total non-CARE annual kWh change over the three year period with SDG&E's proposed RDW Baseline: Total CARE annual kWh change over the three year period with SDG&E's proposed RDW Baseline:

Note: SDG&E is using its authorized sales from D.14-01-002. SDG&E did not apply its sales forecast to this response.

#### SDG&E 2017 Price Elasticity of Energy - non CARE

Energy (Tier	s)	Non-CARE (Schedule DR) Determinants	Current Rate	Proposed Rate	Change in Price	Price Elasticity of Demand (E <sub>4</sub> )	Estimated Change	Estimated Change in annual	Estimated Nev
		(kWh)	(\$/kWh)	(\$/kWh)	%	(dQ/Q ) (dP/P)	in quantity %	(dP/P) x E <sub>4</sub> x Q	kWh Quantity
nmer									
	Tier 1	1,400,188,633	0.15396	0.18375	19%	(0.10)	-1.93%	(27,092,504)	1,427,281,137
	Tier 2	284,262,222	0.17778	0.18375	3%	(0.10)	-0.34%	(954,576)	285,216,798
	Tier 3	397,488,726	0.33323	0.23888	-28%	(0.10)	2.83%	11,254,407	386,234,318
	Tier 4	588,259,157	0.35323	0.23888	-32%	(0.10)	3.24%	19,043,523	569,215,635
inter				0.45.460	0%	(0,10)	-0.05%	(717,841)	1,514,673,257
inter	Tier 1	1,513,955,416	0.15396	0.15469	U26				1,314,013,231
linter	Tier 1 Tier 2	1,513,955,416 273,549,767	0.15396 0.17778	0.15469	-13%	(0.10)	1,30%	3,552,854	269,996,913
Vinter	100								
Vinter	Tier 2	273,549,767	0.17778	0.15469	-13%	(0.10)	1.30%	3,552,854	269,996,913

SDG&E 2017 Price Elasticity of Energy CARE

Energy (Tie	ers)	CARE (Schedule DRLI) Determinants (kWh)	Current Rate (\$/kWh)	Proposed Rate (\$/kWh)	Change in Price %	Price Elasticity of Demand (E <sub>d</sub> ) (dQ/Q) (dP/P)	Estimated Change in quantity %	Estimated Change in annual (dP/P) x E <sub>4</sub> x Q	Estimated New kWh Quantity
mmer									
	Tier 1	422,323,440	0.10051	0.12480	24%	(0.10)	-2.42%	(10,206,444)	412,116,996
	Tier 2	71,938,359	0.11762	0.12480	6%	(8.16)	-0.61%	(439,071)	71,499,288
	Tier 3	79,647,245	0.17344	0.16501	-5%	(0.10)	0.49%	387,191	80,034,436
	Tier 4	76,867,080	0.17344	0.16501	-5%	(0.10)	0.49%	373,676	77,240,756
inter									
	Jier 1	487,518,950	0.10051	0.10361	3%	(0.10)	-0.31%	(1,500,830)	486,018,121
	Tier 2	67,785,997	0.11762	0.10361	-12%	(8.19)	1.19%	807,833	68,593,830
	Tier 3	69,375,795	0.16204	0.13745	-15%	(0.10)	1.52%	1,052,746	70,428,540
		51,482,434	0.16204	0.13745	-15%	(0.10)	1.52%	781,222	52,263,656
	Tier 4	51,402,434							

#### SDG&E 2017 Price Elasticity of Energy - non CARE

Energy (Tiers)	Non-CARE (Schedule DR) Determinants (kWh)	Current Rate (\$/kWh)	Proposed Rate (\$/kWh)	Change in Price %	Price Elasticity of Demand (E <sub>a</sub> ) (dQ/Q) (dP/P)	Estimated Change in quantity%	Estimated Change in annual (dP/P) x E <sub>4</sub> x Q	Estimated New kWh Quantity
imer								
Tier	1,400,188,633	0.15396	0.18187	18%	(0.10)	-1.81%	(25,382,739)	1,425,571,372
Tier	284,262,222	0.17778	0.18187	2%		-0.23%	(653,973)	284,916,195
Tier	397,488,726	0.33323	0.23643	-29%	(0.10)	2.90%	11,546,652	385,942,073
Tier	4 588,259,157	0.35323	0.23643	-33%	(0.10)	3,31%	19,451,539	568,807,619
nter								
Tier	1,513,955,416	0.15396	0.15281	-1%	(0.10)	0.07%	1,130,845	1,512,824,571
	273,549,767	0.17778	0.15281	-14%	(0.10)	1.40%	3,842,129	269,707,638
Tier				1	60.000	3.23%	11,399,264	341,309,792
Tier Tier		0.29351	0.19865	-32%	(0.10)			341,303,132
	352,709,056	0.29351 0.31351	0.19865 0.19865	-32% -37%	(0.10)	3.66%	14,099,545	370,747,094

#### SDG&E 2017 Price Elasticity of Energy CARE

Energy (Ti	ers)	CARE (Schedule DRLI) Determinants (kWh)	Current Rate (\$/kWh)	Proposed Rate (\$/kWh)	Change in Price %	Price Elasticity of Demand (E <sub>e</sub> )  (dQ/Q) (dP/P)	Estimated Change in quantity %	Estimated Change in annual (dP/P) x E <sub>e</sub> x Q	Estimated New kWh Quantity
nmer									
	Tier 1	422,323,440	0.10051	0.12342	23%	(0:10)	-2.28%	(9,627,196)	412,696,244
	Tier 2	71,938,359	0.11762	0.12342	5%	(0.10)	-0.49%	(354,756)	71,583,602
	Tier 3	79,647,245	0.17344	0.16322	-6%	(0.10)	0.59%	469,257	80,116,502
	Tier 4	76,867,080	0.17344	0.16322	-6%	(0.10)	0.59%	452,877	77,319,957
inter		650,776,124							
mud	Tier 1	487,518,950	0.10051	0.10223	2%	(0.10)	0.17%	(832,161)	486,686,789
	Tier 2	67,785,997	0.11762	0.10223	-13%	(0.30)	1.31%	887,281	68,673,278
	Tier 3	69,375,795	0.16204	0.13566	-16%	(0.10)	1.63%	1,129,257	70,505,052
		51,482,434	0.16204	0.13566	-16%	(0.10)	1.63%	838,000	52,320,434
	Tier 4						Total	(7,037,441)	+0.36%

#### 2015-2017 kWh

Total non-CARE annual kWh change over the three year period with SDG&E's current Baseline: Total CARE annual kWh change over the three year period with SDG&E's current Baseline:

 2015-2017 kWh Change
 Total
 Total Percent Change

 46,235,601
 5,566,762,291
 0.83%

 (40,351,337)
 1,419,814,967
 -2.84%

 5,884,203
 6,986,577,259
 0.08%

Note: SDG&E is using its authorized sales from D.14-01-002. SDG&E did not apply its sales forecast to this response.

# SDG&E 2015-2017 Price Elasticity of Energy - non CARE (TOU example)

Energy (Tiers)	Non-CARE (Schedule DR) Determinants	Current Rate	Proposed Rate	Change in Price	Price Elasticity of Demand (E <sub>d</sub> )	Estimated Change in	Estimated Change in annual kWh	Estimated New
	(kWh)	(\$/kWh)	(\$/kWh)	%	<u>(dQ/Q )</u> (dP/P)	quantity %	(dP/P) x E <sub>d</sub> x Q	kWh Quantity
mmer								
On-peak	637,811,000	0.23190	0.27279	18%	(0.20)	-3.53%	(22,495,334)	660,306,335
Semi-peak	821,684,442	0.23190	0.22758	-2%	(0.26)	0.37%	3,058,375	818,626,067
Off-peak	1,413,527,082	0.23190	0.19682	-15%	(9.20)	3.03%	42,760,962	1,370,766,120
nter								
On-peak	317,861,292	0.20372	0.21351	5%	(0.20)	-0.96%	(3,054,943)	320,916,235
Semi-peak	985,908,755	0.20372	0.20196	-1%	(0.20)	0.17%	1,703,795	984,204,960
Off-peak	1,389,969,720	0.20372	0.18594	-9%	(0.20)	1.75%	24,262,746	1,365,706,974
	5,566,762,291					Total	46,235,601	0.83%

### SDG&E 2015-2017 Price Elasticity of Energy CARE (TOU example)

Energy (Tiers)	CARE (Schedule DRLI) Determinants (kWh)	Current Rate (\$/kWh)	Proposed Rate (\$/kWh)	Change in Price %	Price Elasticity of Demand (E <sub>d</sub> ) (dQ/Q ) (dP/P)	Estimated Change in quantity %	Estimated Change in annual kWh (dP/P) x E <sub>d</sub> x Q	Estimated New kWh Quantity
nmer					1			
On-peak	164,704,259	0.12243	0.19914	63%	(0:10)	-6.27%	(10,319,933)	154,384,326
Semi-peak	201,385,120	0.12243	0.16613	36%	(0.10)	-3.57%	(7,189,417)	194,195,702
Off-peak	353,143,192	0.12243	0.14368	17%	(0.10)	-1.74%	(6,130,030)	347,013,162
L								
nter On-peak	79,866,393	0.11493	0.15586	36%	(0.10)	-3.56%	(2,844,444)	77,021,949
Semi-peak	258,514,905	0.11493	0.14743	28%	(0.10)	-2.83%	(7,310,498)	251,204,407
Off-peak	362,201,099	0.11493	0.13574	18%	(0.10)	-1.81%	(6,557,075)	355,644,024
					of miles on E			
	1,419,814,967			ararana arang		Total	(40,351,397)	-2.84%