effective January 1, 2016	(U 902-M)	
electric revenue requirement	and base rates	į
COMPANY for authority to	update its gas and	į
Application of SAN DIEGO	GAS & ELECTRIC))

Application No. 14-11-___ Exhibit No.: (SDG&E-14-WP)

REDACTED PUBLIC VERSION

WORKPAPERS TO
PREPARED DIRECT TESTIMONY
OF BRADLEY M. BAUGH
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

REDACTED PAGE 61 of 472

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

NOVEMBER 2014



2016 General Rate Case - APP INDEX OF WORKPAPERS

Exhibit SDG&E-14-WP - CS - OPERATIONS, INFORMATION & TECHNOLOGIES

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Overall Summary For Exhibit No. SDG&E-14-WP

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Description
Non-Shared Services
Shared Services
Total

In 2013 \$ (000) Incurred Costs							
Adjusted-Recorded	Recorded Adjusted-Forecast						
2013	2014	2015	2016				
57,175	60,082	63,296	66,605				
976	979	979	979				
58,151	61,061	64,275	67,584				

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Summary of Non-Shared Services Workpapers:

Description

A. Customer Service Operations

B. Customer Service Information

Total

In 2013 \$ (000) Incurred Costs								
Adjusted- Recorded	Adjusted-Forecast							
2013	2014	2015	2016					
35,633	36,072	36,311	36,479					
21,542	24,010	26,985	30,126					
57,175	60,082	63,296	66,605					

In 2013\$ (000) Incurred Costs

Adjusted-Forecast

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Adjusted-Recorded

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Workpaper: VARIOUS

Summary for Category: A. Customer Service Operations

	Aujuotou Hooorucu		Adjustica i crocast	
	2013	2014	2015	2016
Labor	26,760	26,974	26,941	27,403
Non-Labor	4,444	4,472	4,845	4,734
NSE	4,431	4,627	4,526	4,343
Total	35,635	36,073	36,312	36,480
FTE	427.8	427.4	421.5	434.9
Workpapers belonging	to this Category:			
100000.000 Advance	ed Metering Ops			
Labor	7,556	8,480	8,738	8,090
Non-Labor	579	500	681	681
NSE	0	0	0	0
Total		8,980	9,419	8,771
FTE	94.8	103.8	105.3	100.4
100001.000 Meter Ro	eading			
Labor	0	0	0	0
Non-Labor	0	0	0	0
NSE	0	0	0	0
Total	0	0	0	0
FTE	0.0	0.0	0.0	0.0
100002.000 Billing				
Labor	4,768	4,828	5,032	5,508
Non-Labor	305	308	316	331
NSE	0	0	0	0
Total	5,073	5,136	5,348	5,839
FTE	69.8	70.8	73.8	79.8
100003.000 Credit &	Collections			
Labor	2,228	2,117	2,095	2,257
Non-Labor	481	539	565	592
NSE	0	0	0	0
Total	2,709	2,656	2,660	2,849
FTE	36.1	34.1	33.8	36.3
100004.000 Remitta	nce Processing			
Labor	0	0	0	0
Non-Labor	887	882	876	865
NSE	0	3	7	10
Total	887	885	883	875
FTE	0.0	0.0	0.0	0.0

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Workpaper: VARIOUS

	In 2013\$ (000) Incurred Costs							
	Adjusted-Recorded		Adjusted-Forecast					
	2013	2014	2015	2016				
100004.001 Postage								
Labor	0	0	0	0				
Non-Labor	0	0	0	0				
NSE	4,431	4,624	4,519	4,333				
Total	4,431	4,624	4,519	4,333				
FTE	0.0	0.0	0.0	0.0				
100005.000 Branch	Offices							
Labor	1,503	1,300	1,218	1,218				
Non-Labor	516	516	516	516				
NSE	0	0	0	0				
Total	2,019	1,816	1,734	1,734				
FTE	28.5	24.4	23.0	23.0				
100006.000 CCC Op	erations							
Labor	8,804	8,348	7,957	8,429				
Non-Labor	384	384	384	384				
NSE	0	0	0	0				
Total	9,188	8,732	8,341	8,813				
FTE	174.0	169.7	161.0	170.8				
100007.000 CCC Su	pport							
Labor	1,313	1,313	1,313	1,313				
Non-Labor	1,009	1,060	1,224	1,082				
NSE	0	0	0	0				
Total	2,322	2,373	2,537	2,395				
FTE	20.3	20.3	20.3	20.3				
100012.000 Other Of	ffice							
Labor	588	588	588	588				
Non-Labor	283	283	283	283				
NSE	0	0	0	0				
Total	871	871	871	871				
FTE	4.3	4.3	4.3	4.3				

Beginning of Workpaper
100000.000 - Advanced Metering Ops

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub 1. Advanced Metering

Workpaper: 100000.000 - Advanced Metering Ops

Activity Description:

AMO supports the delivery of customer services on premises, responds to customer inquiries, resolves customer problems, and supports providing accurate and timely bills for all of SDG&E's 2.26 million meters, covering all of San Diego County and South Orange County. There are five distinct areas in the organization including Electric Metering Operations (EMO), Smart Meter Data Operations (SMDO), Quality Assurance & Training, Smart Meter Technical Support (SMTS), and Meter and Network Engineering.

Forecast Explanations:

Labor - Zero-Based

A zero-based forecast method for labor and a base year forecast method for non-labor was used because Smart Meter is still early in its lifecycle, and therefore historical data representing the full scope of Smart Meter O&M order volumes and activity levels are limited. Furthermore, the manual meter reading function has been transitioned to AMO starting in year 2014 (related to hard-to-access meters, complex billing-related meters, etc.) and thus adds activities to AMO that were not present in base year 2013 and recent historical data. For all of these reasons, a zero-based forecasting methodology is deemed to be most appropriate.

Non-Labor - Base YR Rec

See above.

NSE - Base YR Rec

N/A

Summary of Results:

	In 2013\$ (000) Incurred Costs								
		Adjι	ısted-Recor	ded		Ad	Adjusted-Forecast		
Years	2009	2010	2011	2012	2013	2014	2015	2016	
Labor	4,681	5,070	4,870	7,311	7,556	8,480	8,738	8,090	
Non-Labor	606	513	552	843	579	500	681	681	
NSE	0	0	0	0	0	0	0	0	
Total	5,287	5,584	5,422	8,154	8,134	8,980	9,419	8,771	
FTE	56.2	60.9	57.7	90.9	94.8	103.8	105.3	100.4	

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 1. Advanced Metering

Workpaper: 100000.000 - Advanced Metering Ops

Forecast Summary:

In 2013 \$(000) Incurred Costs										
Forecas	t Method	Base Forecast		st	Forecast Adjustments			Adjusted-Forecast		
Years	s	2014	2015	2016	16 2014 2015 2016			2014	2015	2016
Labor	Zero-Based	0	0	0	8,480	8,738	8,090	8,480	8,738	8,090
Non-Labor	Base YR Rec	579	579	579	-79	102	102	500	681	681
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Tota	ıl	579	579	579	8,401	8,840	8,192	8,980	9,419	8,771
FTE	Zero-Based	0.0	0.0	0.0	103.8	105.3	100.4	103.8	105.3	100.4

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>Total</u>	<u>FTE</u>	Adj Type				
2014	544	0	0	544	8.5	1-Sided Adj				
•	emaining manual ② annual rate of \$	•			• .					
2014	2,255	0	0	2,255	26.2	1-Sided Adj				
portion of a	Field employees handling meter maintenance/testing/compliance work orders (including field portion of apprentice) 26.2 FTEs @ average annual rate of \$86k handling approximately 20,000 O&M orders									
2014	185	0	0	185	2.8	1-Sided Adj				
Apprentice	Class - 2.8 FTEs	Classroom po	ortion @ av	erage annual	rate of \$66	Sk				
2014	279	0	0	279	3.0	1-Sided Adj				
Instrument	Technicians 3 F	TEs @ averag	je annual ra	ate of \$93k						
2014	290	0	0	290	4.2	1-Sided Adj				
Meter Sho	p including team I	ead 4.2 FTEs	at average	annual rate o	of \$69k					
2014	4,533	0	0	4,533	55.3	1-Sided Adj				
Supporting	management 55	5.3 FTES @ av	verage ann	ual rate of \$8	2k					
2014	103	0	0	103	2.0	1-Sided Adj				
Supporting	clerical & technic	cal 2 FTES @	average a	nnual rate of	\$51.5k					
2014	430	0	0	430	3.1	1-Sided Adj				
Overtime 3	3.1 Electric Meter	Tester regula	r average a	nnual rate of	\$92.5k @ 1	time and a half				

Overtime 3.1 Electric Meter Tester regular average annual rate of \$92.5k @ time and a hal (more work orders than available field employees).

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 1. Advanced Metering

Workpaper: 100000.000 - Advanced Metering Ops

Year/Expl.	<u>Labor</u>	NLbr NS	<u>SE</u>	<u>Total</u>	FTE A	<u>dj Type</u>		
2014	-64	0	0	-64	-0.5	1-Sided Adj		
Cost Efficiency 0.46 FTE Electric Meter Tester regular average annual rate of \$92.5k @ time and a half (more work orders than available field employees).								
2014	-75	0	0	-75	-0.8	1-Sided Adj		
SMOC - EM Capital Project #13031 - benefit				.75 management FTE (Q2-Q4).				
2014	0	-79	0	-79	0.0	1-Sided Adj		

Adjustment for one time non-recurring cost for contract / temp labor.

201	14 Total	8,480	-79	0	8,401	103.8			
201	15	301	0	0	301	4.7	1-Sided Adj		
	Handling remain 4.7 FTEs @ ann	•	•			_			
201	15	2,522	0	0	2,522	29.8	1-Sided Adj		
	Field employees handling meter maintenance/testing/compliance work orders (including field portion of apprentice) 29.8 FTEs @ average annual rate of \$84.63k handling approximately 23,000 O&M orders								
201	15	277	0	0	277	4.2	1-Sided Adj		
	Apprentice Clas	s 4.2 FTEs cla	ssroom portio	n @ avei	rage annual ra	te of \$66	šk		
201	15	279	0	0	279	3.0	1-Sided Adj		
	Instrument Tech	nnicians 3 FTEs	@ average a	nnual rate	e of \$93k				
201	15	290	0	0	290	4.2	1-Sided Adj		
	Meter Shop incl	uding team lead	4.2 FTEs at	average	annual rate of	\$69k			
201	15	4,516	0	0	4,516	54.2	1-Sided Adj		
	Supporting management 54.2 FTES @ average annual rate of \$83.32k								
201	15	100	0	0	100	1.0	1-Sided Adj		
	Principal Engineer to develop and manage repeatable process to test hardware and firmware releases.								

Note: Totals may include rounding differences.

Sr Engineer AD3 \$100k

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 1. Advanced Metering

Workpaper: 100000.000 - Advanced Metering Ops

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE A	dj Type
2015	103	0	0	103	2.0	1-Sided Adj
Supporting	clerical & techni	cal 2 FTES	@ average a	nnual rate of	\$51.5k	
2015	514	0	0	514	3.7	1-Sided Adj
	3.7 Electric Meter orders than ava			annual rate of	*\$92.5k @ 1	time and a half
2015	-64	0	0	-64	-0.5	1-Sided Adj
	ncy - Overtime s time and a half.	avings 0.46	Electric Mete	r Tester aver	age regular	annual rate of
2015	-100	0	0	-100	-1.0	1-Sided Adj
SMOC - EI	M Capital Projec	t#13031 - b	enefit reducti	on of 1 Mgm	t FTE.	
2015	0	-79	0	-79	0.0	1-Sided Adj
Adjustment	for one time nor	n-recurring c	ost for contra	ct / temp labo	or.	
2015	0	22	0	22	0.0	1-Sided Adj
Extended w		t meter netw	ork devices	\$110k coveri	ng 5-year p	eriod 2015-2019
2015	0	159	0	159	0.0	1-Sided Adj
Annual Sof	tware and servic	e fees				
2015 Total	8,738	102	0	8,840	105.3	
2016	209	0	0	209	3.3	1-Sided Adj
3.27 FTEs (See AMO 1	emaining manual @ annual rate of OO000.000 Sup ast to the 2013 A	f \$64K handl plemental W	ing approximation in the interest of the inter	ately 17,000 or a reconcilia	read/verify ation of the	
2016	2,864	0	0	2,864	35.0	1-Sided Adj

Field employees handling meter maintenance/testing/compliance work orders (including field portion of apprentice)

35 FTEs @ average annual rate of \$81.82K handling approximately 23,000 O&M orders. See AMO 100000.000 Supplemental Workpaper 1 for a reconciliation of the AMO zero-based labor forecast to the 2013 Adjusted Recorded. (Reference cell D27)

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area: Witness: Bradley M. Baugh A. Customer Service Operations Category: 1. Advanced Metering Category-Sub: 100000.000 - Advanced Metering Ops Workpaper: Year/Expl. **NLbr** NSE Total FTE Adj Type Labor 2016 26 0 0 26 1-Sided Adi Apprentice Class 0.4 FTEs classroom portion @ average annual rate of \$66K. See AMO 100000.000 Supplemental Workpaper 1 for a reconciliation of the AMO zero-based labor forecast to the 2013 Adjusted Recorded. (Reference cell D28) 2016 279 279 3.0 1-Sided Adj Instrument Technicians 3 FTEs @ average annual rate of \$93K. See AMO 100000.000 Supplemental Workpaper 1 for a reconciliation of the AMO zero-based labor forecast to the 2013 Adjusted Recorded. (Reference cell D31) 2016 290 290 4.2 1-Sided Adj Meter Shop including team lead 4.2 FTEs at average annual rate of \$69K. See AMO 100000.000 Supplemental Workpaper 1 for a reconciliation of the AMO zero-based labor forecast to the 2013 Adjusted Recorded. (Reference cell D29) 2016 4,568 4,568 55.0 1-Sided Adj Supporting management 55 FTEs @ average annual rate of \$83.06K. See AMO 100000.000 Supplemental Workpaper 1 for a reconciliation of the AMO zero-based labor forecast to the 2013 Adjusted Recorded. (Reference cell D25) 2016 100 100 1.0 1-Sided Adj Principal Engineer to develop and manage repeatable process to test hardware and firmware releases. Prin. Engineer annual salary \$100K. See AMO 100000.000 Supplemental Workpaper 1 for a reconciliation of the AMO zero-based labor forecast to the 2013 Adjusted Recorded. (Reference cell D22) 2016 103 103 2.0 1-Sided Adj Supporting clerical & technical 2 FTEs @ average annual rate of \$51.5K. See AMO 100000.000 Supplemental Workpaper 1 for a reconciliation of the AMO zero-based labor forecast to the 2013 Adjusted Recorded. (Reference cell D32) 2016 -64 -64 -0.5 1-Sided Adj Process improvements reduce duplicate field visits - Overtime savings -.46 FTE Electric Meter Tester regular annual rate of \$92.5K @ time and a half. See AMO 100000.000 Supplemental Workpaper 1 for a reconciliation of the AMO zero-based labor forecast to the 2013 Adjusted Recorded. (Reference cell D23) 2016 -185 0 -185 -2.0 1-Sided Adj

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 1. Advanced Metering

Workpaper: 100000.000 - Advanced Metering Ops

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE A	<u>dj Type</u>
See AM	improvements - o O 100000.000 S recast to the 2013	upplemental Wo	orkpaper 1 f	or a reconciliat	ion of the	n of 2 field FTEs. AMO zero-based
2016	-100	0	0	-100	-1.0	1-Sided Adj
See AM	- EM Project # 13 O 100000.000 S recast to the 2013	upplemental Wo	orkpaper 1 f	or a reconciliat	ion of the	AMO zero-based
2016	0	22	0	22	0.0	1-Sided Adj
	ed warrenty for sm \$110K = \$22K	art meter netwo	ork devices	\$110k coverinç	g 5-year p	eriod 2015-2019
2016	0	-79	0	-79	0.0	1-Sided Adj
Adjustm	ent for one time n	on-recurring co	st for contra	ct / temp labor.		
2016	0	159	0	159	0.0	1-Sided Adj

Annual software maintenance and service fees as a result of the implementation of the software solution for the Smart Meter Operations Center (SMOC) – Exception Management (EM) capital project #13031.

2016 Total 8,090 102 0 8,192 100.4

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 1. Advanced Metering

Workpaper: 100000.000 - Advanced Metering Ops

Determination of Adjusted-Recorded (Incurred Costs):

termination of Aujustea	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
ecorded (Nominal \$)*					
Labor	3,734	4,113	4,178	6,448	6,599
Non-Labor	1,188	1,188	1,214	825	579
NSE	0	0	0	0	0
Total	4,922	5,301	5,392	7,273	7,178
FTE	48.2	51.9	50.4	80.2	81.4
djustments (Nominal \$) **					
Labor	0	0	-100	-197	-78
Non-Labor	-639	-713	-683	4	0
NSE	0	0	0	0	0
Total	-639	-713	-783	-192	-78
FTE	0.0	0.0	-0.8	-2.0	-0.8
ecorded-Adjusted (Nomin	al \$)				
Labor	3,734	4,113	4,078	6,251	6,521
Non-Labor	548	475	532	830	579
NSE	0	0	0	0	0
Total	4,283	4,588	4,609	7,081	7,100
FTE	48.2	51.9	49.6	78.2	80.6
acation & Sick (Nominal \$	5)				
Labor	577	655	601	906	1,034
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	577	655	601	906	1,034
FTE	8.1	9.0	8.1	12.6	14.1
scalation to 2013\$					
Labor	370	302	191	154	0
Non-Labor	58	38	21	13	0
NSE	0	0	0	0	0
Total	428	341	212	167	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Consta	ant 2013\$)				
Labor	4,681	5,070	4,870	7,311	7,556
Non-Labor	606	513	552	843	579
NSE	0	0	0	0	0
Total	5,287	5,584	5,422	8,154	8,134
FTE	56.3	60.9	57.7	90.8	94.7

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 1. Advanced Metering

Workpaper: 100000.000 - Advanced Metering Ops

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs											
Years	2009	2010	2011	2012	2013						
Labor	0	0	-100	-197	-78						
Non-Labor	-639	-713	-683	4	0						
NSE	0	0	0	0	0						
Total	-639	-713	-783	-192	-78						
FTE	0.0	0.0	-0.8	-2.0	-0.8						

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	RefID		
2009	0	-502	0	0.0 CC	TR Transf	To 2100-3106.000	CSCHRAMM2013 1025164552620		
Transfer 200 Group 1000 2100-3106 (I	1920101002020								
2009	0	-48	0	0.0 CC	TR Transf	To 2100-3501.000	CSCHRAMM2013 1107090718830		
2100-0042 ir	Transfer costs associated with Itron maintenance for MV-90 system, from cost center 2100-0042 in work group 100000 Advanced Meter Operations to USS cost center 2100-3501.000 IT Network Hardware Software Maintenance to align costs where activity								
2009	0	-89	0	0.0 CC	CTR Transf	To 2100-3440.000	CSCHRAMM2013 1107092342123		
2100-0042 ir	Transfer costs associated with Kwickview license & maintenance from cost center 2100-0042 in work group 100000 Advanced Meter Operations to cost center 2100-3440 in work group 100011 Customer Programs & Projects to align costs where activity								
2009 Total	0	-639	0	0.0					
2010	0	-568	0	0.0 CC	CTR Transf	To 2100-3106.000	CSCHRAMM2013 1025164738520		

Note: Totals may include rounding differences.

2100-3106 (NETWORK/TELECOM SERVICES - SDG&E).

Transfer 2010 telemetry non-labor expenses from Advanced Meter Operations - Work Group 100000.000 cost center 2100-0042 to Information Technology USS cost center

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 1. Advanced Metering

Workpaper: 100000.000 - Advanced Metering Ops

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	RefID
2010	0	-50	0	0.0	CCTR Transf	To 2100-3501.000	CSCHRAMM2013 1107090811827
2100-0042	in work group	100000 Ad	vanced N	leter Op	erations to US	rom cost center S cost center osts where activity	1101030011021
2010	0	-94	0	0.0	CCTR Transf	To 2100-3440.000	CSCHRAMM2013
2100-0042	in work group	100000 Ad	vanced N	leter Op	nintenance from perations to cos to align costs v	st center 2100-3440	1107092439103
2010 Total	0	-713	0	0.0			
2011	0	-588	0	0.0	CCTR Transf	To 2100-3106.000	CSCHRAMM2013 1025164818390
Group 100	•	center 2100-	-0042 to	Informat	tion Technology	perations - Work USS cost center	1020101010000
2011	0	-94	0	0.0	CCTR Transf	To 2100-3440.000	CSCHRAMM2013 1107092542680
2100-0042	in work group	100000 Ad	vanced N	leter Op	nintenance from perations to cos to align costs v	st center 2100-3440	1101032542500
2011	-100	0	0	-0.8	CCTR Transf	To 2100-3703.000	CSCHRAMM2013
group 100		d Meter Oper	ations to	cost cer	nter 2100-3703	2100-3780 in work in work group	1107092739560
2011 Total	-100	-683	0	-0.8			
2012	-113	0	0	-0.8	CCTR Transf	To 2100-3703.000	CSCHRAMM2013 1107092826583
	000 Advance	-	ations to	cost cer	nter 2100-3703	2100-3780 in work in work group	

Note: Totals may include rounding differences.

100008 Residential Services to align costs where function resides.

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 1. Advanced Metering

Workpaper: 100000.000 - Advanced Metering Ops

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	FTE	Adj Type	From CCtr	<u>RefID</u>
2012	-82	0	0	-1.3	CCTR Transf	To 2100-3753.000	CSCHRAMM2013 1107092955363
group 100 1FC004.00	0000 Advanced	2100-3547 in work in work group the workgroup in	110109293300				
2012	-2	4	0	0.1	1-Sided Adj	N/A	CSCHRAMM2014 0418144019373
	•				n Meter Reading n work paper gr	g functions in work oup 100000.	0410144013313
2012 Total	-197	4	0	-2.0			
2013	-54	0	0		CCTR Transf	To 2100-3753.000	CSCHRAMM2014 0211164720143
group 10C 1FC004.00	0000 Advanced	Meter Oper Support in or	ations to	cost ce	nter 2100-3753	2100-3547 in work in work group the workgroup in	
2013	-30	0	0	0.0	1-Sided Adj	N/A	CSCHRAMM2014
Remove or	ne-time costs a	ssociated w	ith severa	ance pa	yment.		0211165152337
2013	6	0	0	0.0	1-Sided Adj	N/A	CSCHRAMM2014 0418144200713
	•				n Meter Reading n work paper gr	g functions in work oup 100000.	
2013 Total	-78	0	0	-0.8			

Supplemental Workpapers for Workpaper 100000.000

AMO 100000.000 Supplemental Workpaper 1 - Reconciliation TY2016 Zero-Based Labor Forecast to 2013 Adjusted Recorded

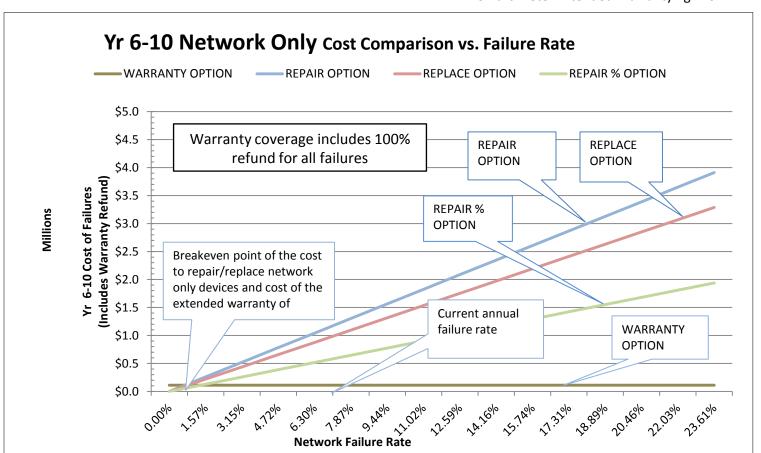
	Λ	Г	В	С	D	ΙE	F	G
1	<u>A</u>	\vdash	D	2013 (Г	G
2		\vdash_{T}	abor	Non-Labor		FTE		
3	2013 Adj Rec		7.556	\$ 579		94.8		
4	TY 2016 Forecast	\$	8,090			100.4		
5	Incr/(Decr) from 2013 to 2016	\$	535		. ,	5.8		
0		Ψ		Ψ 102	Ψ 001	3.0		
	As shown in the Prepared Direct Testimony of			TY 2016	Impact			
7	Mr. Brad Baugh Ex. SDGE-14 Table 6			11 2010	ппрасс			
8	Smart Meter Extended Warranty			\$22	\$22			
9	Testing Hardware/Firmware Releases (reference cell D22)		\$100		\$100	1.0		
	Process Improvements – duplicate field visits (reference cell D23)		(\$64)		(\$64)			
	Process Improvements – coaching/training to improve performance (reference cell D24)		(\$185)		(\$185)			
	Process Improvements – redistributing workload (reference cell D25)		(\$195)		(\$195)	\ /		
	Meter Reading (reference cell D26)		\$117		\$117	1.8		
	Resumption of Field Compliance and Other Maintenance Work (reference: sum of cells D27 through D29)		\$862		\$862	8.5		
	Non-Labor Adjustment			(\$79)	(\$79)			
16	Capital Project Impacts – SMOC-EM Capital Project #13031 labor savings (reference cell D30)		(\$100)		(\$100)	(1.0)		
17	Capital Project Impacts – SMOC-EM Capital Project #13031 annual software maintenance and service fees			\$159	\$159			
18			\$535	\$102	\$637	5.8		
19								
				0040 (0000)			ETE -	
20				2013 (\$000)	1		FTEs	
20			7 2016	2013 Adj.		TY 2016	2013 Adj.	
20	Zero Base Labor Forecast Adjustments as shown in		/ 2016 .abor	· · · · · · · · ·	Change	TY 2016 FTE		Change
20	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers	L		2013 Adj.			2013 Adj.	Change
	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers	L	.abor	2013 Adj. Recorded		FTE	2013 Adj. Recorded	Change
21	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers Principal Engineer to develop and manage repeatable process to test hardware and firmware releases. Sr Engineer AD3 \$100k	L	.abor	2013 Adj. Recorded		FTE	2013 Adj. Recorded	Change
21	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers Principal Engineer to develop and manage repeatable process to test hardware and firmware releases. Sr Engineer AD3 \$100k Process improvements reduce duplicate field visits - Overtime savings46 FTE Electric Meter Tester regular	L	abor	2013 Adj. Recorded Labor	Change	FTE Forecast	2013 Adj. Recorded	
21 22 23	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers Principal Engineer to develop and manage repeatable process to test hardware and firmware releases. Sr Engineer AD3 \$100k Process improvements reduce duplicate field visits - Overtime savings46 FTE Electric Meter Tester regular annual rate of \$92.5K @ time and a half.	L	\$100 (\$64)	2013 Adj. Recorded Labor	\$100 (\$64	FTE Forecast	2013 Adj. Recorded FTE	1.0
21 22 23 24	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers Principal Engineer to develop and manage repeatable process to test hardware and firmware releases. Sr Engineer AD3 \$100k Process improvements reduce duplicate field visits - Overtime savings46 FTE Electric Meter Tester regular annual rate of \$92.5K @ time and a half. Process improvements - coaching/training to improve performance. Reduction of 2 field FTEs.	Fo	\$100 (\$64) (\$185)	2013 Adj. Recorded Labor \$0 \$0	\$100 (\$64 (\$185	1.0 (0.5) (2.0)	2013 Adj. Recorded FTE	1.0 (0.5) (2.0)
21 22 23 24	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers Principal Engineer to develop and manage repeatable process to test hardware and firmware releases. Sr Engineer AD3 \$100k Process improvements reduce duplicate field visits - Overtime savings46 FTE Electric Meter Tester regular annual rate of \$92.5K @ time and a half. Process improvements - coaching/training to improve performance. Reduction of 2 field FTEs. Supporting management 55 FTEs @ average annual rate of \$83.06K.	Fo	\$100 (\$64)	2013 Adj. Recorded Labor	\$100 (\$64	1.0 (0.5) (2.0)	2013 Adj. Recorded FTE	1.0
21 22 23 24 25	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers Principal Engineer to develop and manage repeatable process to test hardware and firmware releases. Sr Engineer AD3 \$100k Process improvements reduce duplicate field visits - Overtime savings46 FTE Electric Meter Tester regular annual rate of \$92.5K @ time and a half. Process improvements - coaching/training to improve performance. Reduction of 2 field FTEs. Supporting management 55 FTEs @ average annual rate of \$83.06K. Handling remaining manual meter reading after closure of Meter Reading Department. 3.27 FTEs @ annual	Fo	\$100 (\$64) (\$185) \$4,568	2013 Adj. Recorded Labor \$0 \$0 \$0 \$4,763	\$100 (\$64 (\$185 (\$195	1.0 (0.5) (2.0) 55.0	2013 Adj. Recorded FTE 57.0	1.0 (0.5) (2.0) (2.0)
21 22 23 24 25	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers Principal Engineer to develop and manage repeatable process to test hardware and firmware releases. Sr Engineer AD3 \$100k Process improvements reduce duplicate field visits - Overtime savings46 FTE Electric Meter Tester regular annual rate of \$92.5K @ time and a half. Process improvements - coaching/training to improve performance. Reduction of 2 field FTEs. Supporting management 55 FTEs @ average annual rate of \$83.06K.	Fo	\$100 (\$64) (\$185)	2013 Adj. Recorded Labor \$0 \$0	\$100 (\$64 (\$185	1.0 (0.5) (2.0)	2013 Adj. Recorded FTE	1.0 (0.5) (2.0)
21 22 23 24 25	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers Principal Engineer to develop and manage repeatable process to test hardware and firmware releases. Sr Engineer AD3 \$100k Process improvements reduce duplicate field visits - Overtime savings46 FTE Electric Meter Tester regular annual rate of \$92.5K @ time and a half. Process improvements - coaching/training to improve performance. Reduction of 2 field FTEs. Supporting management 55 FTEs @ average annual rate of \$83.06K. Handling remaining manual meter reading after closure of Meter Reading Department. 3.27 FTEs @ annual rate of \$64k handling approximately 17,000 read/verify orders annually	Fo	\$100 (\$64) (\$185) \$4,568	2013 Adj. Recorded Labor \$0 \$0 \$0 \$4,763	\$100 (\$64 (\$185 (\$195	1.0 (0.5) (2.0) 55.0	2013 Adj. Recorded FTE 57.0	1.0 (0.5) (2.0) (2.0)
21 22 23 24 25 26	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers Principal Engineer to develop and manage repeatable process to test hardware and firmware releases. Sr Engineer AD3 \$100k Process improvements reduce duplicate field visits - Overtime savings46 FTE Electric Meter Tester regular annual rate of \$92.5K @ time and a half. Process improvements - coaching/training to improve performance. Reduction of 2 field FTEs. Supporting management 55 FTEs @ average annual rate of \$83.06K. Handling remaining manual meter reading after closure of Meter Reading Department. 3.27 FTEs @ annual rate of \$64k handling approximately 17,000 read/verify orders annually Field employees handling meter maintenance/testing/compliance work orders (including field portion of	L Fo	\$100 (\$64) (\$185) \$4,568 \$209	2013 Adj. Recorded Labor \$0 \$0 \$0 \$4,763	\$100 (\$64 (\$185 (\$195	1.0 (0.5) (2.0) 55.0	2013 Adj. Recorded FTE 57.0	1.0 (0.5) (2.0) (2.0)
21 22 23 24 25 26	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers Principal Engineer to develop and manage repeatable process to test hardware and firmware releases. Sr Engineer AD3 \$100k Process improvements reduce duplicate field visits - Overtime savings46 FTE Electric Meter Tester regular annual rate of \$92.5K @ time and a half. Process improvements - coaching/training to improve performance. Reduction of 2 field FTEs. Supporting management 55 FTEs @ average annual rate of \$83.06K. Handling remaining manual meter reading after closure of Meter Reading Department. 3.27 FTEs @ annual rate of \$64k handling approximately 17,000 read/verify orders annually Field employees handling meter maintenance/testing/compliance work orders (including field portion of apprentice) 35 FTEs @ average annual rate of \$81.8K handling approximately 23,000 O&M orders.	L Fo	\$100 (\$64) (\$185) \$4,568 \$209	2013 Adj. Recorded Labor \$0 \$0 \$4,763 \$92 \$2,225	\$100 (\$64 (\$185 (\$195 \$117	1.0 (0.5) (2.0) 55.0 3.3	2013 Adj. Recorded FTE 57.0 1.6	1.0 (0.5) (2.0) (2.0)
21 22 23 24 25 26 27 28	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers Principal Engineer to develop and manage repeatable process to test hardware and firmware releases. Sr Engineer AD3 \$100k Process improvements reduce duplicate field visits - Overtime savings46 FTE Electric Meter Tester regular annual rate of \$92.5K @ time and a half. Process improvements - coaching/training to improve performance. Reduction of 2 field FTEs. Supporting management 55 FTEs @ average annual rate of \$83.06K. Handling remaining manual meter reading after closure of Meter Reading Department. 3.27 FTEs @ annual rate of \$64k handling approximately 17,000 read/verify orders annually Field employees handling meter maintenance/testing/compliance work orders (including field portion of apprentice) 35 FTEs @ average annual rate of \$81.8K handling approximately 23,000 O&M orders. Apprentice Class 0.4 FTEs classroom portion @ average annual rate of \$66K.	L Fo	\$100 (\$64) (\$185) \$4,568 \$209 \$2,864 \$26	2013 Adj. Recorded Labor \$0 \$0 \$4,763 \$92 \$2,225 \$24	\$100 (\$64 (\$185 (\$195 \$117 \$639	1.0 (0.5) (2.0) 55.0 3.3 35.0 0.4	2013 Adj. Recorded FTE 57.0 1.6 30.0 0.4	1.0 (0.5) (2.0) (2.0) 1.8
21 22 23 24 25 26 27 28 29	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers Principal Engineer to develop and manage repeatable process to test hardware and firmware releases. Sr Engineer AD3 \$100k Process improvements reduce duplicate field visits - Overtime savings46 FTE Electric Meter Tester regular annual rate of \$92.5K @ time and a half. Process improvements - coaching/training to improve performance. Reduction of 2 field FTEs. Supporting management 55 FTEs @ average annual rate of \$83.06K. Handling remaining manual meter reading after closure of Meter Reading Department. 3.27 FTEs @ annual rate of \$64k handling approximately 17,000 read/verify orders annually Field employees handling meter maintenance/testing/compliance work orders (including field portion of apprentice) 35 FTEs @ average annual rate of \$81.8K handling approximately 23,000 O&M orders. Apprentice Class 0.4 FTEs classroom portion @ average annual rate of \$66K. Meter Shop including team lead 4.2 FTEs at average annual rate of \$66K.	L Fo	\$100 (\$64) (\$185) \$4,568 \$209 \$2,864 \$26 \$290	2013 Adj. Recorded Labor \$0 \$0 \$4,763 \$92 \$2,225 \$24 \$69	\$100 (\$64 (\$185 (\$195) \$117 \$639 \$2 \$221	1.0 (0.5) (2.0) 55.0 3.3 35.0 0.4 4.2	2013 Adj. Recorded FTE 57.0 1.6 30.0 0.4 0.8	1.0 (0.5) (2.0) (2.0) 1.8 5.0
21 22 23 24 25 26 27 28 29 30	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers Principal Engineer to develop and manage repeatable process to test hardware and firmware releases. Sr Engineer AD3 \$100k Process improvements reduce duplicate field visits - Overtime savings46 FTE Electric Meter Tester regular annual rate of \$92.5K @ time and a half. Process improvements - coaching/training to improve performance. Reduction of 2 field FTEs. Supporting management 55 FTEs @ average annual rate of \$83.06K. Handling remaining manual meter reading after closure of Meter Reading Department. 3.27 FTEs @ annual rate of \$64k handling approximately 17,000 read/verify orders annually Field employees handling meter maintenance/testing/compliance work orders (including field portion of apprentice) 35 FTEs @ average annual rate of \$81.8K handling approximately 23,000 O&M orders. Apprentice Class 0.4 FTEs classroom portion @ average annual rate of \$66K. Meter Shop including team lead 4.2 FTEs at average annual rate of \$69K. SMOC - EM Project # 13031 benefit Reduction of 1 management FTE	L Fo	\$100 (\$64) (\$185) \$4,568 \$209 \$2,864 \$26 \$290 (\$100)	2013 Adj. Recorded Labor \$0 \$0 \$0 \$4,763 \$92 \$2,225 \$24 \$69 \$0	\$100 (\$64 (\$185 (\$195 \$117 \$639 \$2 \$221 (\$100	FTE Forecast 1.0 (0.5) (2.0) 55.0 3.3 35.0 0.4 4.2 (1.0)	2013 Adj. Recorded FTE 57.0 1.6 30.0 0.4 0.8 -	1.0 (0.5) (2.0) (2.0) 1.8 5.0 - 3.5 (1.0)
21 22 23 24 25 26 27 28 29 30 31	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers Principal Engineer to develop and manage repeatable process to test hardware and firmware releases. Sr Engineer AD3 \$100k Process improvements reduce duplicate field visits - Overtime savings46 FTE Electric Meter Tester regular annual rate of \$92.5K @ time and a half. Process improvements - coaching/training to improve performance. Reduction of 2 field FTEs. Supporting management 55 FTEs @ average annual rate of \$83.06K. Handling remaining manual meter reading after closure of Meter Reading Department. 3.27 FTEs @ annual rate of \$64k handling approximately 17,000 read/verify orders annually Field employees handling meter maintenance/testing/compliance work orders (including field portion of apprentice) 35 FTEs @ average annual rate of \$81.8K handling approximately 23,000 O&M orders. Apprentice Class 0.4 FTEs classroom portion @ average annual rate of \$66K. Meter Shop including team lead 4.2 FTEs at average annual rate of \$69K. SMOC - EM Project # 13031 benefit Reduction of 1 management FTE Instrument Technicians 3 FTEs @ average annual rate of \$93K.	L Fo	\$100 (\$64) (\$185) \$4,568 \$209 \$2,864 \$26 \$290 (\$100) \$279	2013 Adj. Recorded Labor \$0 \$0 \$0 \$4,763 \$92 \$2,225 \$24 \$69 \$0 \$279	\$100 (\$64 (\$185 (\$195 \$117 \$639 \$2 \$221 (\$100	FTE Forecast 1.0 (0.5) (2.0) 55.0 3.3 35.0 0.4 4.2 (1.0) 3.0	2013 Adj. Recorded FTE 57.0 1.6 30.0 0.4 0.8 - 3.0	1.0 (0.5) (2.0) (2.0) 1.8 5.0 - 3.5 (1.0)
21 22 23 24 25 26 27 28 29 30 31	Zero Base Labor Forecast Adjustments as shown in AMO 100000.000 Workpapers Principal Engineer to develop and manage repeatable process to test hardware and firmware releases. Sr Engineer AD3 \$100k Process improvements reduce duplicate field visits - Overtime savings46 FTE Electric Meter Tester regular annual rate of \$92.5K @ time and a half. Process improvements - coaching/training to improve performance. Reduction of 2 field FTEs. Supporting management 55 FTEs @ average annual rate of \$83.06K. Handling remaining manual meter reading after closure of Meter Reading Department. 3.27 FTEs @ annual rate of \$64k handling approximately 17,000 read/verify orders annually Field employees handling meter maintenance/testing/compliance work orders (including field portion of apprentice) 35 FTEs @ average annual rate of \$81.8K handling approximately 23,000 O&M orders. Apprentice Class 0.4 FTEs classroom portion @ average annual rate of \$66K. Meter Shop including team lead 4.2 FTEs at average annual rate of \$69K. SMOC - EM Project # 13031 benefit Reduction of 1 management FTE Instrument Technicians 3 FTEs @ average annual rate of \$93K. Supporting clerical & technical 2 FTES @ average annual rate of \$51.5k	L	\$100 (\$64) (\$185) \$4,568 \$209 \$2,864 \$26 \$290 (\$100)	2013 Adj. Recorded Labor \$0 \$0 \$0 \$4,763 \$92 \$2,225 \$24 \$69 \$0 \$279 \$103	\$100 (\$64 (\$185 (\$195 \$117 \$639 \$2 \$221 (\$100 \$0	FTE Forecast 1.0 (0.5) (2.0) 55.0 3.3 35.0 0.4 4.2 (1.0) 3.0 2.0	2013 Adj. Recorded FTE 57.0 1.6 30.0 0.4 0.8 -	1.0 (0.5) (2.0) (2.0) 1.8 5.0 - 3.5 (1.0)

Non-Shared Service Workpapers

San Diego Gas & Electric Company

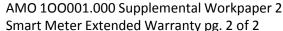
2016 GRC -

Non-Shared Service Workpapers



Using the current AFR of 7.87% there is 15% chance that the failure rate of network only devices would be less than 1.57% and that the cost of the Network only warranty would be greater than the cost to repair/replace those network only devices.

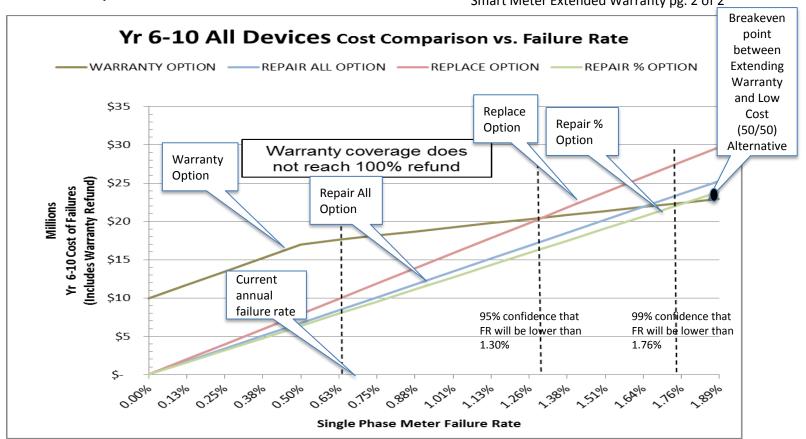
Smart Meter Extended Warranty Cost Comparisons, All Devices



San Diego Gas & Electric Company

2016 GRC

Non-Shared Service Workpapers



- Repair 50%/Replace 50% Option is the most cost effective
- Based on probability distribution there is 99% confidence that the failure rate will be lower than 1.76%

Beginning of Workpaper 100001.000 - Meter Reading

non enarea corride trempapera

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub 2. Meter Reading

Workpaper: 100001.000 - Meter Reading

Activity Description:

2009-2011 historical Meter Reading activities were for the labor and non-labor costs associated with manual meter reading operations, support and administration. Remaining functions have been transitioned and are being forecasted in Advanced Metering Operations work paper group 100000.000.

Forecast Explanations:

Labor - Zero-Based

N/A

Non-Labor - Zero-Based

N/A

NSE - Zero-Based

N/A

Summary of Results:

				ln 2013\$ (00	0) Incurred (Costs					
		Adju	sted-Recor	ded		Adjusted-Forecast					
Years	2009	2010	2011	2012	2013	2014	2015	2016			
Labor	9,051	6,907	4,162	0	0	0	0	0			
Non-Labor	626	150	89	0	0	0	0	0			
NSE	0	0	0	0	0	0	0	0			
Total	9,677	7,057	4,251	0	0	0	0	0			
FTE	204.6	148.7	86.2	0.0	0.0	0.0	0.0	0.0			

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 2. Meter Reading

Workpaper: 100001.000 - Meter Reading

Forecast Summary:

			In 201	3 \$(000) lı	ncurred Co	sts				
Forecas	t Method	Bas	se Foreca	st	Forec	ast Adjust	tments	Adjus	ted-Forec	ast
Years	s	2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Zero-Based	0	0	0	0	0	0	0	0	0
Non-Labor	Zero-Based	0	0	0	0	0	0	0	0	0
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Tota	ıl	0	0	0	0	0	0	0	0	0
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE	Adj Type
2014 Total	0	0	0	0	0.0	
2015 Total	0	0	0	0	0.0	
2016 Total	0	0	0	0	0.0	

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 2. Meter Reading

Workpaper: 100001.000 - Meter Reading

Determination of Adjusted-Recorded (Incurred Costs):

•	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
ecorded (Nominal \$)*					
Labor	7,437	5,561	3,478	-2	45
Non-Labor	599	137	85	4	0
NSE	0	0	0	0	0
Total	8,036	5,699	3,564	3	45
FTE	178.6	126.5	73.9	0.1	0.8
djustments (Nominal \$) **					
Labor	-217	42	6	2	-45
Non-Labor	-33	1	0	-4	0
NSE	0	0	0	0	0
Total	-250	43	7	-3	-45
FTE	-3.3	0.3	0.1	-0.1	-0.8
ecorded-Adjusted (Nomina	al \$)				
Labor	7,220	5,603	3,485	0	0
Non-Labor	566	139	86	0	0
NSE	0	0	0	0	0
Total	7,786	5,741	3,570	0	0
FTE	175.3	126.8	74.0	0.0	0.0
acation & Sick (Nominal \$)				
Labor	1,115	893	513	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	1,115	893	513	0	0
FTE	29.3	22.0	12.1	0.0	0.0
scalation to 2013\$					
Labor	716	412	164	0	0
Non-Labor	60	11	3	0	0
NSE	0	0	0	0	0
Total	776	423	167	0	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Consta	ant 2013\$)				
Labor	9,051	6,907	4,162	0	0
Non-Labor	626	150	89	0	0
NSE	0	0	0	0	0
Total	9,677	7,057	4,251	0	0
FTE	204.6	148.8	86.1	0.0	0.0

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 2. Meter Reading

Workpaper: 100001.000 - Meter Reading

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs										
Years	2009 2010 2011 2012 2013									
Labor	-217	42	6	2	-45					
Non-Labor	-33	1	0.154	-4	0					
NSE	0	0	0	0	0					
Total	-250	43	7	-3	-45					
FTE	-3.3	0.3	0.1	-0.1	-0.8					

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	RefID
2009	-217	-33	0	-3.3 CC	TR Transf	To 2100-3753.000	CSCHRAMM2013 1107093137303
Transfer of M workgroup 1F historical cos	1101000101000						
2009 Total	-217	-33	0	-3.3			
2010 Transfer cost center.	42 s associated	1 I with SDG&E	0 E AMO M		TR Transf o the correct	From 2200-2359.000 SDG&E cost	TP4DJS20131121 151948150
2010 Total	42	1	0	0.3			
2011 Two sided ad	6 ljustment for	0.154 SDG&E AM	0 O Manaq		TR Transf	From 2200-2359.000 G&E cost center.	TP4DJS20131121 152242403
2011 Total	6	0.154	0	0.1			

One sided adjustment to move costs to work paper group 100000 AMO where function will be forecasted.

0

Note: Totals may include rounding differences.

2

2012

-0.1 1-Sided Adj

N/A

CSCHRAMM2014 0418143400657

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 2. Meter Reading

Workpaper: 100001.000 - Meter Reading

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type	From CCtr	RefID					
2012 Total	2	-4	0	-0.1								
2013	-31	0	0	-0.6 C	CTR Transf	To 2100-3792.000	CSCHRAMM2014 0211165529660					
Transfer labor and FTE associated with Relief District Crew Dispactcher from cost center 2100-0648 in work group 100001 Meter Reading to cost center 2100-3792 in work group 1ED011 Electric Distribution to align function to where activity resides.												
2013	-8	0	0	-0.2 C	CTR Transf	To 2100-0190.000	CSCHRAMM2014					
2100-0648	0211170446100 Transfer labor and FTE associated with Environmental Op. Assistanct from cost center 2100-0648 in work group 1OO001 Meter Reading to cost center 2100-0190 in work group 1EV000 Environmental to align function to where activity resides.											
2013	-6	0	0	0.0 1	-Sided Adj	N/A	CSCHRAMM2014					
One sided forecasted	-	move costs	to work g	roup 1OC	0000 AMO wh	ere function will be	0418143230140					
2013 Total	-45	0	0	-0.8								

Beginning of Workpaper 100002.000 - Billing

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub 3. Billing

Workpaper: 100002.000 - Billing

Activity Description:

Customer billing operations expenses cover the cost of calculating customer bills, maintaining accurate customer account information, issuing special bills that require manual calculations, resolving billing exceptions, addressing customer bill inquiries, and ensuring bills are prepared in accordance with applicable tariffs, statutes, customer contracts and other agreements.

Forecast Explanations:

Labor - Base YR Rec

A base year forecast method was used because the business has changed significantly due to Smart Meter deployment and is now in a new post-deployment era. Starting in 2012, positions were filled with higher level employees to handle the additional complexities of interval data billed accounts, as forecasted in the Smart Meter business case. Furthermore, 2013 non-labor costs are more reflective of the costs needed to support increasingly complex billing activities. Therefore, the base year provides a reasonable starting point for future expenditures.

Non-Labor - Base YR Rec

See above.

NSE - Base YR Rec

N/A

Summary of Results:

		In 2013\$ (000) Incurred Costs								
		Adju	sted-Recor	Ad	Adjusted-Forecast					
Years	2009	2010	2011	2012	2013	2014	2015	2016		
Labor	4,322	4,236	4,036	4,687	4,768	4,828	5,032	5,508		
Non-Labor	231	374	328	316	305	308	316	331		
NSE	0	0	0	0	0	0	0	0		
Total	4,553	4,610	4,365	5,003	5,073	5,136	5,348	5,839		
FTE	65.2	66.5	63.7	71.4	69.8	70.8	73.8	79.8		

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 3. Billing

Workpaper: 100002.000 - Billing

Forecast Summary:

	In 2013 \$(000) Incurred Costs											
Forecas	t Method	Base Forecast			Forec	ast Adjust	ments	Adjusted-Forecast				
Years	5	2014	2015	2016	2014	2015	2016	2014	2015	2016		
Labor	Base YR Rec	4,768	4,768	4,768	60	264	740	4,828	5,032	5,508		
Non-Labor	Base YR Rec	305	305	305	3	11	26	308	316	331		
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0		
Tota	ı	5,073	5,073	5,073	63	275	766	5,136	5,348	5,839		
FTE	Base YR Rec	69.8	69.8	69.8	1.0	4.0	10.0	70.8	73.8	79.8		

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE	Adj Type
2014	60	3	0	63	1.0	1-Sided Adj

Net Energy Metering: 1 FTE (Associate Billing Analyst) at \$60.4K salary plus \$3K in related non-labor to support the growth of Net Energy Metering and the continued complexities and incremental options of the NEM rates. See Billing 100002.000 Supplemental Workpaper 1 - Net Energy Metering Forecast for additional detail. (Reference cells I19, I20, I21 and I16)

2014 Total	60	3	0	63	1.0		
2015	181	8	0	189	3.0	1-Sided Adj	

Net Energy Metering: 3 FTEs (Associate Billing Analyst) at \$60.3 salary each plus \$8k in related non-labor to support the growth of Net Energy Metering and the continued complexities and incremental options of the NEM rates. See Billing 100002.000 Supplemental Workpaper 1 - Net Energy Metering Forecast for additional detail. (Reference cells J19, J20, J21 and J16)

2015 83 3 0 86 1.0 1-Sided Adj

Increased Complexity of Activities: 1 FTE (Project Advisor) at \$83K salary plus \$3K in related non-labor to train all frontline Billing employees on specialized billing processes and to assist with quality assurance to maintain accurate and timely billing. See Billing 100002.000 Supplemental Workpaper 3 -Interval Billing and Training Forecast for additional detail. (Reference cells F14, F15, F16, and F11)

2015 Total	264	11	0	275	4.0	
2015 Total	264	11	U	275	4.0	
2016	241	10	0	251	4.0	1-Sided Adj

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area: Witness: Bradley M. Baugh A. Customer Service Operations Category: 3. Billing Category-Sub: 100002.000 - Billing Workpaper: Year/Expl. <u>Labor</u> **NLbr** NSE **Total** FTE Adj Type Net Energy Metering: 4 FTEs (Associate Billing Analyst) at \$60.3K salary each plus \$10K in related non-labor to support the growth of Net Energy Metering and the continued complexities and incremental options of the NEM rates. See Billing 100002.000 Supplemental Workpaper 1 - Net Energy Metering Forecast for additional detail. (Reference cells K19, K20, K21, and K16) 2016 83 3 86 1-Sided Adi Increased Complexity of Activities: 1 FTE (Project Advisor) at \$83K salary each plus \$3K in related non-labor to train all frontline Billing employees on specialized billing processes and to assist with quality assurance to maintain accurate and timely billing. See Billing 100002.000 Supplemental Workpaper 3 -Interval Billing and Training Forecast for additional detail. (Reference cells G14, G15, G16, and G11) 2016 251 1-Sided Adi New Rate Options and Programs: 3 FTEs (Business Systems Analyst II) at \$83.7K salary each plus \$8K in related non-labor to support customer participation in the new time varying rate options adopted by CPUC Decision 12-12-004 in SDG&E's Dynamic Pricing Application 10-07-009. The analysts will be primarily responsible for technical support and rate configuration for SDG&E's online Energy Management Tool. 2016 151 2.0 1-Sided Adj New Rate Options and Programs: 2 FTEs (Billing Analyst) at \$73K salary each plus \$5K in related non-labor to support customer participation in the new time varying rate options adopted by CPUC Decision 12-12-004 in SDG&E's Dynamic Pricing Application 10-07-009. The analysts will be primarily responsible for rate changes, exception processing and escalated customer inquiries. See Billing 100002.000 Supplemental Workpaper 2 - SPP Rate Change Exception Forecast for additional detail. (Reference cells E14, E15, E16, and E12) 2016 -54 -57 -1.0 1-Sided Adj Capital Project Impacts - Off But Registering Capital Project #14005 labor savings: Reduction of 1 FTE (Customer Accounts Associate) resulting from the implementation of the Off But Registering Billing (OBR) Enhancement capital project #14005. The project will alleviate the manual work involved in the existing OBR process. <\$54K> salary plus <\$3K> in related non-labor. 0 2016 73 3 76 1-Sided Adj Capital Project Impacts - Centralized Calculation Engine Capital Project #14013 labor costs: 1 FTE (Business Systems Analyst I) at \$73K salary plus \$3K in related non-labor due to the implementation of the Centralized Calculation Engine capital project #14013. The additional resource will support the configuration and maintenance of the Centralized Calculation Engine

which will be required any time prices change or new rates are introduced.

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 3. Billing

Workpaper: 100002.000 - Billing

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE Adj Type	
2016 Total	740	26	0	766	10.0	

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 3. Billing

Workpaper: 100002.000 - Billing

Determination of Adjusted-Recorded (Incurred Costs):

Determination of Aujusteu	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	3,497	3,487	3,426	4,141	4,218
Non-Labor	209	346	316	311	305
NSE	0	0	0	0	0
Total	3,707	3,832	3,742	4,453	4,523
FTE	56.6	57.4	55.5	63.1	61.5
Adjustments (Nominal \$) **					
Labor	-50	-50	-46	-134	-102
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	-50	-50	-46	-134	-102
FTE	-0.8	-0.8	-0.8	-1.6	-2.1
Recorded-Adjusted (Nomina	al \$)				
Labor	3,447	3,437	3,380	4,007	4,115
Non-Labor	209	346	316	311	305
NSE	0	0	0	0	0
Total	3,657	3,782	3,696	4,318	4,421
FTE	55.8	56.6	54.7	61.5	59.4
/acation & Sick (Nominal \$)				
Labor	532	547	498	581	653
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	532	547	498	581	653
FTE	9.3	9.8	9.0	9.9	10.4
scalation to 2013\$					
Labor	342	252	159	99	0
Non-Labor	22	28	12	5	0
NSE	0	0	0	0	0
Total	364	280	171	104	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Consta	int 2013\$)				
Labor	4,322	4,236	4,036	4,687	4,768
Non-Labor	231	374	328	316	305
NSE	0	0	0	0	0
Total	4,553	4,610	4,365	5,003	5,073
FTE	65.1	66.4	63.7	71.4	69.8

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 3. Billing

Workpaper: 100002.000 - Billing

Summary of Adjustments to Recorded:

	In Nominal \$ (000) Incurred Costs										
Years	2009	<u>2009</u> <u>2010</u> <u>2011</u> <u>2012</u> <u>2013</u>									
Labor	-50	-50	-46	-134	-102						
Non-Labor	0	0	0	0	0						
NSE	0	0	0	0	0						
Total	-50	-50	-46	-134	-102						
FTE	-0.8	-0.8	-0.8	-1.6	-2.1						

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	RefID
2009	-50	0	0	-0.8 CCT	TR Transf	To 2100-0244.000	CSCHRAMM2013
							1104133441967

Transfer labor costs associated with Billing Analyst role that moved from cost center 2100-0008 in work group 100002 (BILLING) to cost center 2100-0244 in work group 1EP003 (SDG&E ELECTRIC & GAS PROCUREMENT) in order to align historical costs with current organization structure.

2010 -50 0 0 -0.8 CCTR Transf To 2100-0244.000 CSCHRAMM2013 1104133610520

Transfer labor costs associated with Billing Analyst role that moved from cost center 2100-0008 in work group 100002 (BILLING) to cost center 2100-0244 in work group 1EP003 (SDG&E ELECTRIC & GAS PROCUREMENT) in order to align historical costs with current organization structure.

2010 Total	-50	0	0	-0.8

2011 -46 0 0 -0.8 CCTR Transf To 2100-0244.000 CSCHRAMM2013 1104133713100

Transfer labor costs associated with Billing Analyst role that moved from cost center 2100-0008 in work group 100002 (BILLING) to cost center 2100-0244 in work group 1EP003 (SDG&E ELECTRIC & GAS PROCUREMENT) in order to align historical costs with current organization structure.

2011 Total -46 0 0 -0.8

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 3. Billing

Workpaper: 100002.000 - Billing

Year/Expl. Labor NLbr NSE FTE Adj Type From CCtr RefID 2012 -53 0 0 -0.8 CCTR Transf To 2100-0244.000 CSCHRAMM2013 1104133807363 Transfer labor costs associated with Billing Analyst role that moved from cost center 2100-0008 in work group 100002 (Billing) to cost center 2100-0244 in work group 1EP003 (SDG&E ELECTRIC & GAS PROCUREMENT) in order to align historical costs with current organization structure. CSCHRAMM2013 1104134137793 2012 -81 0 0 -0.8 CCTR Transf To 2100-3490.000 CSCHRAMM2013 1104134137793 Transfer labor costs associated with role that will be part of Credit & Collections from cost center 2100-3490 in work group 100003 (CREDIT & COLLECTIONS) in order to align historical costs with current organization structure. 2012 Total -134 0 0 -1.6 2012 Total -134 0 0 -1.6 2013 -5 0 0 -0.9 1-Sided Adj N/A CSCHRAMM2014 0204171113437 Exclusion for Dynamic Pricing Refundable IO s per filing in Application 10-07-009 (IO 7049031 - DPP PMO O&M) O -0.5 1-Sided Adj N/A <t< th=""><th>Workpaper:</th><th>1000</th><th>02.000 - Billir</th><th>ıg</th><th></th><th></th><th></th><th></th></t<>	Workpaper:	1000	02.000 - Billir	ıg									
Transfer labor costs associated with Billing Analyst role that moved from cost center 2100-0008 in work group 100002 (Billing) to cost center 2100-0244 in work group 1EP003 (SDG&E ELECTRIC & GAS PROCUREMENT) in order to align historical costs with current organization structure. 2012 -81	Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type	From CCtr	RefID					
Transfer labor costs associated with Billing Analyst role that moved from cost center 2100-0008 in work group 100002 (Billing) to cost center 2100-0244 in work group 1EP003 (SDG&E ELECTRIC & GAS PROCUREMENT) in order to align historical costs with current organization structure. 2012 -81 0 0 -0.8 CCTR Transf To 2100-3490.000 CSCHRAMM2013 Transfer labor costs associated with role that will be part of Credit & Collections from cost center 2100-3480 in work group 100002 (BILLING) to cost center 2100-3490 in work group 100003 (CREDIT & COLLECTIONS) in order to align historical costs with current organization structure. 2012 Total -134 0 0 -1.6 2013 -5 0 0 -0.9 1-Sided Adj N/A CSCHRAMM2014	2012	-53	0	0	-0.8	CCTR Transf	To 2100-0244.000						
Transfer labor costs associated with role that will be part of Credit & Collections from cost center 2100-3480 in work group 1OO002 (BILLING) to cost center 2100-3490 in work group 1OO003 (CREDIT & COLLECTIONS) in order to align historical costs with current organization structure. 2012 Total	Transfer labor costs associated with Billing Analyst role that moved from cost center 2100-0008 in work group 1OO002 (Billing) to cost center 2100-0244 in work group 1EP003 (SDG&E ELECTRIC & GAS PROCUREMENT) in order to align historical costs with												
Transfer labor costs associated with role that will be part of Credit & Collections from cost center 2100-3480 in work group 100002 (BILLING) to cost center 2100-3490 in work group 100003 (CREDIT & COLLECTIONS) in order to align historical costs with current organization structure. 2012 Total	2012	-81	0	0	-0.8	CCTR Transf	To 2100-3490.000						
2013 -5 0 0 -0.9 1-Sided Adj N/A CSCHRAMM2014 Exclusion for Dynamic Pricing Refundable IO s per filing in Application 10-07-009 (IO 7049031 - DPP PMO O&M) 2013 -26 0 0 -0.5 1-Sided Adj N/A CSCHRAMM2014 Exclusion for Dynamic Pricing Refundable IO s per filing in Application 10-07-009 (IO 7067226 - Billing Support) 2013 -71 0 0 0 -0.7 CCTR Transf To 2100-3490.000 CSCHRAMM2014 Transfer labor costs associated with role that will be part of Credit & Collections from cost center 2100-3480 in work group 1OO002 (BILLING) to cost center 2100-3490 in work group 1OO003 (CREDIT COLLECTIONS) in order to align historical costs with current organization structure.	Transfer labor costs associated with role that will be part of Credit & Collections from cost center 2100-3480 in work group 100002 (BILLING) to cost center 2100-3490 in work group 100003 (CREDIT & COLLECTIONS) in order to align historical costs with current												
Exclusion for Dynamic Pricing Refundable IO s per filing in Application 10-07-009 (IO 7049031 - DPP PMO O&M) 2013	2012 Total	-134	0	0	-1.6								
Exclusion for Dynamic Pricing Refundable IO s per filing in Application 10-07-009 (IO 7049031 - DPP PMO O&M) 2013	2013	-5	0	0	-0.9	1-Sided Adj	N/A						
Exclusion for Dynamic Pricing Refundable IO s per filing in Application 10-07-009 (IO 7067226 - Billing Support) 2013 -71 0 0 -0.7 CCTR Transf To 2100-3490.000 CSCHRAMM2014 Transfer labor costs associated with role that will be part of Credit & Collections from cost center 2100-3480 in work group 100002 (BILLING) to cost center 2100-3490 in work group 100003 (CREDIT COLLECTIONS) in order to align historical costs with current organization structure.	Exclusion for Dynamic Pricing Refundable IO s per filing in Application 10-07-009												
Exclusion for Dynamic Pricing Refundable IO s per filing in Application 10-07-009 (IO 7067226 - Billing Support) 2013 -71 0 0 -0.7 CCTR Transf To 2100-3490.000 CSCHRAMM2014 0204172222757 Transfer labor costs associated with role that will be part of Credit & Collections from cost center 2100-3480 in work group 1OO002 (BILLING) to cost center 2100-3490 in work group 1OO003 (CREDIT COLLECTIONS) in order to align historical costs with current organization structure.	2013	-26	0	0	-0.5	1-Sided Adj	N/A						
Transfer labor costs associated with role that will be part of Credit & Collections from cost center 2100-3480 in work group 100002 (BILLING) to cost center 2100-3490 in work group 100003 (CREDIT COLLECTIONS) in order to align historical costs with current organization structure.	Exclusion for Dynamic Pricing Refundable IO s per filing in Application 10-07-009												
center 2100-3480 in work group 100002 (BILLING) to cost center 2100-3490 in work group 100003 (CREDIT COLLECTIONS) in order to align historical costs with current organization structure.	2013	-71	0	0	-0.7	CCTR Transf	To 2100-3490.000						
2013 Total -102 0 0 -2.1	center 2100-3480 in work group 100002 (BILLING) to cost center 2100-3490 in work group 100003 (CREDIT COLLECTIONS) in order to align historical costs with current												
	2013 Total	-102	0	0	-2.1								

Supplemental Workpapers for Workpaper 100002.000

Billing 100002.000 Supplemental Workpaper 1 - Net Energy Metering Forecast

	A	В	С	D	E	F	G	Н	I	J	K
1	Year End Totals	2007	2008	2009	<u>2010</u>	2011	2012	2013	2014	2015	2016
2	Active NEM Accounts	4,640	5,524	7,926	11,721	15,726	20,987	31,916	44,700	62,600	87,600
3	Percent Growth		19%	43%	48%	34%	33%	52%	40%	40%	40%
4	Average Number of New Customer Per Month		74	200	316	334	438	911	1,065	1,492	2,083
5											
6	Required NEM Tasks										
7	- New Setups						2.0	3.0	4.0	5.0	
8	- Monthly Exception Handling and Maintenance						2.0	3.0	4.0	6.0	
9	Total FTE Requirement						4.0	6.0	8.0	11.0	14.0
10											
11	FTE Reduction From NEM Enhancement	Project						0.0	(1.0)	(2.0)	(4.0)
12											
13	FTE Requirement After NEM Enhancement	nt Project						6.0	7.0	9.0	10.0
14											
15	Proposed TY2016 GRC Incremental Incre	ease									
16	(Required to support continued growth rate of 4	0%)						FTE	1.0	3.0	4.0
17											
18	Forecast Adjustment Assumptions										
19	Associate Billing Analyst (SA2) = Labor \$60,250							Labor	\$60,250	\$180,750	\$241,000
20	Associate Billing Analyst (SA2) = Non-Labor \$2,	500						Non-Labor	\$2,500	\$7,500	\$10,000
21								Total	\$62,750	\$188,250	\$251,000
22											
23	Recent Upward Pressures										
24	AB920 - Excess Generation Credits										
25	NEM Combined Technology										
26											
27	Future Upward Pressures										
28	NEM Aggregation										

San Diego Gas & Electric Company 2016 GRC - APP

Non-Shared Service Workpapers

Billing 100002.000 Supplemental Workpaper 2 - SPP Rate Change Exception Forecast*

	-				
	A	В	С	D	Е
1	Year End Totals	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
2	Overall Billing Exceptions	295,276	297,195	300,108	303,709
3	Total Active Accounts	17,277,157	17,389,459	17,559,876	17,770,595
4	Exception Rate	1.71%	1.71%	1.71%	1.71%
5					
6	SPP Active Meters (as of 1/1/16)				106,574
7					
8	Forecasted SPP Exception Rate				3%
9					
10	SPP Exceptions Per Month				3,197
11					
12	FTE Requirement				2.0
13					
14	Blling Analyst = Labor \$73,000				\$146,000
15	Billing Analyst = Non-Labor \$2,500				\$5,000
16				Total	\$151,000
17					. ,
18	*This forecast is based on the projected v	olume of overall	billing exceptio	ns shown above	. Due to the
19	additional complexity, it's reasonable to ex	xpect the new S	PP rate change	process to have	a higher
20	exception rate, in the range of 3-5%, which	h would require	two additional F	TEs in 2016.	
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San Diego Gas & Electric Company 2016 GRC - APP

Non-Shared Service Workpapers

Billing 100002.000 Supplemental Workpaper 3 - Interval Billing and Training Forecast

	А	В	С	D	Е	F	G
1	Year End Totals	<u>2011</u>	2012	2013	<u>2014</u>	<u>2015</u>	2016
2	Active Interval Billed Meters	8,874	25,843	34,755	64,486	150,629	220,557
3	Percent Growth		191%	34%	86%	134%	46%
4							
5	Required Training Tasks						
6	- Develop Training Material		0.5	0.6	0.8	1.0	1.1
7	- Deliver Training		0.3	0.4	0.5	0.6	0.7
8	- Job Aids and Bulletins		0.2	0.2	0.3	0.4	0.5
9	Total FTE Requirement		1.0	1.2	1.6	2.0	2.3
10							
11	Proposed TY2016 GRC Incremental Increase			FTE	0.0	1.0	1.0
12							
13	Forecast Adjustment Assumptions						
14	Project Advisor (AD1) = Labor \$83,000			Labor	\$0	\$83,000	\$83,000
15	Project Advisor (AD1) = Non-Labor \$3,000			Non-Labor	\$0	\$3,000	\$3,000
16				Total	\$0	\$86,000	\$86,000
17							
18	Recent Upward Pressures						
19	Smart Meter Mass Deployment						
20	Growth of NEM and Electric Vehicle TOU Rates						
21							
22	Future Upward Pressures						
23	Continued Growth of NEM and Electric Vehicle TOU Rates						
24	Optional Small Commercial SPP Rates Starting May 2014						
	Optional Residential SPP Rates Starting January 2015						
	Mandatory Small Commercial SPP Rates Starting November 2015						
27							

San Diego Gas & Electric Company 2016 GRC - APP

Non-Shared Service Workpapers

Beginning of Workpaper 100003.000 - Credit & Collections

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub 4. Credit & Collections

Workpaper: 100003.000 - Credit & Collections

Activity Description:

The Credit and Collections expenses cover the costs to collect final bill payment from customers, perform skip tracing (research to locate a customer after a service termination and the final bill reaches delinquent status), investigate energy theft, bankruptcy processing, activities supporting remittance processing, and developing policy and procedures to reduce bad debt exposure.

Forecast Explanations:

Labor - Base YR Rec

A base year forecast method was used because in 2012 MRP resources transitioned from Smart Meter to Credit and Collections with 2013 representing the first full year of post-Smart Meter deployment. Furthermore, in 2013, new final bill collection and collection agency management software systems were implemented. The latter facilitates the placement of debts owed to SDG&E with collection agencies in a tiered process (primary, secondary, tertiary placements) as well as provides the ability to produce collection agency scorecards that facilitate the efficacy and quality of collection agency efforts. Therefore, the base year provides a reasonable starting point for future expenditures.

Non-Labor - Base YR Rec

See above.

NSE - Base YR Rec

N/A

Summary of Results:

				0) Incurred (Costs				
		Adjι	sted-Recor		Adjusted-Forecast				
Years	2009	2010	2011	2012	2013	2014	2015	2016	
Labor	2,024	2,066	2,086	2,123	2,228	2,117	2,095	2,257	
Non-Labor	553	516	537	447	481	539	565	592	
NSE	0	0	0	0	0	0	0	0	
Total	2,577	2,582	2,624	2,570	2,708	2,655	2,659	2,848	
FTE	32.6	33.5	34.2	35.2	36.1	34.1	33.8	36.3	

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 4. Credit & Collections

Workpaper: 100003.000 - Credit & Collections

Forecast Summary:

	In 2013 \$(000) Incurred Costs												
Forecast	t Method	Base Forecast			Forec	ast Adjust	ments	Adjusted-Forecast					
Years	s	2014	2015	2016	2014	2015	2016	2014	2015	2016			
Labor	Base YR Rec	2,228	2,228	2,228	-111	-133	29	2,117	2,095	2,257			
Non-Labor	Base YR Rec	481	481	481	58	84	111	539	565	592			
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0			
Tota	ıl	2,708	2,708	2,708	-53	-49	140	2,655	2,659	2,848			
FTE	Base YR Rec	36.1	36.1	36.1	-2.0	-2.3	0.2	34.1	33.8	36.3			

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE	Adj Type
2014	0	-68	0	-68	0.0	1-Sided Adj

Collection Systems - reduction for old collection systems licensing costs (\$32K) and new collection system one-time implementation set-up/configuration costs (\$36K): Non-labor reduction of <\$68> comprised of a <\$36K> reduction for one-time implementation costs paid to vendor in 2013 for setting up and configuring new collection agency management system. And a <\$32K> reduction for licensing costs for SDG&E's old collection system.

a <\$32K> reduction for licensing costs for SDG&E's old collection system. 2014 33 33 0.0 1-Sided Adj Collection Systems - new collection systems software licensing costs: Software licensing costs in the amount of \$33K for new collection agency management system. 2014 0 60 60 0.0 1-Sided Adj Collection Systems -collection agency commission payments: \$60K non-labor increase in commission payments paid to collection agencies resulting from the implementation of new collection agency management software enabling more payments to be collected. 2014 0 10 10 0.0 1-Sided Adj Collection Systems - annual software training and vendor assisted system changes/upgrades:

Collection Systems - annual software training and vendor assisted system changes/upgrades: Non-labor cost in the amount of \$10K for annual software training and vendor assisted system changes and upgrades.

2014 14 3 0 17 0.3 1-Sided Adj

Customer Growth: Labor in increase of \$14K and non-labor increase of \$3K due to increased credit activities resulting from customer growth. See Credit & Collections 100003.000 Supplemental Workpaper 1 - Customer Growth Calculation for additional detail. (Reference cells C6 and C10)

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area: Witness: Bradley M. Baugh A. Customer Service Operations Category: 4. Credit & Collections Category-Sub: 100003.000 - Credit & Collections Workpaper: Year/Expl. **NLbr** NSE Total FTE Adj Type Labor 2014 0 14 0 14 0.0 1-Sided Adj Other - final bill notices: Non-labor cost in the amount of \$14K to mail notices to customers who have final bills that have not been paid. 2014 -40 0 0 -40 -0.8 1-Sided Adi Process Improvements - account reconciliation processes: .8 FTE reduction for continuous improvement (Payment Services) 2014 -85 -85 -1.5 1-Sided Adj Process Improvements - collection of delinquent commercial: A reduction of 1.5 FTEs for continuous improvement (Account Management). 2014 0 6 0.0 1-Sided Adj Other - 48 hour disconnection notice for vulnerable customers: 1st Call 6-lanuage letter inserts. (aka 48 Hour Notice) 2014 Total -111 -53 -2.0 2015 0 -68 0 -68 0.0 1-Sided Adj Collection Systems - reduction for old collection systems licensing costs (\$32K) and new collection system one-time implementation set-up/configuration costs (\$36K): Non-labor reduction of <\$68> comprised of a <\$36K> reduction for one-time implementation costs paid to vendor in 2013 for setting up and configuring new collection agency management system. And a <\$32K> reduction for licensing costs for SDG&E's old collection system. 2015 33 0.0 1-Sided Adj Collection Systems - new collection systems software licensing costs: Software licensing costs in the amount of \$33K for new collection agency management system. 2015 0 0 0.0 75 75 1-Sided Adj Collection Systems - collection agency commission payments: \$75K non-labor increase in commission payments paid to collection agencies resulting from the implementation of new collection agency management software enabling more payments to be collected. 2015 0 10 0 10 0.0 1-Sided Adj Collection Systems - annual software training and vendor assisted system changes/upgrades: Non-labor cost in the amount of \$10K for annual software training and vendor assisted system changes and upgrades.

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 4. Credit & Collections

Workpaper: 100003.000 - Credit & Collections

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE Adj Type
2015	33	8	0	41	0.7 1-Sided Adj
credit activit	ies resulting fro al Workpaper 1	m customer gi	owth. See	Credit & Colle	ase of \$8K due to increased ections 100003.000 litional detail. (Reference
2015	0	14	0	14	0.0 1-Sided Adj
	bill notices: Not nal bills that hav			t of \$14K to m	nail notices to customers
2015	-53	0	0	-53	-1.0 1-Sided Adj
•	provements - ac nt (Payment Ser		iation proce	esses: 1 FTE	reduction for continuous
2015	-113	0	0	-113	-2.0 1-Sided Adj
•	orovements - co improvement (A		•	nmercial: A re	duction of 2 FTEs for
2015	0	12	0	12	0.0 1-Sided Adj
Other - 48 h (aka 48 Hou		on notice for v	ulnerable c	ustomers: 1st	t Call 6-lanuage letter inserts.
2015 Total	-133	84	0	-49	-2.3

2015 Total	-133	84	0	-49	-2.3	
2016	133	5	0	138	2.0	1-Sided Adj
	•	•		•	,	t \$66.5K annual nd other sources of
2016	0	-68	0	-68	0.0	1-Sided Adj
collection sy reduction of vendor in 20	•	nplementatio d of a <\$36K and configur	n set-up/cor > reduction ring new coll	nfiguration cos for one-time in lection agency	ts (\$36K): mplementa / managen	•
2016	0	33	0	33	0.0	1-Sided Adj

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area: Witness: Bradley M. Baugh A. Customer Service Operations Category: 4. Credit & Collections Category-Sub: 100003.000 - Credit & Collections Workpaper: **Labor** Year/Expl. NLbr NSE **Total** FTE Adj Type Collection Systems - new collections systems software licensing costs: Software licensing costs in the amount of \$33K for new collection agency management system. 2016 0 90 90 0.0 1-Sided Adj Collection Systems - collection agency commission payments: \$90K non-labor increase in commission payments paid to collection agencies resulting from the implementation of new collection agency management software enabling more payments to be collected. See Credit & Collections 100003.000 Supplemental Workpaper 2 - Collection Agency Commissions for additional detail. (Reference cell C24) 2016 0 10 10 0 0.0 1-Sided Adj Collection Systems - annual software training and vendor assisted system changes/upgrades: Non-labor cost in the amount of \$10K for annual software training and vendor assisted system changes and upgrades. 2016 62 15 0 77 1.2 1-Sided Adj Customer Growth: Labor in increase of \$62K and non-labor increase of \$15K due to increased credit activities resulting from customer growth. See Credit & Collections 100003.000 Supplemental Workpaper 1 - Customer Growth Calculation for additional detail. (Reference cells E6 and E10) 2016 0 14 14 1-Sided Adj Other - final bill notices: Non-labor cost in the amount of \$14K to mail notices to customers who have final bills that have not been paid. 2016 -53 0 -53 -1.0 1-Sided Adj Process Improvements - account reconciliation processes: 1 FTE reduction for continuous improvement (Payment Services) 2016 -113 0 -113 -2.01-Sided Adj Process Improvements - collection of delinquent commercial: A reduction of 2 FTEs for continuous improvement (Account Management). 2016 0 12 12 0.0 1-Sided Adj Other - 48 hour disconnection notice for vulnerable customers: 1st Call 6-lanuage letter inserts. (aka 48 Hour Notice) 2016 Total 29 111 140 0.2

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 4. Credit & Collections

Workpaper: 100003.000 - Credit & Collections

Determination of Adjusted-Recorded (Incurred Costs):

Determination of Aujusteu	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	1,615	1,676	1,747	1,734	1,852
Non-Labor	467	445	486	410	460
NSE	0	0	0	0	0
Total	2,082	2,121	2,233	2,144	2,312
FTE	27.9	28.6	29.4	29.5	30.1
djustments (Nominal \$) **					
Labor	0	0	0	81	71
Non-Labor	33	32	32	29	21
NSE	0	0	0	0	0
Total	33	32	32	111	91
FTE	0.0	0.0	0.0	0.8	0.7
Recorded-Adjusted (Nomina	al \$)				
Labor	1,615	1,676	1,747	1,815	1,923
Non-Labor	500	478	517	440	481
NSE	0	0	0	0	0
Total	2,115	2,154	2,264	2,255	2,403
FTE	27.9	28.6	29.4	30.3	30.8
acation & Sick (Nominal \$)				
Labor	249	267	257	263	305
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	249	267	257	263	305
FTE	4.7	4.9	4.8	4.9	5.4
scalation to 2013\$					
Labor	160	123	82	45	0
Non-Labor	53	39	20	7	0
NSE	0	0	0	0	0
Total	213	162	102	52	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Consta	ant 2013\$)				
Labor	2,024	2,066	2,086	2,123	2,228
Non-Labor	553	516	537	447	481
NSE	0	0	0	0	0
Total	2,577	2,582	2,624	2,570	2,708
FTE	32.6	33.5	34.2	35.2	36.2

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 4. Credit & Collections

Workpaper: 100003.000 - Credit & Collections

Summary of Adjustments to Recorded:

		In Nominal \$ (000)	Incurred Costs		
Years	2009	2010	2011	2012	2013
Labor	0	0	0	81	71
Non-Labor	33	32	32	29	21
NSE	0	0	0	0	0
Total	33	32	32	111	91
FTE	0.0	0.0	0.0	0.8	0.7

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	RefID
2009	0	29	0	0.0 CC	TR Transf	From 2100-0395.001	CSCHRAMM2013 1115140536160
in sub work (group 100004	1.001 Remit	ttance Pro	cessing F	ostage to co	nter 2100-0395.001 st center 2100-3490 activity resides.	
2009	0	3	0	0.0 CC	TR Transf	From 2100-0395.000	CSCHRAMM2013 1115141053830
work group 1		Remittance	Processin	g to cost	center 2100-3	enter 2100-0395 in 3490 in work group	
2009 Total	0	33	0	0.0			
2010	0	29	0	0.0 CC	TR Transf	From 2100-0395.001	CSCHRAMM2013
in sub work (group 100004	I.001 Remit	ttance Pro	cessing F	ostage to co	nter 2100-0395.001 st center 2100-3490 activity resides.	1115140637743
in sub work (group 100004	I.001 Remit	ttance Pro	cessing F to align o	ostage to co	st center 2100-3490	CSCHRAMM2013
in sub work grou 2010 Transfer nor work group 1	group 1OO004 p 1OO003.000 0 n-labor costs as	3.ssociated w	ttance Pro Collections 0 vith red let Processin	ocessing F to align of 0.0 CC tter notice g to cost of	Postage to cost costs where a TR Transf s from cost cost center 2100-3	st center 2100-3490 activity resides. From 2100-0395.000 enter 2100-0395 in 3490 in work group	

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 4. Credit & Collections

Workpaper: 100003.000 - Credit & Collections

V/FI	Laban	MI b	NOE		Ault Tour	F 004-	D-41D
Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	FTE	Adj Type	From CCtr	<u>RefID</u>
2011	0	3	0		CCTR Transf	From 2100-0395.000	CSCHRAMM2013 1115141206667
work grou	p 100004.000	Remittance	Processir	ng to co		enter 2100-0395 in 3490 in work group	
2011	0	29	0	0.0	CCTR Transf	From 2100-0395.001	CSCHRAMM2013 1118142040540
in sub wor	rk group 1000	04.001 Remi	ittance Pro	ocessir		nter 2100-0395.001 st center 2100-3490 activity resides.	1110112010010
2011 Total	0	32	0	0.0			
2012	81	0	0	0.8	CCTR Transf	From 2100-3480.000	CSCHRAMM2013
center 210 group 100	00-3480 in wor	k group 100	002 (BILL	.ING) to	o cost center 210	ollections from cost 00-3490 in work costs with current	1104134137793
2012	0	27	0	0.0	CCTR Transf	From 2100-0395.001	CSCHRAMM2013 1115140745967
in sub wor	rk group 1000	04.001 Remi	ittance Pro	ocessir		nter 2100-0395.001 st center 2100-3490 ctivity resides.	1113140743307
2012	0	3	0	0.0	CCTR Transf	From 2100-0395.000	CSCHRAMM2013 1115141304787
work grou	p 100004.000	Remittance	Processir	ng to co		enter 2100-0395 in 3490 in work group	1113141304767
2012 Total	81	29	0	8.0			
2013	71	0	0	0.7	CCTR Transf	From 2100-3480.000	CSCHRAMM2014
					art of Credit & Cocost center 210	ollections from cost 00-3490 in work	0204172222757

Note: Totals may include rounding differences.

organization structure.

group 100003 (CREDIT COLLECTIONS) in order to align historical costs with current

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

2013 Total

Category: A. Customer Service Operations

Category-Sub: 4. Credit & Collections

71

21

Workpaper: 100003.000 - Credit & Collections

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	<u>RefID</u>
2013	0	2	0	0.0 C	CTR Transf	From 2100-0395.000	CSCHRAMM2014 0210180643157
work group	100004.000	Remittance	Processir	ng to cost		enter 2100-0395 in 3490 in work group	0210100010101
2013	0	19	0	0.0 C	CTR Transf	From 2100-0395.001	CSCHRAMM2014
in sub wor	k group 1000	04.001 Remi	ttance Pro	ocessing	Postage to co	nter 2100-0395.001 st center 2100-3490 activity resides.	0210180830550

0.7

Supplemental Workpapers for Workpaper 100003.000

Credit Collections 100003.000 Supplemental Workpaper 1 - Customer Growth Calculation

	cuit conceitons 100003:000 Supplement	T T					
	Α	В		С	D	E	F
1		Base Year 2013		2014	2015	2016	
2	Meter Growth Rate [1]	0%		0.64%	1.61%	2.81%	
3							
4				Thousands of 2	2013 Dollars (\$000)		
5	Adjusted Labor [2]	\$ 2,228	\$	2,103	\$ 2,062	\$ 2,195	
6	Labor forecast adjustments due to growth		\$	14	\$ 33	\$ 62	
7	Adjusted Labor Forecast		\$	2,117	\$ 2,095	\$ 2,257	
8							
9	Adjusted Non-Labor [2]	\$ 481	\$	536	\$ 557	\$ 577	
10	Non-Labor forecast adjustments due to growth		\$	3	\$ 8	\$ 15	
11	Adjusted Non-Labor Forecast		\$	539	\$ 565	\$ 592	
12							
13	[1] Represents Elecric meter growth as a representat	ion of customer grov	vth, th	en weighted for R	esidential and Small (C&I customer classes	
14							
15	[2] Adjusted Labor and Non-Labor represents Base Y	ear amounts adjuste	ed for	incremental increa	ases and decreases re	equested in GRC prior	
16	to the addition of Customer Growth amounts.						
17							

San Diego Gas & Electric Company 2016 GRC - APP Non-Shared Service Workpapers

Credit Collections 100003.000 Supplemental Workpaper 2 - Collection Agency Commissions

A	В	С	D	l E	F	G	Н
1 Test Year Forecast							
2 Beginning in 2014, SDG&E began referral of r	new agency business to thre	e primary agend	ies, recalled	accounts great	er than 9 m	os. old from	
3 the existing primary agency and referred them							m to a
4 tertiary agency. Therefore SDG&E's TY2016	forecast is based upon:						
5							
6 1) Agency capacity expanded in TY2016 due		tion agency.					
7 2) Agency results should increase as a result							
A) Creating appropriate incentive-based al		(i.e., collection	results, mini	mal complaints/	compliance	with FDCPA	, etc.)
9 to agencies at all stages of collection p							
B) Adding secondary and tertiary account p	placements during the three	year collection o	cycle				
11 12 Listorical Collection Popults							
12 Historical Collection Results							
13	* * * * * * * * * *						
14 Four Year Average (2009 - 2012) ¹	\$1,052,469	b)					
15 Estimated Increase in Collection Results b	-						
16 above	20%						
17 Estimated Test Year Collections Increase	\$210,494	ļ '	->>				
18 Estimated Collection Agency Recoveries 2	U16	\$1,262,963	a) + b)				
19 Rounded		\$1,250,000					
20 Estimated 2016 Commission Percentage ²		21%					
21 Estimated 2016 Test Year Commissions		\$262,500					
22 Base Year 2013 Commission		\$172,118					
23 Agency Commission Increase Request in T	Y2016	\$90,382					
24 Rounded		\$90,000					
25							
26 ¹ 2008 data not available and 2013 data not re	presentative due to convers	ion of collection	systems				
27 ² Estimated based upon mix of recoveries in fire	st three mos. of 2014						

San Diego Gas & Electric Company

2016 GRC - APP Non-Shared Service Workpapers

Beginning of Workpaper 100004.000 - Remittance Processing

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Witness: Bradley M. Baugh

A. Customer Service Operations Category:

Category-Sub 5. Remittance Processing

100004.000 - Remittance Processing Workpaper:

Activity Description:

The Remittance Processing workgroup expenses cover the costs of paper, envelopes and vendor fees to deliver customer bills.

Forecast Explanations:

Labor - Base YR Rec

ln/A

Non-Labor - Base YR Rec

A base year forecast method was used because this workpaper group includes non-labor costs of software maintenance for My Account, vendor's fees for electronic bill delivery to customers' home banking websites, and billing forms and envelopes for paper bills and notices. These costs are driven by the volumes of bills, notices and payments which are impacted by customer growth as well as customer choice of billing and payment channels. Therefore, the base year provides a reasonable starting point for future expenditures.

NSE - Base YR Rec

See above.

Summary of Results:

				n 2013\$ (00	0) Incurred	Costs				
		Adju	sted-Recor	ded		Adjusted-Forecast				
Years	2009	2010	2011	2012	2013	2014	2015	2016		
Labor	0	0	0	0	0	0	0	0		
Non-Labor	1,025	877	886	815	887	882	876	865		
NSE	0	0	0	0	0	3	7	10		
Total	1,025	877	886	815	887	885	883	875		
FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 5. Remittance Processing

Workpaper: 100004.000 - Remittance Processing

Forecast Summary:

			In 201	3 \$(000) li	ncurred Co	sts				
Forecas	t Method	Bas	se Foreca	st	Forec	ast Adjust	tments	Adjusted-Forecast		
Years	s	2014	2015	2016	2014	2015	2015 2016		2015	2016
Labor	Base YR Rec	0	0	0	0	0	0	0	0	0
Non-Labor	Base YR Rec	887	887	887	-5	-11	-22	882	876	865
NSE	Base YR Rec	0	0	0	3	7	10	3	7	10
Tota	ıl	887	887	887	-2	-4	-12	885	883	875
FTE	Base YR Rec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>Total</u>	FTE	Adj Type
2014	0	0	3	3	0.0	1-Sided Adj

Software Licensing Costs: \$3K increase for licensing fees for SDG&E s My Account electronic bill payment and presentment software. See Remittance Processing 100004.000 Supplemental Workpaper 2 - Forecast Adjustment Calculations for additional detail. (Reference cell M16)

2014 0 5 0 5 0.0 1-Sided Adj

Increase of E-Bills Delivered: \$5K increase in costs to vendor to deliver electronic bills to customers' home banking web sites. See Remittance Processing 100004.000 Supplemental Workpaper 2 - Forecast Adjustment Calculations for additional detail. (Reference cell M5)

2014 0 -16 0 -16 0.0 1-Sided Adj

Forms & Envelopes - reduction due to suppressed and electronic bills: Reduction to costs for forms and envelopes due to suppressed bills (customers have indicated they no longer need a paper bill) and electronic bills in the amount of <\$16K>. See Remittance Processing 100004.000 Supplemental Workpaper 2 - Forecast Adjustment Calculations for additional detail. (Reference cell M11)

2014 0 6 0 6 0.0 1-Sided Adj

Forms & Envelopes - first call collection notices: Forms and envelopes required for 1st call notices (aka 48-Hour Notices). See Remittance Processing 100004.000 Supplemental Workpaper 3 - 1st Call Notices Forecast Adjustment Calculations for additional detail. (Reference Cell F27)

2014 Total 0 -5 3 -2 0.0

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area: Witness: Bradley M. Baugh A. Customer Service Operations Category: 5. Remittance Processing Category-Sub: 100004.000 - Remittance Processing Workpaper: Year/Expl. **NLbr** NSE Total FTE Adj Type Labor 2015 0 0 7 0.0 1-Sided Adj Software Licensing Costs: \$7K increase for licensing fees for SDG&E s My Account electronic bill payment and presentment software. See Remittance Processing 100004.000 Supplemental Workpaper 2 - Forecast Adjustment Calculations for additional detail. (Reference cell N16) 2015 0 0 12 12 0.0 1-Sided Adj Incease of E-Bills Delivered: \$12K increase in costs to vendor to deliver electronic bills to customers' home banking web sites. See Remittance Processing 100004.000 Supplemental Workpaper 2 - Forecast Adjustment Calculations for additional detail. (Reference cell N5) 2015 0 -34 0 -34 0.0 1-Sided Adj Forms & Envelopes - reduction due to suppressed and electronic bills: Reduction to costs for forms and envelopes due to suppressed bills (customers have indicated they no longer need a paper bill) and electronic bills in the amount of <\$34K>. See Remittance Processing 100004.000 Supplemental Workpaper 2 - Forecast Adjustment Calculations for additional detail. (Reference cell N11) 2015 0 11 0 11 1-Sided Adj Forms & Envelopes - first call collection notices: Forms and envelopes required for 1st call notices (aka 48-Hour Notices). See Remittance Processing 100004.000 Supplemental Workpaper 3 - 1st Call Notices Forecast Adjustment Calculations for additional detail. (Reference cell G27) 2015 Total -11 0.0 2016 0 0 10 10 0.0 1-Sided Adj Software Licensing Costs: \$10K increase for licensing fees for SDG&E's My Account electronic bill payment and presentment software. See Remittance Processing 100004.000 Supplemental Workpaper 2 - Forecast Adjustment Calculations for additional detail. (Reference cell O16) 2016 0 19 0 19 0.0 1-Sided Adj Increase of E-Bills Delivered: \$19K increase in costs to vendor to deliver electronic bills to customers' home banking web sites. See Remittance Processing 100004.000 Supplemental Workpaper 2 - Forecast Adjustment Calculations for additional detail. (Reference cell O5) 2016 0 -52 O -52 1-Sided Adj

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 5. Remittance Processing

Workpaper: 100004.000 - Remittance Processing

Year/Expl. Labor NLbr NSE Total FTE Adj Type

Forms & Envelopes - reduction due to suppressed and electronic bills: Reduction to costs for forms and envelopes due to suppressed bills (customers have indicated they no longer need a paper bill) and electronic bills in the amount of <\$52K>. See Remittance Processing 100004.000 Supplemental Workpaper 2 - Forecast Adjustment Calculations for additional detail. (Reference cell 011)

2016 0 11 0 11 0.0 1-Sided Adj

Forms & Envelopes - first call collection notices: Forms and envelopes required for 1st call notices (aka 48-Hour Notices). See Remittance Processing 100004.000 Supplemental Workpaper 3 - 1st Call Notices Forecast Adjustment Calculations for additional detail. (Reference cell H27)

2016 Total 0 -22 10 -12 0.0

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 5. Remittance Processing

Workpaper: 100004.000 - Remittance Processing

Determination of Adjusted-Recorded (Incurred Costs):

beteriiiilation of Aujusteu-N	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	0	0
Non-Labor	930	815	855	805	889
NSE	0	0	0	0	0
Total	930	815	855	805	889
FTE	0.0	0.0	0.0	0.0	0.0
djustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	-3	-3	-3	-3	-2
NSE	0	0	0	0	0
Total	-3	-3	-3	-3	-2
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal	\$)				
Labor	0	0	0	0	0
Non-Labor	927	811	852	802	887
NSE	0	0	0	0	0
Total	927	811	852	802	887
FTE	0.0	0.0	0.0	0.0	0.0
/acation & Sick (Nominal \$)					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
scalation to 2013\$					
Labor	0	0	0	0	0
Non-Labor	98	66	33	13	0
NSE	0	0	0	0	0
Total	98	66	33	13	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constan	t 2013\$)				
Labor	0	0	0	0	0
Non-Labor	1,025	877	886	815	887
NSE	0	0	0	0	0
Total	1,025	877	886	815	887
FTE	0.0	0.0	0.0	0.0	0.0

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 5. Remittance Processing

Workpaper: 100004.000 - Remittance Processing

Summary of Adjustments to Recorded:

		In Nominal \$ (000)	Incurred Costs		
Years	2009	2010	2011	2012	2013
Labor	0	0	0	0	0
Non-Labor	-3	-3	-3	-3	-2
NSE	0	0	0	0	0
Total	-3	-3	-3	-3	-2
FTE	0.0	0.0	0.0	0.0	0.0

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	FTE	Adj Type	From CCtr	<u>RefID</u>
2009	0	-3	0	0.0 CC	TR Transf	To 2100-3490.000	CSCHRAMM2013 1115141053830
work group		Remittance I	Processin	g to cost	center 2100-3	enter 2100-0395 in 490 in work group	11101111000000
2009 Total	0	-3	0	0.0			
work group		Remittance I	Processin	tter notice	center 2100-3	To 2100-3490.000 enter 2100-0395 in 3490 in work group	CSCHRAMM2013 1115141126417
2010 Total	0	-3	0	0.0			
work group		Remittance I	Processin	tter notice	center 2100-3	To 2100-3490.000 enter 2100-0395 in 490 in work group	CSCHRAMM2013 1115141206667
2011 Total	0	-3	0	0.0			

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 5. Remittance Processing

Workpaper: 100004.000 - Remittance Processing

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	FTE Adj Type	From CCtr	RefID
2012	0	-3	0	0.0 CCTR Transf	To 2100-3490.000	CSCHRAMM2013
						1115141304787

Transfer non-labor costs associated with red letter notices from cost center 2100-0395 in work group 100004.000 Remittance Processing to cost center 2100-3490 in work group 100003.000 Credit & Collections to align costs where activity resides.

2012 Total	0	-3	U	0.0			
2013	0	-2	0	0.0 CCTR Transf	To 2100-3490.000	CSCHRAMM2014	
						0210180643157	

Transfer non-labor costs associated with red letter notices from cost center 2100-0395 in work group 100004.000 Remittance Processing to cost center 2100-3490 in work group 100003.000 Credit & Collections to align costs where activity resides.

2013 Total 0 -2 0 0.0

Supplemental Workpapers for Workpaper 100004.000

Remittance Processing 100004.000 Supplemental Workpaper 1 - Historical and Forecast Data

Kei		Processing 10000							Data					
	Α	В	С	D	Ε	F	G	H	I	J	N	0	P	_
1			Actual	Actual	Actual	Actual	Actual	Forecast	Forecast	Forecast	Not	e: Colum	ıns A	Ш
2			2009	2010	2011	2012	2013	2014	2015	2016	— thro	ugh J are		Ш
3								[A]	[A]	[A]		ed on the		Ш
4	Total ac	tive / forecast electric	1,375,326	1,382,924	1,390,704	1,397,678	1,405,218	1,414,346	1,428,204	1,445,387		of historic		Ш
5													ai	Н
	Volume							[6] (4 B)	[6] (4 5)	[6] (4 8)		forecast		Н
_	Bills & Notic				0== 4=0	212.251	222.42=	[C] = (A x B)	[C] = (A x B)	[C] = (A x B)		ıme data	as	Н
8		RICOH - Grouped Bills	417,088	584,174	857,470	842,264	839,427	848,608	856,922	867,232	Post	age		Н
9		MPK- Paper Bills	11,833,261	11,430,810	11,092,421	10,643,744	10,079,842	9,582,194	9,111,942	8,650,641	100	0004.001		Н
10		Account Suppressed Bills	2,972,042	3,433,257	3,957,104	4,448,597	4,955,778	5,487,662	6,041,303	6,619,872	Sup	plementa	1	Н
11	Con	solidator e-Bills Delivered	506,248	624,251	705,512	771,581	872,905	898,110	928,333	961,182		rkpaper 1		Н
12		Other Notices	650,133	658,128	598,405	583,026	550,400	509,165	471,307	433,616		крарст		Н
13		Total	16,378,772	16,730,620	17,210,912	17,289,212	17,298,352	17,325,739	17,409,807	17,532,543			_	
14												<u> </u>		
	Bills & Notic	es Per Meter						[B]	[B]	[B]			-	_
16		RICOH - Grouped Bills	0.30	0.42	0.62	0.60	0.60	0.60	0.60	0.60				
17		MPK- Paper Bills	8.60	8.27	7.98	7.62	7.17	6.78	6.38	5.99		<u> </u>		
18		Account Suppressed Bills	2.16	2.48	2.85	3.18	3.53	3.88	4.23	4.58		<u> </u>		
19	Con	solidator e-Bills Delivered	0.37	0.45	0.51	0.55	0.62	0.64	0.65	0.67		<u></u>		
20		Notices	0.47	0.48	0.43	0.42	0.39	0.36	0.33	0.30		<u> </u>	ــــــ	
21		Total	11.9	12.10	12.39	12.37	12.31	12.25	12.19	12.13				
22				11.50			44.00	44.00	11.00	44.00		<u> </u>	₩	
23		All Bills Per Meter	11.43	11.62	11.96		11.92	11.89	11.86	11.83		_	₩	
24		Notices Per Meter	0.47	0.48	0.43	0.42	0.39	0.36	0.33	0.30				
25														
	Postal Rate											<u> </u>		
	Bills & Notic							[D]	[D]	[D]				
28		RICOH - Grouped Bills			-	e of flat mails	\$0.662	\$0.711	\$0.711	\$0.711		<u> </u>	<u> </u>	
29		MPK- Paper Bills				regular mails	\$0.364	\$0.385	\$0.385	\$0.385		<u> </u>	<u> </u>	
30		Account Suppressed Bills			ended rate of		\$0.359	\$0.381	\$0.381	\$0.381		<u> </u>		
31	Con	solidator e-Bills Delivered			ended rate of		\$0.359	\$0.381	\$0.381	\$0.381				
32		Notices		BI	ended rate of	regular mails	\$0.383	\$0.404	\$0.404	\$0.404				
33	Postage]
34	Bills & Notic	es						[E] = (C x D]	[E] = (C x D]	[E] = (C x D]				
35		RICOH - Grouped Bills	\$321,460	\$437,501	\$526,309	\$534,015	\$555,756	\$603,416	\$609,328	\$616,659				
36		MPK- Paper Bills	\$4,029,466	\$3,965,331	\$4,061,332	\$3,791,483	\$3,664,918	\$3,687,121	\$3,506,174	\$3,328,670				
37	My	Account Suppressed Bills	\$984,486	\$1,150,141	\$1,339,895	\$1,555,000	\$1,781,106	\$2,088,603	\$2,299,319	\$2,519,522				\Box
38	Con	solidator e-Bills Delivered	\$167,694	\$209,124	\$238,890	\$269,705	\$313,722	\$341,821	\$353,323	\$365,826				
												+	+	-
39		Notices	\$229,471	\$234,849	\$216,225	\$216,898	\$210,606	\$205,622	\$190,333	\$175,112				J

San Diego Gas & Electric Company

2016 GRC - APP Non-Shared Service Workpapers

Remittance Processing 100004.000 Supplemental Workpaper 2 - Forecast Adjustment Calculations

	A	В	С	D	E	F G	Н	I	J	K L	M	N	0
1		Volume				Unit cost				Year over Year (Inc/Dec)		c/Dec)	
	Vendor's fees for Consolidator												
2	e-Bills Delivered (1)	2013	2014	2015	2016	2013	2014	2015	2016		2014	2015	2016
	Volume = Bills & Notices: Consolidator e-												
3	Bills Delivered (2)									Volume			
4	Costs = Volume x Unit Cost	\$183,310	\$188,603	\$194,950	\$201,848					Costs	\$5,293	\$6,347	\$6,898
5										To the base Year 2013	\$5,293	\$11,640	\$18,538
6													
7			Volu	ume			Unit Cos	t Savings			Year o	ver Year (In	c/Dec)
8	Forms & envelopes Savings	2013	2014	2015	2016	2013	2014	2015	2016		2014	2015	2016
	Volume = Bills & Notices: My Account												
	Suppressed Bills + Consolidator e-Bills												
9	Delivered (3)	5,828,683	6,385,772	6,969,636	7,581,054					Volume	557,089	583,864	611,418
10	Savings = Volume x Unit Cost Savings					(\$0.0296)	(\$0.0296)	(\$0.0296)	(\$0.0296)	Savings		(\$17,282)	(\$18,098)
11						1	,	,,	,,	To the base Year 2013	(\$16,490)	(\$33,772)	(\$51,870)
12												(, , ,	, , ,
13			Co	st							Year o	ver Year (In	c/Dec)
14	Software (4)	2013	2014	2015	2016						2014	2015	2016
15	Contractual increase of 3% annually	\$109,776	113,070	116,462	119,956					Costs	\$3,293	\$3,392	\$3,494
16										To the base Year 2013	\$3,293	\$6,685	\$10,179
17													
18	(1) - The Fiserv fees are the cost to deliver	e-bills to cus	stomers' hor	ne banking v	veb sites, no	email addre	sses.						
19													
	(3) - Volume actual / forecast see Supplem	ental Workr	aner 1 Histo	rical and Fo	rocast Data a	ttached to Re	amittance D	rocessing V	Norknaner 1	00004 000 - Reference (alle: Sum/G	10·G11)·	
	Sum(H10:H11); Sum(I10:I11); Sum(J10:J11		aper I mstc	nicai allu FU	i ccasi Dala a	ttached to Ne	emittance r	TOCESSING V	voikhahei 1	.00004.000 - Neierence (ens. Junita	10.011),	
20	3uiii(110.111), 3uiii(110.111), 3uiii(110.111	,											

San Diego Gas & Electric Company

2016 GRC - APP Non-Shared Service Workpapers

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^{21 (4) -} Oracle is for annual maintenance of the e-docs My Account internal SDG&E EBPP payment platform.

Remittance Processing 100004.000 Supplemental Workpaper 3 - 1st Call Notices Forecast Adjustment Calculations

	А	В	С	D	Е	F	G	Н
1	• Effective	e 05/28/2014 - 1	Lst Call Notices (aka: 48-H	our Notices) will be mailed	d fror	n Monterey Par	k Operations;	
2			<u>- </u>	eter - and, certificate of ma	ailing			
3	Printing	will be on a sing	gle sheet - and, duplex.					
4	 Assump 	tions:						
5	1	Postage						
6		1a.	Postal rate	\$0.4060		3-digit		
7		1b.	Meter fees	\$0.0150				
8		1c.	Certificate of mailing	\$0.0044				
9		1d.	Postage Rate	\$0.4254				
10	2	Printing/Forms,	/Envelopes					
11		2a.	Form	\$0.0105		letter18		
12		2b.	Envelope	\$0.0109		mailer		
13		2c.	Printing Rate	\$0.0214				
14	3	Volume						
15		3a.	Avg. Monthly Volume	41,800				
16	• Forecast	ts						
17				Year		2014	2015	2016
18				Number of months		7.142847	12	12
19	Workpap	er (WP)		Volume = 3a x # of mos.	[A]	298,571	501,600	501,600
20	1. WP 10	0004.001	Postage					
21	Postage		1d.	Postal rate	[B]	\$0.4254	\$0.4254	\$0.4254
22							[A] x [B] = [C]	
23				Postage forecast	[C]	\$127,012	\$213,381	\$213,381
24	2. WP 10	O004.000	Forms					
25	Remittan	ce Processing	2c.	Printing Rate	[D]	\$0.0214	\$0.0214	\$0.0214
26			_				[A] x [D] = [E]	
27				Printing Forecast	[E]	\$6,389	\$10,734	\$10,734
28								
	¹ The 3-di	git rate is the 2 ⁿ	d lowest discounted rate	or business mails – for wh	ich th	ne 48hr Notices	qualify because of	its daily

San Diego Gas & Electric Company

2016 GRC - APP Non-Shared Service Workpapers

¹ The 3-digit rate is the 2nd lowest discounted rate for business mails – for which the 48hr Notices qualify because of its daily limited volume.

Beginning of Workpaper 100004.001 - Postage

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub 6. Postage

Workpaper: 100004.001 - Postage

Activity Description:

The Postage workgroup covers the postage costs to deliver customer bills.

Forecast Explanations:

Labor - Base YR Rec

N/A

Non-Labor - Base YR Rec

N/A

NSE - Base YR Rec

A base year forecast method was used because expenses depend on postage rates which are determined by the USPS and the volume of paper bills and notices which are impacted by customer growth as well as electronic bill adoption levels. Therefore, the base year provides a reasonable starting point for future expenditures.

Summary of Results:

				Costs					
		Adjι	ısted-Recor	Adjusted-Forecast					
Years	2009	2010	2011	2012	2013	2014	2015	2016	
Labor	0	0	0	0	0	0	0	0	
Non-Labor	0	0	0	0	0	0	0	0	
NSE	5,059	5,009	4,979	4,597	4,431	4,624	4,519	4,333	
Total	5,059	5,009	4,979	4,597	4,431	4,624	4,519	4,333	
FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Witness: Bradley M. Baugh

A. Customer Service Operations Category:

6. Postage Category-Sub:

100004.001 - Postage Workpaper:

Forecast Summary:

	In 2013 \$(000) Incurred Costs												
Forecas	t Method	Base Forecast			Forec	ast Adjust	tments	Adjusted-Forecast					
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016			
Labor	Base YR Rec	0	0	0	0	0	0	0	0	0			
Non-Labor	Base YR Rec	0	0	0	0	0	0	0	0	0			
NSE	Base YR Rec	4,431	4,431	4,431	193	88	-98	4,624	4,519	4,333			
Tota	ıl	4,431	4,431	4,431	193	88	-98	4,624	4,519	4,333			
FTE	Base YR Rec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>Total</u>	FTE	Adj Type
2014	0	0	13	13	0.0	1-Sided Adj

Posage for Meter Growth: Postage increase in the amount of \$13K due to meter growth. See Postage 100004.001 Supplemental Workpaper 2 - Postage Forecast Calculations for additional detail. (Reference cell H11)

2014 388 388 0.0 1-Sided Adj

Increased postage Costs - rate increase: Additional costs in the amount of \$388K due to postage rate increase. See Postage 100004.001 Supplemental Workpaper 2 - Postage Forecast Calculations for additional detail. (Reference cell L11)

2014 -202 -202 0.0 1-Sided Adj

Postage Savings - paperless: Offsetting reduction in the amount of <\$202K> to postage costs for electronic billing due to meter growth. See Postage 100004.001 Supplemental Workpaper 2 - Postage Forecast Calculations for additional detail. (Reference cell H18)

2014 -133 -1331-Sided Adj

Postage Savings - rate increase: Offsetting reduction in the amount of <\$133K> to postage costs for electronic billing due to rate increase. See Postage 100004.001 Supplemental Workpaper 2 - Postage Forecast Calculations for additional detail. (Reference cell L18)

2014 0 127 127 0.0 1-Sided Adj

Increased Postage Costs - first call collection notices: Postage required for 1st call notices (48-Hour Notices) See Postage 100004.001 Supplemental Workpaper 3 - 1st Call Notices Forecast Adjusment Calculations for additional detail. (Reference cell F23)

2014 Total 193 193 0.0

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area: Witness: Bradley M. Baugh A. Customer Service Operations Category: 6. Postage Category-Sub: 100004.001 - Postage Workpaper: <u>Labor</u> **NLbr** Year/Expl. NSE Total FTE Adj Type 2015 0 0 46 46 0.0 1-Sided Adj Posage for Meter Growth: Postage increase in the amount of \$46K due to meter growth. See Postage 100004.001 Supplemental Workpaper 2 - Postage Forecast Calculations for additional detail. (Reference cell I11) 2015 -414 -414 0.0 1-Sided Adj Postage Savings - paperless: Offsetting reduction in the amount of <\$414K> to postage costs for electronic billing due to meter growth. See Postage 100004.001 Supplemental Workpaper 2 - Postage Forecast Calculations for additional detail. (Reference cell I18) 2015 0 0 -144 -144 0.0 1-Sided Adj Postage Savings - rate increase: Offsetting reduction in the amount of <\$144K> to postage costs for electronic billing due to rate increase. See Postage 100004.001 Supplemental Workpaper 2 - Postage Forecast Calculations for additional detail. (Reference cell M18) 2015 387 387 0.0 1-Sided Adi Increased postage Costs - rate increase: Additional costs in the amount of \$387K due to postage rate increase. See Postage 100004.001 Supplemental Workpaper 2 - Postage Forecast Calculations for additional detail. (Reference cell M11) 2015 213 213 0.0 1-Sided Adj Increased Postage Costs - first call collection notices: Postage required for 1st call notices (48-Hour Notices) See Postage 100004.001 Supplemental Workpaper 3 - 1st Call Notices Forecast Adjusment Calculations for additional detail. (Reference cell G23) 2015 Total 88 88 2016 0 93 93 0.0 1-Sided Adj Posage for Meter Growth: Postage increase in the amount of \$93K due to meter growth. See Postage 100004.001 Supplemental Workpaper 2 - Postage Forecast Calculations for additional detail. (Reference cell J11)

Increased postage Costs - rate increase: Additional costs in the amount of \$386K due to postage rate increase. See Postage 100004.001 Supplemental Workpaper 2 - Postage Forecast Calculations for additional detail. (Reference cell N11)

386

Note: Totals may include rounding differences.

2016

386

0.0

1-Sided Adj

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 6. Postage

Workpaper: 100004.001 - Postage

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE Adj Type
2016	0	0	-636	-636	0.0 1-Sided Adj

Postage Savings - paperless: Offsetting reduction in the amount of <\$636K> to postage costs for electronic billing due to meter growth. See Postage 100004.001 Supplemental Workpaper

2 - Postage Forecast Calculations for additional detail. (Reference cell J18)

2016 0 0 -154 -154 0.0 1-Sided Adj

Postage Savings - rate increase: Offsetting reduction in the amount of <\$154K> to postage costs for electronic billing due to rate increase. See Postage 100004.001 Supplemental Workpaper 2 - Postage Forecast Calculations for additional detail. (Reference cell N18)

2016 0 0 213 213 0.0 1-Sided Adj

Increased Postage Costs - first call collection notices: Postage required for 1st call notices (48-Hour Notices) See Postage 100004.001 Supplemental Workpaper 3 - 1st Call Notices Forecast Adjusment Calculations for additional detail. (Reference cell H23)

2016 Total 0 0 -98 -98 0.0

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 6. Postage

Workpaper: 100004.001 - Postage

Determination of Adjusted-Recorded (Incurred Costs):

retermination of Aujusteu-Net	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	0	0
Non-Labor	5,561	4,970	4,722	2,565	4,467
NSE	0	0	0	0	0
Total	5,561	4,970	4,722	2,565	4,467
FTE	0.0	0.0	0.0	0.0	0.0
Adjustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	-5,561	-4,970	-4,722	-2,565	-4,467
NSE	4,580	4,638	4,804	4,542	4,431
Total	-981	-333	82	1,977	-35
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	4,580	4,638	4,804	4,542	4,431
Total	4,580	4,638	4,804	4,542	4,431
FTE	0.0	0.0	0.0	0.0	0.0
/acation & Sick (Nominal \$)					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
scalation to 2013\$					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	479	371	175	55	0
Total	479	371	175	55	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2	(013\$)				
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	5,059	5,009	4,979	4,597	4,431
Total	5,059	5,009	4,979	4,597	4,431
FTE	0.0	0.0	0.0	0.0	0.0

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 6. Postage

Workpaper: 100004.001 - Postage

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs										
Years	2009	2010	2011	2012	2013					
Labor	0	0	0	0	0					
Non-Labor	-5,561	-4,970	-4,722	-2,565	-4,467					
NSE	4,580	4,638	4,804	4,542	4,431					
Total	-981	-333	82	1,977	-35					
=TE	0.0	0.0	0.0	0.0	0.0					

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	FTE	E Adj Type	From CCtr	RefID
2009	0	-29	0	0.0	CCTR Transf	To 2100-3490.000	CSCHRAMM2013
in sub work g	group 10000	04.001 Remi	ittance Pro	cessin		ter 2100-0395.001 t center 2100-3490 ctivity resides.	1115140536160
2009	0	0	-951	0.0	1-Sided Adj	N/A	TPMTT20131030
To true-up po	ostage exper	nses					145738853
2009	0	-5,532	5,532	0.0	1-Sided Adj	N/A	TPMTT20131030
To move pos	tage expens	es to NSE					152101027
2009 Total	0	-5,561	4,580	0.0			
2010	0	-29	0	0.0	CCTR Transf	To 2100-3490.000	CSCHRAMM2013
in sub work g	group 10000	04.001 Remi	ittance Pro	cessin		ter 2100-0395.001 t center 2100-3490 tivity resides.	1115140637743
2010	0	-4,941	4,941	0.0	1-Sided Adj	N/A	TPMTT20131030
To move pos	tage expens	es to NSE					153433930
2010 To true-up po	0	0	-303	0.0	1-Sided Adj	N/A	TPMTT20131030 153935793
το πα c- αρ ρο	osiaye expei	1969					

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 6. Postage

Workpaper: 100004.001 - Postage

	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type	From CCtr	RefID		
2010 Total	0	-4,970	4,638	0.0					
2011	0	-29	0	0.0	CCTR Transf	To 2100-3490.000	CSCHRAMM2013		
Transfer postage costs associated with red letter notices from cost center 2100-0395.001 in sub work group 100004.001 Remittance Processing Postage to cost center 2100-3490 in work group 100003.000 Credit & Collections to align costs where activity resides.									
2011	0	-4,693	4,693	0.0 1	I-Sided Adj	N/A	TSU20131030154		
To move p	oostage exper	nses to NSE					820780		
2011	0	0	111	0.0 1	I-Sided Adj	N/A	TSU20131030155		
To true-up	postage expe	enses					020057		
2011 Total	0	-4,722	4,804	0.0					
2012	0	-27	0	0.0	CCTR Transf	To 2100-3490.000	CSCHRAMM2013		
in sub wor	k group 1000	004.001 Ren	nittance Pr	ocessing		nter 2100-0395.001 st center 2100-3490 activity resides.	1115140745967		
2012	0	-2,539	2,539	0.0 1	I-Sided Adj	N/A	TSU20131030155		
To move p	oostage exper	nses to NSE					226893		
2012	0	0	2,004	0.0 1	I-Sided Adj	N/A	TSU20131030155		
							222010		
To true-up	postage expe	enses					323840		
To true-up	postage expe	enses -2,565	4,542	0.0			323040		
			4,542	0.0	-		323040		
			4,542		CCTR Transf	To 2100-3490.000	CSCHRAMM2014		
2012 Total 2013 Transfer p in sub wor	0 oostage costs a	-2,565 -19 associated v 004.001 Ren	0 vith red lett nittance Pr	0.0 (er notice ocessing	es from cost cer	nter 2100-0395.001 st center 2100-3490			
2012 Total 2013 Transfer p in sub wor	0 oostage costs a	-2,565 -19 associated v 004.001 Ren	0 vith red lett nittance Pr	0.0 (er notice ocessing s to aligr	es from cost cer g Postage to co	nter 2100-0395.001 st center 2100-3490	CSCHRAMM2014		

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 6. Postage

Workpaper: 100004.001 - Postage

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	FTE	Adj Type	From CCtr	RefID	
2013 To true-up	0 postage expe	0 enses	-17	0.0 1-	Sided Adj	N/A	TPMTT20140206 203416130	
2013 Total	0	-4,467	4,431	0.0				

Supplemental Workpapers for Workpaper 100004.001

Postage 100004.001 Supplemental Workpaper 1 - Historical and Forecast Data

		В	С	D	F	F	0	- 11			К		М	N	0		0	R	S
-	A	В	Actual	Actual	Actual	Actual	G Actual	H Forecast	Forecast	Forecast	K		M	N	0	Р	Q	K	5
2			2009	2010	2011	2012	2013	2014	2015	2016									
3	Total active	electric meters	1,375,326	1,382,924	1,390,704	1,397,678	1,405,218	1,414,346	1,428,204	1,445,387									
Ť	Total active	- ciccine meters	1,575,520	1,502,52	1,000,701	1,557,676	1,103,210		otices Volume		Bills & No	tices Volume	Forecast	17.	6.1	1 1 7		.1	
									ric Meter Fore		55 @ 110	Change	· or ccusc			_	are based o		
4	Volume							-	s Per Meter Fo		,	ear over Yea	r	of hist	orical and	forecast vol	lume data as	Remittanc	e
5	Bills & Notic	es Volume	2009	2010	2011	2012	2013	2014	2015	2016	2014	2015	2016	Proces	ssing 1000	004.000 Sup	pplemental \	Workpaper	1
6	Dillo & NOCK	RICOH - Grouped Bills		584,174	857,470	842,264	839,427	848,608	856,922	867,232	9,181	8,314	10,310						
7		MPK- Paper Bills		11,430,810	11,092,421	10,643,744	10,079,842	9,582,194	9,111,942	8,650,641	(497,648)	(470,252)	(461,301)						
8	Mv A	Account Suppressed Bills		3,433,257	3,957,104	4,448,597	4,955,778	5,487,662	6,041,303	6,619,872	531,884	553,641	578,569						
9		olidator e-Bills Delivered		624,251	705,512	771,581	872,905	898,110	928,333	961,182	25,205	30,223	32,849						
10		Notices		658,128	598,405	583,026	550,400	509,165	471,307	433,616	(41,235)	(37,858)	(37,691)						
11			16,378,772	16,730,620	17,210,912	17,289,212	17,298,352	17,325,739	17,409,807	17,532,543	27,387	84,068	122,736						
12	MPK Rills &	Notices = [Sum of Rows		., ,	, -,-	,,	16,458,925	16,477,131	16,552,885	16,665,311	18,206	75,754	112,426						
13		Electronic Bills = [Sum R					5,828,683	6,385,772	6,969,636	7,581,054	557,089	583,864	611,418						
H							0,020,000	0,000,::=	3,000,000	.,000,000		& Notices Po		nge					
								Bills & No	tices Per Mete	r Forecast	55	Year ov							
									Notices Per M		[2013 -201	2 Bills & Noti		r change +					
14								-	s Per Meter Cl		[2013 201	Forecasted		. c.iunge i					
15	Bills & Notic	l ces Per Meter	2009	2010	2011	2012	2013	2014	2015	2016	2013	2014	2015	2016					
16	Dinis & Trotic	RICOH - Grouped Bills	0.30	0.42	0.62	0.60	0.60	0.60	0.60	0.60	0.00	0.000	0.000	0.000					
17		MPK- Paper Bills	8.60	8.27	7.98	7.62	7.17	6.78	6.38	5.99	-0.45	-0.395	-0.395	-0.395					
18	My A	Account Suppressed Bills		2.48	2.85	3.18	3.53	3.88	4.23	4.58	0.35	0.350	0.350	0.350					
19		olidator e-Bills Delivered	0.37	0.45	0.51	0.55	0.62	0.64	0.65	0.67	0.07	0.015	0.015	0.015					
20		Notices	0.47	0.48	0.43	0.42	0.39	0.36	0.33	0.30	-0.03	-0.030	-0.030	-0.030					
21		Total	11.9	12.10	12.39	12.37	12.31	12.25	12.19	12.13	-0.06	-0.06	-0.06	-0.06					
22		All Bills Per Meter	11.43	11.62	11.96	11.95	11.92	11.89	11.86	11.83									
23		Notices Per Meter	0.47	0.48	0.43	0.42	0.39	0.36	0.33	0.30									
								Pos	tal Rate Fored	ast	Pos	tal Rate Incre	ase						
								[2013 Post	al Rate + 2014	Postal Rate	Effec	tive January	2014	2013 B	lended Posta	al Rates			
	Postal Rate								Increase]		No cha	nge in 2015 8	& 2016						
25	Bills & Notic	es					2013	2014	2015	2016	2014	2015	2016	2014	2015	2016			
																		e Expense Rico	
00		RICOH - Grouped Bills			Average Rat	a of flat mails	\$0.662	\$0.711	\$0.711	\$0.711	\$0.049	\$0.000	\$0.000	\$0.6621	\$0.6621	\$0.6621		ided by 2013 Il Volume (G6	
26 27		MPK- Paper Bills		ь	lended rate of		\$0.862	\$0.711	\$0.711	\$0.711	\$0.049	\$0.000	\$0.000	\$0.8621	\$0.8621	\$0.8621		lls & Notices P	_
28	NAV /	Account Suppressed Bills			lended rate of		\$0.359	\$0.385	\$0.385	\$0.385	\$0.021	\$0.000	\$0.000	\$0.3630	\$0.3630	\$0.3630	4	Bills & Notices P	
29		olidator e-Bills Delivered			lended rate of		\$0.359	\$0.381	\$0.381	\$0.381	\$0.021	\$0.000	\$0.000	\$0.3630	\$0.3630	\$0.3630		339) / 2013 M	
30	COIIS	Notices			lended rate of		\$0.383	\$0.381	\$0.381	\$0.381	\$0.021							es Volume (G	
30		Notices					70.363	Ş0.404								\$0.2620	I Notic		
						- eganer mene			•	J0.404		\$0.000 ental Postage	\$0.000 w Rate	\$0.3630 Impa	\$0.3630 ct Due to Gr	\$0.3630 owth			,,,
								P	ostage Foreca			solution (1997)		Impa	sct Due to Gr rear over Year	owth	Impact [Due to Rate I ear over Yea	ncrease
1									ostage Foreca	st	Increme	ntal Postage	w Rate	Impa Y	ct Due to Gr	owth	Impact D	Due to Rate I	ncrease r
31	Postage					-8			_	st	Increme	ntal Postage Increase	w Rate	Impa Y [Bills Per M	ct Due to Gr ear over Yea	owth ar at Change X	Impact E Ye [Increme	Oue to Rate I ear over Yea	ncrease r w Rate
31	Postage Bills & Notic	ces	2009	2010	2011	2012	2013		ric Meters Fore	st	Increme	Increase over Year Ch	w Rate	Impa Y [Bills Per M	ct Due to Gr ear over Yea leter Forecas	owth ar at Change X	Impact E Ye [Increme	Oue to Rate I ear over Yea ental Postage	ncrease r w Rate
_		ces					2013 \$555,756	[Active Election	ric Meters Fore Rate Forecast	st ecast X Postal	Increme Year [2014	Increase over Year Ch 1 - 2013 = Cha	w Rate ange ange]	Impa Y [Bills Per M 2013 Bl	ct Due to Gr Year over Yea leter Forecas lended Posta	owth ar at Change X Il Rates]	Impact E Y [Increme Increase - I	Oue to Rate I ear over Yea ental Postage Impact Due t	ncrease r w Rate o Growth]
32 33 34	Bills & Notio	RICOH - Grouped Bills MPK- Paper Bills	\$321,460 \$4,029,466	2010 \$437,501 \$3,965,331	2011 \$526,309 \$4,061,332	2012 \$534,015 \$3,791,483	\$555,756 \$3,664,918	2014 \$603,416 \$3,687,121	ric Meters Fore Rate Forecast 2015 \$609,328 \$3,506,174	st ecast X Postal 2016 \$616,659 \$3,328,670	Year [2014 \$47,660 \$22,203	ental Postage Increase over Year Ch 1 - 2013 = Cha 2015 \$5,912 (\$180,947)	w Rate ange ange] 2016 \$7,331 (\$177,504)	Impa Y [Bills Per M 2013 Bl 2014 \$6,079 (\$180,646)	rect Due to Gr Year over Year leter Forecas lended Posta 2015 \$5,505 (\$170,701)	owth ar It Change X Il Rates] 2016 \$6,826 (\$167,452)	Impact E Y [Increme Increase - I 2014 \$41,581 \$202,849	Due to Rate I ear over Yea ental Postage impact Due to 2015 \$407 (\$10,246)	ncrease r w Rate o Growth] 2016 \$505 (\$10,052)
32 33 34 35	Bills & Notio	RICOH - Grouped Bills MPK- Paper Bills Account Suppressed Bills	\$321,460 \$4,029,466 \$984,486	2010 \$437,501 \$3,965,331 \$1,150,141	2011 \$526,309 \$4,061,332 \$1,339,895	2012 \$534,015 \$3,791,483 \$1,555,000	\$555,756 \$3,664,918 \$1,781,106	2014 \$603,416 \$3,687,121 \$2,088,603	Rate Forecast 2015 \$609,328 \$3,506,174 \$2,299,319	st ecast X Postal 2016 \$616,659 \$3,328,670 \$2,519,522	Year [2014 2014 \$47,660 \$22,203 \$307,497	ental Postage Increase over Year Ch 1 - 2013 = Cha 2015 \$5,912 (\$180,947) \$210,716	ange ange] 2016 \$7,331 (\$177,504) \$220,203	Impa Y [Bills Per M 2013 Bl 2014 \$6,079 (\$180,646) \$193,074	ret Due to Gr Year over Year leter Forecast lended Posta 2015 \$5,505 (\$170,701) \$200,972	owth ar t Change X I Rates] 2016 \$6,826 (\$167,452) \$210,021	Impact E Y [Increme Increase - I 2014 \$41,581 \$202,849 \$114,423	Due to Rate I ear over Yea ental Postage impact Due to 2015 \$407 (\$10,246) \$9,744	r w Rate o Growth] 2016 \$505 (\$10,052) \$10,182
32 33 34 35 36	Bills & Notio	RICOH - Grouped Bills MPK- Paper Bills Account Suppressed Bills olidator e-Bills Delivered	\$321,460 \$4,029,466 \$984,486 \$167,694	2010 \$437,501 \$3,965,331 \$1,150,141 \$209,124	2011 \$526,309 \$4,061,332 \$1,339,895 \$238,890	2012 \$534,015 \$3,791,483 \$1,555,000 \$269,705	\$555,756 \$3,664,918 \$1,781,106 \$313,722	2014 \$603,416 \$3,687,121 \$2,088,603 \$341,821	ric Meters Fore Rate Forecast 2015 \$609,328 \$3,506,174 \$2,299,319 \$353,323	2016 \$616,659 \$3,328,670 \$2,519,522 \$365,826	Year [2014 \$47,660 \$22,203 \$307,497 \$28,099	ental Postage Increase over Year Ch 1 - 2013 = Cha 2015 \$5,912 (\$180,947) \$210,716 \$11,502	ange 2016 \$7,331 (\$177,504) \$220,203 \$12,503	Impa Y [Bills Per M 2013 Bl 2014 \$6,079 (\$180,646) \$193,074 \$9,149	ct Due to Gr 'ear over Yea leter Forecas lended Posta 2015 \$5,505 (\$170,701) \$200,972 \$10,971	owth ar it Change X il Rates] 2016 \$6,826 (\$167,452) \$210,021 \$11,924	Impact I Y. [Increme Increase - I 2014 \$41,581 \$202,849 \$114,423 \$18,950	Due to Rate I ear over Yea ental Postage impact Due ti 2015 \$407 (\$10,246) \$9,744 \$531	r w Rate o Growth] 2016 \$505 (\$10,052) \$10,182 \$579
32 33 34 35 36 37	Bills & Notio	RICOH - Grouped Bills MPK- Paper Bills Account Suppressed Bills olidator e-Bills Delivered Notices	\$321,460 \$4,029,466 \$984,486 \$167,694 \$229,471	2010 \$437,501 \$3,965,331 \$1,150,141 \$209,124 \$234,849	2011 \$526,309 \$4,061,332 \$1,339,895 \$238,890 \$216,225	2012 \$534,015 \$3,791,483 \$1,555,000 \$269,705 \$216,898	\$555,756 \$3,664,918 \$1,781,106 \$313,722 \$210,606	2014 \$603,416 \$3,687,121 \$2,088,603 \$341,821 \$205,622	ric Meters Fore Rate Forecast 2015 \$609,328 \$3,506,174 \$2,299,319 \$353,323 \$190,333	\$t ecast X Postal 2016 \$616,659 \$3,328,670 \$2,519,522 \$365,826 \$175,112	Year [2014 \$47,660 \$22,203 \$307,497 \$28,099 (\$4,984)	ntal Postage Increase over Year Ch 4 - 2013 = Cha 2015 \$5,912 (\$180,947) \$210,716 \$11,502 (\$15,289)	w Rate ange ange] 2016 \$7,331 (\$177,504) \$220,203 \$12,503 (\$15,221)	Impa Y [Bills Per M 2013 Bi 2014 \$6,079 (\$180,646) \$193,074 \$9,149 (\$14,968)	ct Due to Gr Year over Year leter Forecast lended Posta 2015 \$5,505 (\$170,701) \$200,972 \$10,971 (\$13,742)	owth ar t Change X l Rates] 2016 \$6,826 (\$167,452) \$210,021 \$11,924 (\$13,682)	Impact E Y: [Increme Increase - I 2014 \$41,581 \$202,849 \$114,423 \$18,950 \$9,984	Due to Rate I ear over Yea ental Postage impact Due to 2015 \$407 (\$10,246) \$9,744 \$531 (\$1,547)	r w Rate o Growth] 2016 \$505 (\$10,052) \$10,182 \$579 (\$1,539)
32 33 34 35 36 37 38	My A	RICOH - Grouped Bills MPK- Paper Bills Account Suppressed Bills olidator e-Bills Delivered Notices Total	\$321,460 \$4,029,466 \$984,486 \$167,694 \$229,471 \$5,732,577	2010 \$437,501 \$3,965,331 \$1,150,141 \$209,124 \$234,849 \$5,996,946	2011 \$526,309 \$4,061,332 \$1,339,895 \$238,890	2012 \$534,015 \$3,791,483 \$1,555,000 \$269,705	\$555,756 \$3,664,918 \$1,781,106 \$313,722 \$210,606 \$6,526,108	2014 \$603,416 \$3,687,121 \$2,088,603 \$341,821 \$205,622 \$6,926,583	\$3,506,174 \$2,299,319 \$353,323 \$190,333 \$6,958,477	\$t ecast X Postal 2016 \$616,659 \$3,328,670 \$2,519,522 \$365,826 \$175,112 \$7,005,789	Year [2014 \$47,660 \$22,203 \$307,497 \$28,099 (\$4,984) \$400,475	ntal Postage Increase over Year Ch 1 - 2013 = Cha 2015 \$5,912 (\$180,947) \$210,716 \$11,502 (\$15,289) \$31,894	w Rate ange ange] 2016 \$7,331 (\$177,504) \$220,203 \$12,503 (\$15,221) \$47,312	Impa Y [Bills Per M 2013 Bi 2014 \$6,079 (\$180,646) \$193,074 \$9,149 (\$14,968) \$12,688	ct Due to Gr Year over Year leter Forecast lended Posta 2015 \$5,505 (\$170,701) \$200,972 \$10,971 (\$13,742) \$33,005	owth ar t Change X il Rates] 2016 \$6,826 (\$167,452) \$210,021 \$11,924 (\$13,682) \$47,637	Impact I Yi [Increme Increase - I 2014 \$41,581 \$202,849 \$114,423 \$18,950 \$9,984 \$387,787	Due to Rate I ear over Yea ental Postage impact Due to 2015 \$407 (\$10,246) \$9,744 \$531 (\$1,547) (\$1,111)	r sw Rate of Growth] 2016 \$505 (\$10,052) \$10,182 \$579 (\$1,539) (\$325)
32 33 34 35 36 37 38 39	My A Conse	RICOH - Grouped Bills MPK- Paper Bills Account Suppressed Bills olidator e-Bills Delivered Notices Total Notices Postage = [Sum	\$321,460 \$4,029,466 \$984,486 \$167,694 \$229,471 \$5,732,577 of Rows 34 th	2010 \$437,501 \$3,965,331 \$1,150,141 \$209,124 \$234,849 \$5,996,946 rough 37]	2011 \$526,309 \$4,061,332 \$1,339,895 \$238,890 \$216,225 \$6,382,651	2012 \$534,015 \$3,791,483 \$1,555,000 \$269,705 \$216,898	\$555,756 \$3,664,918 \$1,781,106 \$313,722 \$210,606	2014 \$603,416 \$3,687,121 \$2,088,603 \$341,821 \$205,622	ric Meters Fore Rate Forecast 2015 \$609,328 \$3,506,174 \$2,299,319 \$353,323 \$190,333	\$t ecast X Postal 2016 \$616,659 \$3,328,670 \$2,519,522 \$365,826 \$175,112	Year [2014	ntal Postage Increase over Year Ch 1 - 2013 = Cha 2015	w Rate ange ange] 2016 \$7,331 (\$177,504) \$220,203 \$12,503 (\$15,221) \$47,312 \$39,981	Impa Y [Bills Per M 2013 Bi 2014 \$66,079 (\$180,646) \$193,074 \$9,149 (\$14,968) \$12,688 \$6,609	ct Due to Gr Year over Year leter Forecas lended Posta 2015 \$5,505 (\$170,701) \$200,972 \$10,971 (\$13,742) \$33,005 \$27,500	owth ar t Change X I Rates] 2016 \$6,826 (\$167,452) \$210,021 \$11,924 (\$13,682) \$47,637 \$40,811	Impact I Yi [Increme Increase - I 2014 \$41,581 \$202,849 \$114,423 \$18,950 \$9,984 \$387,787 \$346,206	Due to Rate I ear over Yea ental Postage impact Due to 2015 \$407 (\$10,246) \$9,744 \$531 (\$1,547) (\$1,111) (\$1,518)	r Rate of Growth] 2016 \$505 (\$10,052) \$10,182 \$579 (\$1,539) (\$325) (\$830)
32 33 34 35 36 37 38 39 40	My A Consi	RICOH - Grouped Bills MPK- Paper Bills Account Suppressed Bills olidator e-Bills Delivered Notices Total Notices Postage = [Sum Electronic Bills Savings =	\$321,460 \$4,029,466 \$984,486 \$167,694 \$229,471 \$5,732,577 of Rows 34 th	2010 \$437,501 \$3,965,331 \$1,150,141 \$209,124 \$234,849 \$5,996,946 rough 37]	2011 \$526,309 \$4,061,332 \$1,339,895 \$238,890 \$216,225 \$6,382,651	2012 \$534,015 \$3,791,483 \$1,555,000 \$269,705 \$216,898	\$555,756 \$3,664,918 \$1,781,106 \$313,722 \$210,606 \$6,526,108	2014 \$603,416 \$3,687,121 \$2,088,603 \$341,821 \$205,622 \$6,926,583	\$3,506,174 \$2,299,319 \$353,323 \$190,333 \$6,958,477	\$t ecast X Postal 2016 \$616,659 \$3,328,670 \$2,519,522 \$365,826 \$175,112 \$7,005,789	Year [2014 \$47,660 \$22,203 \$307,497 \$28,099 (\$4,984) \$400,475	ntal Postage Increase over Year Ch 1 - 2013 = Cha 2015 \$5,912 (\$180,947) \$210,716 \$11,502 (\$15,289) \$31,894	w Rate ange ange] 2016 \$7,331 (\$177,504) \$220,203 \$12,503 (\$15,221) \$47,312	Impa Y [Bills Per M 2013 Bi 2014 \$66,079 (\$180,646) \$193,074 \$9,149 (\$14,968) \$12,688 \$6,609	ct Due to Gr Year over Year leter Forecast lended Posta 2015 \$5,505 (\$170,701) \$200,972 \$10,971 (\$13,742) \$33,005	owth ar t Change X I Rates] 2016 \$6,826 (\$167,452) \$210,021 \$11,924 (\$13,682) \$47,637 \$40,811	Impact I Yi [Increme Increase - I 2014 \$41,581 \$202,849 \$114,423 \$18,950 \$9,984 \$387,787	Due to Rate I ear over Yea ental Postage impact Due to 2015 \$407 (\$10,246) \$9,744 \$531 (\$1,547) (\$1,111)	r sw Rate of Growth] 2016 \$505 (\$10,052) \$10,182 \$579 (\$1,539) (\$325)
32 33 34 35 36 37 38 39	MPK Bills & Combined E	RICOH - Grouped Bills MPK- Paper Bills Account Suppressed Bills olidator e-Bills Delivered Notices Total Notices Postage = [Sum: Electronic Bills Savings = ge	\$321,460 \$4,029,466 \$984,486 \$167,694 \$229,471 \$5,732,577 of Rows 34 th Sum of Rows	2010 \$437,501 \$3,965,331 \$1,150,141 \$209,124 \$234,849 \$5,996,946 rough 37] 35 and 36] X -	2011 \$526,309 \$4,061,332 \$1,339,895 \$238,890 \$216,225 \$6,382,651	2012 \$534,015 \$3,791,483 \$1,555,000 \$269,705 \$216,898	\$555,756 \$3,664,918 \$1,781,106 \$313,722 \$210,606 \$6,526,108	2014 \$603,416 \$3,687,121 \$2,088,603 \$341,821 \$205,622 \$6,926,583	\$3,506,174 \$2,299,319 \$353,323 \$190,333 \$6,958,477	\$t ecast X Postal 2016 \$616,659 \$3,328,670 \$2,519,522 \$365,826 \$175,112 \$7,005,789	Year [2014	ntal Postage Increase over Year Ch 1 - 2013 = Cha 2015	w Rate ange ange] 2016 \$7,331 (\$177,504) \$220,203 \$12,503 (\$15,221) \$47,312 \$39,981	Impa Y [Bills Per M 2013 Bi 2014 \$66,079 (\$180,646) \$193,074 \$9,149 (\$14,968) \$12,688 \$6,609	ct Due to Gr Year over Year leter Forecas lended Posta 2015 \$5,505 (\$170,701) \$200,972 \$10,971 (\$13,742) \$33,005 \$27,500	owth ar t Change X I Rates] 2016 \$6,826 (\$167,452) \$210,021 \$11,924 (\$13,682) \$47,637 \$40,811	Impact I Yi [Increme Increase - I 2014 \$41,581 \$202,849 \$114,423 \$18,950 \$9,984 \$387,787 \$346,206	Due to Rate I ear over Yea ental Postage impact Due to 2015 \$407 (\$10,246) \$9,744 \$531 (\$1,547) (\$1,111) (\$1,518)	r Rate of Growth] 2016 \$505 (\$10,052) \$10,182 \$579 (\$1,539) (\$325) (\$830)
32 33 34 35 36 37 38 39 40	MPK Bills & Combined E Total Postage RIC	RICOH - Grouped Bills MPK- Paper Bills Account Suppressed Bills olidator e-Bills Delivered Notices Total Notices Postage = [Sum Electronic Bills Savings = ge OH - Grouped Bills, MPK	\$321,460 \$4,029,466 \$984,486 \$167,694 \$229,471 \$5,732,577 of Rows 34 th Sum of Rows	2010 \$437,501 \$3,965,331 \$1,150,141 \$209,124 \$234,849 \$5,996,946 rough 37] 35 and 36] X -	2011 \$526,309 \$4,061,332 \$1,339,895 \$238,890 \$216,225 \$6,382,651	2012 \$534,015 \$3,791,483 \$1,555,000 \$269,705 \$216,898	\$555,756 \$3,664,918 \$1,781,106 \$313,722 \$210,606 \$6,526,108 \$5,970,352	2014 \$603,416 \$3,687,121 \$2,088,603 \$341,821 \$205,622 \$6,926,583 \$6,323,167	ric Meters Fore Rate Forecast 2015 \$609,328 \$3,506,174 \$2,299,319 \$353,323 \$190,333 \$6,958,477 \$6,349,149	\$t 2016 \$616,659 \$3,328,670 \$2,519,522 \$365,826 \$175,112 \$7,005,789 \$6,389,130	Year [2014	ntal Postage Increase over Year Ch 1 - 2013 = Cha 2015	w Rate ange ange] 2016 \$7,331 (\$177,504) \$220,203 \$12,503 (\$15,221) \$47,312 \$39,981	Impa Y [Bills Per M 2013 Bi 2014 \$66,079 (\$180,646) \$193,074 \$9,149 (\$14,968) \$12,688 \$6,609	ct Due to Gr Year over Year leter Forecas lended Posta 2015 \$5,505 (\$170,701) \$200,972 \$10,971 (\$13,742) \$33,005 \$27,500	owth ar t Change X I Rates] 2016 \$6,826 (\$167,452) \$210,021 \$11,924 (\$13,682) \$47,637 \$40,811	Impact I Yi [Increme Increase - I 2014 \$41,581 \$202,849 \$114,423 \$18,950 \$9,984 \$387,787 \$346,206	Due to Rate I ear over Yea ental Postage impact Due to 2015 \$407 (\$10,246) \$9,744 \$531 (\$1,547) (\$1,111) (\$1,518)	r Rate of Growth] 2016 \$505 (\$10,052) \$10,182 \$579 (\$1,539) (\$325) (\$830)
32 33 34 35 36 37 38 39 40	My A Consi MPK Bills & Combined E Total Postag Postage RIC [Sum of Rov	RICOH - Grouped Bills MPK- Paper Bills Account Suppressed Bills bildator e-Bills Delivered Notices Total Notices Postage = [Sum Electronic Bills Savings = ge 00H - Grouped Bills, MPK ws 33, 34 and 37]	\$321,460 \$4,029,466 \$984,486 \$167,694 \$229,471 \$5,732,577 of Rows 34 th Sum of Rows	2010 \$437,501 \$3,965,331 \$1,150,141 \$209,124 \$234,849 \$5,996,946 rough 37] 35 and 36] X-	2011 \$526,309 \$4,061,332 \$1,339,895 \$238,890 \$216,225 \$6,382,651	2012 \$534,015 \$3,791,483 \$1,555,000 \$269,705 \$216,898 \$6,367,101	\$555,756 \$3,664,918 \$1,781,106 \$313,722 \$210,606 \$6,526,108 \$5,970,352	2014 \$603,416 \$3,687,121 \$2,088,603 \$341,821 \$205,622 \$6,926,583	\$3,506,174 \$2,299,319 \$353,323 \$190,333 \$6,958,477	\$t ecast X Postal 2016 \$616,659 \$3,328,670 \$2,519,522 \$365,826 \$175,112 \$7,005,789	Year [2014	ntal Postage Increase over Year Ch 1 - 2013 = Cha 2015	w Rate ange ange] 2016 \$7,331 (\$177,504) \$220,203 \$12,503 (\$15,221) \$47,312 \$39,981	Impa Y [Bills Per M 2013 Bi 2014 \$66,079 (\$180,646) \$193,074 \$9,149 (\$14,968) \$12,688 \$6,609	ct Due to Gr Year over Year leter Forecas lended Posta 2015 \$5,505 (\$170,701) \$200,972 \$10,971 (\$13,742) \$33,005 \$27,500	owth ar t Change X I Rates] 2016 \$6,826 (\$167,452) \$210,021 \$11,924 (\$13,682) \$47,637 \$40,811	Impact I Yi [Increme Increase - I 2014 \$41,581 \$202,849 \$114,423 \$18,950 \$9,984 \$387,787 \$346,206	Due to Rate I ear over Yea ental Postage impact Due to 2015 \$407 (\$10,246) \$9,744 \$531 (\$1,547) (\$1,111) (\$1,518)	r Rate of Growth] 2016 \$505 (\$10,052) \$10,182 \$579 (\$1,539) (\$325) (\$830)
32 33 34 35 36 37 38 39 40	My A Conse MPK Bills & Combined E Total Postage RIC [Sum of Rov 1st Call Not	RICOH - Grouped Bills MPK- Paper Bills Account Suppressed Bills blidator e-Bills Delivered Notices Total Notices Postage = [Sum Electronic Bills Savings = ge OH - Grouped Bills, MPK ws 33,34 and 37] ices (see Remittance Pro	\$321,460 \$4,029,466 \$984,486 \$167,694 \$229,471 \$5,732,577 of Rows 34 th Sum of Rows	2010 \$437,501 \$3,965,331 \$1,150,141 \$209,124 \$234,849 \$5,996,946 rough 37] 35 and 36] X-	2011 \$526,309 \$4,061,332 \$1,339,895 \$238,890 \$216,225 \$6,382,651	2012 \$534,015 \$3,791,483 \$1,555,000 \$269,705 \$216,898 \$6,367,101	\$555,756 \$3,664,918 \$1,781,106 \$313,722 \$210,606 \$6,526,108 \$5,970,352	[Active Electric 2014	ric Meters Fore Rate Forecast 2015 \$609,328 \$3,506,174 \$2,299,319 \$353,323 \$190,333 \$6,958,477 \$6,349,149	\$t ecast X Postal 2016 \$616,659 \$3,328,670 \$2,519,522 \$365,826 \$175,112 \$7,005,789 \$6,389,130 \$4,120,441	Year [2014	ntal Postage Increase over Year Ch 1 - 2013 = Cha 2015	w Rate ange ange] 2016 \$7,331 (\$177,504) \$220,203 \$12,503 (\$15,221) \$47,312 \$39,981	Impa Y [Bills Per M 2013 Bi 2014 \$66,079 (\$180,646) \$193,074 \$9,149 (\$14,968) \$12,688 \$6,609	ct Due to Gr Year over Year leter Forecas lended Posta 2015 \$5,505 (\$170,701) \$200,972 \$10,971 (\$13,742) \$33,005 \$27,500	owth ar t Change X I Rates] 2016 \$6,826 (\$167,452) \$210,021 \$11,924 (\$13,682) \$47,637 \$40,811	Impact I Yi [Increme Increase - I 2014 \$41,581 \$202,849 \$114,423 \$18,950 \$9,984 \$387,787 \$346,206	Due to Rate I ear over Yea ental Postage impact Due to 2015 \$407 (\$10,246) \$9,744 \$531 (\$1,547) (\$1,111) (\$1,518)	r Rate of Growth] 2016 \$505 (\$10,052) \$10,182 \$579 (\$1,539) (\$325) (\$830)
32 33 34 35 36 37 38 39 40	My A Consi MPK Bills & Combined E Total Postag Postage RIC [Sum of Rov	RICOH - Grouped Bills MPK- Paper Bills Account Suppressed Bills blidator e-Bills Delivered Notices Total Notices Postage = [Sum Electronic Bills Savings = ge OH - Grouped Bills, MPK ws 33,34 and 37] ices (see Remittance Pro	\$321,460 \$4,029,466 \$984,486 \$167,694 \$229,471 \$5,732,577 of Rows 34 th (Sum of Rows Paper Bills, an	2010 \$437,501 \$3,965,331 \$1,150,141 \$209,124 \$234,849 \$5,996,946 rough 37] 35 and 36] X-	2011 \$526,309 \$4,061,332 \$1,339,895 \$238,890 \$216,225 \$6,382,651	2012 \$534,015 \$3,791,483 \$1,555,000 \$269,705 \$216,898 \$6,367,101	\$555,756 \$3,664,918 \$1,781,106 \$313,722 \$210,606 \$6,526,108 \$5,970,352	2014 \$603,416 \$3,687,121 \$2,088,603 \$341,821 \$205,622 \$6,926,583 \$6,323,167	ric Meters Fore Rate Forecast 2015 \$609,328 \$3,506,174 \$2,299,319 \$353,323 \$190,333 \$6,958,477 \$6,349,149 \$4,305,835 \$213,381	\$t 2016 \$616,659 \$3,328,670 \$2,519,522 \$365,826 \$175,112 \$7,005,789 \$6,389,130	Year [2014 2014 \$47,660 \$22,203 \$307,497 \$28,099 (\$4,984) \$400,475 \$352,815	ntal Postage Increase over Year Ch 1 - 2013 = Cha 2015	w Rate ange ange] 2016 \$7,331 (\$177,504) \$220,203 \$12,503 (\$15,221) \$47,312 \$39,981	Impa Y [Bills Per M 2013 Bi 2014 \$66,079 (\$180,646) \$193,074 \$9,149 (\$14,968) \$12,688 \$6,609	ct Due to Gr Year over Year leter Forecas lended Posta 2015 \$5,505 (\$170,701) \$200,972 \$10,971 (\$13,742) \$33,005 \$27,500	owth ar t Change X I Rates] 2016 \$6,826 (\$167,452) \$210,021 \$11,924 (\$13,682) \$47,637 \$40,811	Impact I Yi [Increme Increase - I 2014 \$41,581 \$202,849 \$114,423 \$18,950 \$9,984 \$387,787 \$346,206	Due to Rate I ear over Yea ental Postage impact Due to 2015 \$407 (\$10,246) \$9,744 \$531 (\$1,547) (\$1,111) (\$1,518)	r Rate of Growth] 2016 \$505 (\$10,052) \$10,182 \$579 (\$1,539) (\$325) (\$830)

San Diego Gas & Electric Company 2016 GRC - APP

Non-Shared Service Workpapers

Postage 100004.001 Supplemental Workpaper 2 - Postage Forecast Calculations

	Α	В	С	D	E	F	G	Н	l	J M	L	М	N
1	Summary ¹												
		Increme	ntal Postage F	Required				Impact due	to electric me	ter growth	Impact (due to rate in	crease
2		١ ١	ear over Year	r	Break-down =>			•	Year Over Year	•	Year Over Year		
3		2014	2015	2016				2014	2015	2016	2014	2015	2016
4						V	olume ²	9,181	8,314	10,310	9,181	8,314	10,310
	RICOH - Grouped Bills	\$47,660	\$5,912	\$7,331	RICO	H - Groupe	d Bills ³	\$6,079	\$5,505	\$6,826	\$41,581	\$407	\$505
0							. 4	40.000		110.100	10.000		
7							olume ^⁴	18,206	75,754	112,426	18,206	75,754	112,426
8	MPK - Bills & Notices	\$352,815	\$25,982	\$39,981	MPK	- Bills & N	otices	\$6,609	\$27,500	\$40,811	\$346,206	-\$1,518	-\$830
	Year-over-Year Total	\$400,475	\$31,894	\$47,312	Yea	ır-over-Ye	ar total	\$12,688	\$33,005	\$47,637	\$387,787	(\$1,111)	(\$325)
Ė	To the Base Year 2013	\$400,475	\$432,369	\$479,681		ase year o		\$12,688	\$45,693	\$93,330	\$387,787	\$386,676	\$386,351
12		. ,		. ,					. ,	. ,		. ,	. ,
13													
		Increme	ental Postage	Savings				Impact due	to electric me	ter growth	Impact	due to rate in	crease
14			ental Postage 'ear Over Yea	•		Break-do	wn =>	•	to electric me Year Over Year	•	•	due to rate in ear Over Year	
14 15			•	•		Break-do	wn =>	•		•	•		
		Y	ear Over Yea	r		V	olume ⁶	·	Year Over Year		· Y	ear Over Year	
15	Combined Electronic Bills	Y	ear Over Yea	r	Combine		olume ⁶	2014	Year Over Year 2015	2016	2014	ear Over Year 2015	2016
15 16	Combined Electronic Bills Year-over Year	Y	ear Over Yea	2016		Ved Electroi Year-ove	olume ⁶ nic Bills er Year ⁷	2014 557,089 (\$202,223)	Year Over Year 2015 583,864	2016	2014 557,089	ear Over Year 2015	2016
15 16 17		2014	/ear Over Yea 2015 (\$222,218)	2016		Ved Electroi Year-ove	olume ⁶ nic Bills er Year ⁷	2014 557,089	Year Over Year 2015 583,864 (\$211,943)	2016 611,418	2014 557,089	2015 583,864	2016 611,418
15 16 17	Year-over Year	2014 (\$335,596)	/ear Over Yea 2015 (\$222,218)	2016 (\$232,706)		Ved Electroi Year-ove	olume ⁶ nic Bills er Year ⁷	2014 557,089 (\$202,223)	Year Over Year 2015 583,864 (\$211,943)	. 2016 611,418 (\$221,945)	2014 557,089 (\$133,373)	ear Over Year 2015 583,864 (\$10,275)	2016 611,418 (\$10,761)
15 16 17 18 19 20	Year-over Year To the Base Year 2013 Does not include 1st Cal	2014 (\$335,596) (\$335,596)	(\$222,218) (\$557,814)	2016 (\$232,706) (\$790,520)	To the b	Ved Electron Year-ove ase year o	olume ⁶ nic Bills er Year ⁷ of 2013 per 3 1	2014 557,089 (\$202,223) (\$202,223) st Call Notice	2015 583,864 (\$211,943) (\$414,166) es Calculations	2016 611,418 (\$221,945) (\$636,111) for details. Re	2014 557,089 (\$133,373) (\$133,373)	2015 583,864 (\$10,275) (\$143,648)	2016 611,418 (\$10,761)
15 16 17 18 19 20 21	Year-over Year To the Base Year 2013 ¹ Does not include 1st Cal ² See Postage 100004.00	2014 (\$335,596) (\$335,596) I Notices. Se 1 Supplement	(\$222,218) (\$557,814) e Postage 100 ttal Workpape	2016 (\$232,706) (\$790,520) 0004.001 Suer 1 - Historic	To the b	Ved Electron Year-ove ase year o al Workpa ecast Data	olume ⁶ nic Bills er Year ⁷ of 2013 per 3 1:	2014 557,089 (\$202,223) (\$202,223) st Call Notice	2015 583,864 (\$211,943) (\$414,166) es Calculations ace cells: K6, L6	2016 611,418 (\$221,945) (\$636,111) for details. Re	\$2014 \$557,089 (\$133,373) (\$133,373) eference cells F	2015 583,864 (\$10,275) (\$143,648)	2016 611,418 (\$10,761)
15 16 17 18 19 20 21 22	Year-over Year To the Base Year 2013 ¹ Does not include 1st Cal ² See Postage 100004.00 ³ See Postage 100004.00	(\$335,596) (\$335,596) (\$335,596) I Notices. Se 1 Supplement	(\$222,218) (\$557,814) e Postage 100 ital Workpape	2016 (\$232,706) (\$790,520) 0004.001 Suer 1 - Historicer 1 - Histor	To the b pplement al and For al and For	Ved Electron Year-ove ase year call Workpa ecast Data ecast Data	olume ⁶ nic Bills er Year ⁷ of 2013 per 3 1:	2014 557,089 (\$202,223) (\$202,223) st Call Notice tail. Referen	2015 583,864 (\$211,943) (\$414,166) es Calculations ace cells: K6, L6 ce cells: N33, (2016 611,418 (\$221,945) (\$636,111) for details. Re 5, M6. D33, P33, Q33	\$2014 \$557,089 (\$133,373) (\$133,373) eference cells F	2015 583,864 (\$10,275) (\$143,648)	2016 611,418 (\$10,761)
15 16 17 18 19 20 21 22 23	Year-over Year To the Base Year 2013 ¹ Does not include 1st Cal ² See Postage 100004.00 ³ See Postage 100004.00 ⁴ See Postage 100004.00	(\$335,596) (\$335,596) (\$335,596) I Notices. Se 1 Supplemen 1 Supplemen 1 Supplemen	(\$222,218) (\$557,814) e Postage 100 ital Workpape ital Workpape	2016 (\$232,706) (\$790,520) (\$790,520) 0004.001 Su er 1 - Historic er 1 - Historic er 1 - Historic	To the b pplemental al and For al and For al and Fore	Year-ove ase year c al Workpa ecast Data ecast Data ecast Data	olume ⁶ nic Bills er Year ⁷ of 2013 per 3 1: a for de afor det for det	2014 557,089 (\$202,223) (\$202,223) st Call Notice tail. Referentiall. Referentiall. Referentiall.	2015 583,864 (\$211,943) (\$414,166) es Calculations ace cells: K6, L6 ce cells: N33, Cce cells: K12, L	2016 611,418 (\$221,945) (\$636,111) for details. Re 5, M6. D33, P33, Q33 12, M12.	\$2014 \$557,089 (\$133,373) (\$133,373) \$\text{\$133,373}\$ eference cells F \$3, R33, S33	2015 583,864 (\$10,275) (\$143,648)	2016 611,418 (\$10,761)
15 16 17 18 19 20 21 22 23 24	Year-over Year To the Base Year 2013 ¹ Does not include 1st Cal ² See Postage 100004.00 ³ See Postage 100004.00 ⁴ See Postage 100004.00 ⁵ See Postage 100004.00	(\$335,596) (\$335,596) (\$335,596) I Notices. Se 1 Supplemen 1 Supplemen 1 Supplemen 1 Supplemen	(\$222,218) (\$557,814) e Postage 100 ital Workpape ital Workpape ital Workpape	2016 (\$232,706) (\$790,520) (\$790,520) 0004.001 Su er 1 - Historic er 1 - Historic er 1 - Historic er 1 - Historic	pplements all and For all and Fore	Year-ove ase year c al Workpa ecast Data ecast Data ecast Data ecast Data	olume ⁶ nic Bills er Year ⁷ of 2013 per 3 1: a for de afor det for det	2014 557,089 (\$202,223) (\$202,223) st Call Notice tail. Referentail. Referentail. Referentail. Referentail.	2015 583,864 (\$211,943) (\$414,166) es Calculations de cells: K6, L6 ce cells: N33, C ce cells: K12, L dec cells: N39,	2016 611,418 (\$221,945) (\$636,111) for details. Re 5, M6. D33, P33, Q33 12, M12. O39, P39, Q3	\$2014 \$557,089 (\$133,373) (\$133,373) \$\text{\$133,373}\$ eference cells F \$3, R33, S33	2015 583,864 (\$10,275) (\$143,648)	2016 611,418 (\$10,761)
15 16 17 18 19 20 21 22 23 24 25	Year-over Year To the Base Year 2013 ¹ Does not include 1st Cal ² See Postage 100004.00 ³ See Postage 100004.00 ⁴ See Postage 100004.00 ⁵ See Postage 100004.00 ⁶ See Postage 100004.00	(\$335,596) (\$335,596) (\$335,596) I Notices. Se 1 Supplemen 1 Supplemen 1 Supplemen 1 Supplemen 1 Supplemen	(\$222,218) (\$557,814) e Postage 100 ttal Workpape ttal Workpape ttal Workpape ttal Workpape ttal Workpape	(\$232,706) (\$790,520) (\$790,520) 0004.001 Suer 1 - Historica er 1 - Historica er 1 - Historica er 1 - Historica	pplement: all and Fore all and Fore all and Fore all and Fore call and Fore	Year-ove ase year o al Workpa ecast Data ecast Data ecast Data ecast Data ecast Data	olume ⁶ nic Bills er Year ⁷ of 2013 per 3 1: a for de afor det for det a for de	2014 557,089 (\$202,223) (\$202,223) st Call Notice tail. Referentail. Referentail. Referentail. Referentatail.	2015 583,864 (\$211,943) (\$414,166) es Calculations de cells: K6, L6 de cells: K12, L de cells: K39, nec cells: K13,	2016 611,418 (\$221,945) (\$636,111) for details. Re 5, M6. 033, P33, Q3 12, M12. 039, P39, Q3 L13, M13.	\$2014 \$557,089 (\$133,373) (\$133,373) (\$133,373) eference cells F 3, R33, S33 9, R39, S39	2015 583,864 (\$10,275) (\$143,648)	2016 611,418 (\$10,761)
15 16 17 18 19 20 21 22 23 24	Year-over Year To the Base Year 2013 ¹ Does not include 1st Cal ² See Postage 100004.00 ³ See Postage 100004.00 ⁴ See Postage 100004.00 ⁵ See Postage 100004.00	(\$335,596) (\$335,596) (\$335,596) I Notices. Se 1 Supplemen 1 Supplemen 1 Supplemen 1 Supplemen 1 Supplemen	(\$222,218) (\$557,814) e Postage 100 ttal Workpape ttal Workpape ttal Workpape ttal Workpape ttal Workpape	(\$232,706) (\$790,520) (\$790,520) 0004.001 Suer 1 - Historica er 1 - Historica er 1 - Historica er 1 - Historica	pplement: all and Fore all and Fore all and Fore all and Fore call and Fore	Year-ove ase year o al Workpa ecast Data ecast Data ecast Data ecast Data ecast Data	olume ⁶ nic Bills er Year ⁷ of 2013 per 3 1: a for de afor det for det a for de	2014 557,089 (\$202,223) (\$202,223) st Call Notice tail. Referentail. Referentail. Referentail. Referentatail.	2015 583,864 (\$211,943) (\$414,166) es Calculations de cells: K6, L6 de cells: K12, L de cells: K39, nec cells: K13,	2016 611,418 (\$221,945) (\$636,111) for details. Re 5, M6. 033, P33, Q3 12, M12. 039, P39, Q3 L13, M13.	\$2014 \$557,089 (\$133,373) (\$133,373) (\$133,373) eference cells F 3, R33, S33 9, R39, S39	2015 583,864 (\$10,275) (\$143,648)	2016 611,418 (\$10,761)

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Non-Shared Service Workpapers

Postage 100004.001 Supplemental Workpaper 3 - 1st Call Notices Forecast Adjustment Calculations

	А	В	С	D	Е	F	G	Н
1	• Effective	e 05/28/2014 - 1	Lst Call Notices (aka: 48-H	our Notices) will be mailed	d fron	n Monterey Parl	k Operations;	
2	 Postage 	will reflect 3-dig	git rate ¹ - plus, fees for m	eter - and, certificate of m	ailing	;		
3	 Printing 	will be on a sing	gle sheet - and, duplex.					
4	• Assump	tions:						
5	1	Postage						
6		1a.	Postal rate	\$0.4060		3-digit		
7		1b.	Meter fees	\$0.0150				
8		1c.	Certificate of mailing	\$0.0044				
9		1d.	Postage Rate	\$0.4254				
10	2	Printing/Forms,	/Envelopes					
11		2a.	Form	\$0.0105		letter18		
12		2b.	Envelope	\$0.0109		mailer		
13		2c.	Printing Rate	\$0.0214				
14	3	Volume						
15		3a.	Avg. Monthly Volume	41,800				
16	• Forecas	ts						
17				Year		2014	2015	2016
18				Number of months		7.142847	12	12
19	Workpap	er (WP)		Volume = 3a x # of mos.	[A]	298,571	501,600	501,600
20	1. WP 10	O004.001	Postage					
21	Postage		1d.	Postal rate	[B]	\$0.4254	\$0.4254	\$0.4254
22							[A] x [B] = [C]	
23				Postage forecast	[C]	\$127,012	\$213,381	\$213,381
24	2. WP 10	0004.000	Forms					
25	Remittan	ce Processing	2c.	Printing Rate	[D]	\$0.0214	\$0.0214	\$0.0214
26							[A] x [D] = [E]	
27				Printing Forecast	[E]	\$6,389	\$10,734	\$10,734
28								
	¹ The 3-di	git rate is the 2 ⁿ	d lowest discounted rate t	for business mails – for wh	ich th	ne 48hr Notices	gualify because of	its daily

San Diego Gas & Electric Company

2016 GRC - APP Non-Shared Service Workpapers

¹ The 3-digit rate is the 2nd lowest discounted rate for business mails – for which the 48hr Notices qualify because of its daily limited volume.

Postage 100004.001 Supplemental Workpaper 4
USPS Postal News - Postal Rate Increase - Pg. 1 of 2



POSTAL NEWS

FOR IMMEDIATE RELEASE Sept. 25, 2013

Contact: Katina Fields 202-268-6229 (o) 202-534-6320 (c) katina.w.fields@usps.gov usps.com/news Release No. 13-077



U.S. Postal Service Announces New Prices for 2014

Price increases expected to generate \$2 billion in new revenue to improve financial situation

WASHINGTON — The United States Postal Service today announced proposed price changes, including an increase in the price of a First-Class Mail single-piece letter from 46 cents to 49 cents. The proposed changes, which would go into effect in January 2014, are intended to generate \$2 billion in incremental annual revenue for the Postal Service.

Highlights of the new single-piece First-Class Mail pricing, effective Jan. 26, 2014 include:

- Letters (1 oz.) 3-cent increase to 49 cents
- Letters additional ounces 1-cent increase to 21 cents
- Letters to all international destinations (1 oz.) \$1.15
- Postcards 1-cent increase to 34 cents

Stamp prices have stayed consistent with the average annual rate of inflation of 4.2 percent since the Postal Service was formed in 1971.

Pricing for Standard Mail, Periodicals, Package Services and Extra Services also will be adjusted as part of a filing to the Postal Regulatory Commission (PRC) scheduled to take place Sept. 26.

The Governors of the Postal Service voted Sept. 24 to seek price increases above the typical annual increases associated with changes in the Consumer Price Index (CPI).

In a letter disseminated to customers today, Board of Governors Chairman Mickey Barnett described the "precarious financial condition" of the Postal Service and the "uncertain path toward enactment of postal reform legislation" as primary reasons for seeking price changes above the CPI increase. He also indicated that the price adjustment above the CPI increase is necessary in order to ensure that the Postal Service will be able to maintain and continue the development of postal services of the type and quality which America needs.

"Of the options currently available to the Postal Service to align costs and revenues, increasing postage prices is a last resort that reflects extreme financial challenges," said Barnett in the letter. "However, if these financial challenges were alleviated by the timely enactment of laws that close a \$20 billion budget gap, the Postal Service would reconsider its pricing strategy. We are encouraged by the recent introduction of comprehensive postal reform legislation in Congress, and despite an uncertain legislative process, we are hopeful that legislation can be enacted this year."

Except in exceptional or extraordinary circumstances, postage price increases are capped at the rate of inflation as measured by the CPI-U. The Postal Service is filing a price increase above CPI-U due to extraordinary and exceptional circumstances which have contributed to continued financial losses. The Postal Service recorded a \$15.9 billion net loss last fiscal year and expects to record a loss of roughly \$6 billion in the current fiscal year, and has an intolerably low level of available liquidity even after defaulting on its obligation to make prefunding payments for retiree health benefits.

The PRC will review the prices before they become effective Jan. 26, 2014, and must agree the prices are consistent with applicable law. The new price proposals are scheduled to be filed Sept. 26 and will be available on the PRC website at www.prc.gov and also will be available at http://pe.usps.com.

The full text of the Board chairman's letter sent to postal customers about the pricing decision will be available later today at the following link:

http://about.usps.com/news/national-releases/2013/pr13 chairman-letter.htm.

The Postal Service receives no tax dollars for operating expenses and relies on the sale of postage, products and services to fund its operations.

###

For reporters interested in speaking with a regional Postal Service public relations professional, please go to http://about.usps.com/news/media-contacts/usps-local-media-contacts.pdf.

Please Note: For broadcast quality video and audio, photo stills and other media resources, visit the USPS Newsroom at http://about.usps.com/news/welcome.htm.

A self-supporting government enterprise, the U.S. Postal Service is the only delivery service that reaches every address in the nation: 152 million residences, businesses and Post Office Boxes. The Postal Service receives no tax dollars for operating expenses and relies on the sale of postage, products and services to fund its operations. With more than 31,000 retail locations and the most frequently visited website in the federal government, usps.com, the Postal Service has annual revenue of more than \$65 billion and delivers nearly 40 percent of the world's mail. If it were a private-sector company, the U.S. Postal Service would rank 42nd in the 2012 Fortune 500. The Postal Service has been named the Most Trusted Government Agency for seven years and the fourth Most Trusted Business in the nation by the Ponemon Institute.

Follow the Postal Service on twitter.com/USPS and at facebook.com/USPS

Postage 100004.001 Supplemental Workpaper 4 USPS Postal News - Postal Rate Increase - Pg. 2 of 2

Beginning of Workpaper 100005.000 - Branch Offices

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub 7. Branch Offices

Workpaper: 100005.000 - Branch Offices

Activity Description:

The Branch Office and Authorized Pay Location operations expenses cover the cost of providing payment collection and other services to those customers who prefer to be face-to-face for payments, service requests and information.

Forecast Explanations:

Labor - Base YR Rec

A base year forecast method was used because 2013 was the basis for the analysis for process improvements in the Branch Offices. Therefore, the base year provides a reasonable starting point for future expenditures.

Non-Labor - Base YR Rec

See above.

NSE - Base YR Rec

N/A

Summary of Results:

				In 2013\$ (00	0) Incurred (Costs		
		Adju	ısted-Recor	Adjusted-Forecast				
Years	2009	2010	2011	2012	2013	2014	2015	2016
Labor	1,430	1,402	1,458	1,409	1,503	1,300	1,218	1,218
Non-Labor	526	469	521	485	516	516	516	516
NSE	0	0	0	0	0	0	0	0
Total	1,955	1,871	1,978	1,894	2,019	1,816	1,734	1,734
FTE	28.5	26.9	28.3	27.3	28.5	24.4	23.0	23.0

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 7. Branch Offices

Workpaper: 100005.000 - Branch Offices

Forecast Summary:

			In 201	3 \$(000) Ir	ncurred Co	sts					
Forecas	t Method	Bas	se Foreca	st	Forec	ast Adjust	ments	Adjus	Adjusted-Forecast		
Years	s	2014	2015	2016	2014	2015	2016	2014	2015	2016	
Labor	Base YR Rec	1,503	1,503	1,503	-203	-285	-285	1,300	1,218	1,218	
Non-Labor	Base YR Rec	516	516	516	0	0	0	516	516	516	
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0	
Tota	ıl	2,019	2,019	2,019	-203	-285	-285	1,816	1,734	1,734	
FTE	Base YR Rec	28.5	28.5	28.5	-4.1	-5.5	-5.5	24.4	23.0	23.0	

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type
2014	-203	0	0	-203	-4.1	1-Sided Adj

Process Improvements: Reduction of 4.1 FTEs across Branch Offices (effective 4/14). Cost efficiencies from maximizing workforce utilizing new tool/staffing model. See Branch Offices 100005.000 Supplemental Workpaper 1 - Process Improvements - Branch Office Capacity Model for additional details. (Reference cell F19)

2014 Total	-203	0	0	-203	-4.1		
2015	-285	0	0	-285	-5.5	1-Sided Adj	

Process Improvements: Reduction of 5.5 FTEs across Branch Offices. Cost efficiencies from maximizing workforce utilizing new tool/staffing model. See Branch Offices 100005.000 Supplemental Workpaper 1 - Process Improvements - Branch Office Capacity Model for additional details. (Reference cell H19)

2015 Total	-285	0	0	-285	-5.5	
2016	-285	0	0	-285	-5.5	1-Sided Adj

Process Improvements: Reduction of 5.5 FTEs across Branch Offices. Cost efficiencies from maximizing workforce utilizing new tool/staffing model. See Branch Offices 100005.000 Supplemental Workpaper 1 - Process Improvements - Branch Office Capacity Model for additional details. (Reference cell H19)

2016 Total -285 0 0 -285 -5.5	16 Total
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Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 7. Branch Offices

Workpaper: 100005.000 - Branch Offices

Determination of Adjusted-Recorded (Incurred Costs):

beteriiiilation of Aujusteu-	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	1,141	1,137	1,220	1,205	1,297
Non-Labor	476	434	501	478	516
NSE	0	0	0	0	0
Total	1,616	1,572	1,722	1,682	1,813
FTE	24.4	23.0	24.3	23.5	24.2
Adjustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nomina	al \$)				
Labor	1,141	1,137	1,220	1,205	1,297
Non-Labor	476	434	501	478	516
NSE	0	0	0	0	0
Total	1,616	1,572	1,722	1,682	1,813
FTE	24.4	23.0	24.3	23.5	24.2
/acation & Sick (Nominal \$)					
Labor	176	181	180	175	206
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	176	181	180	175	206
FTE	4.1	4.0	4.0	3.8	4.2
Escalation to 2013\$					
Labor	113	84	57	30	0
Non-Labor	50	35	19	7	0
NSE	0	0	0	0	0
Total	163	119	77	37	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Consta	nt 2013\$)				
Labor	1,430	1,402	1,458	1,409	1,503
Non-Labor	526	469	521	485	516
NSE	0	0	0	0	0
Total	1,955	1,871	1,978	1,894	2,019
FTE	28.5	27.0	28.3	27.3	28.4

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 7. Branch Offices

Workpaper: 100005.000 - Branch Offices

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs												
Years 2009 2010 2011 2012 2013												
Labor	0	0	0	0	0							
Non-Labor	0	0	0	0	0							
NSE	0	0	0	0	0							
Total	0	0	0	0	0							
FTE	0.0	0.0	0.0	0.0	0.0							

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	RefID
2009 Total	0	0	0	0.0			
2010 Total	0	0	0	0.0			
2011 Total	0	0	0	0.0			
2012 Total	0	0	0	0.0			
2013 Total	0	0	0	0.0			

Supplemental Workpapers for Workpaper 100005.000

Pag

Branch Offices 100005.000 Supplemental Workpaper 1 - Process Improvements - Branch Office Capacity Model

	l A	В	С	D	Е	F	G	Н
1	Original Headcoun							
2	ESS	24						
3	Supervisor	6						
4	TOTAL	30						
5								
6		5.5 FTE Reductions						
7	2014 partial year savings (effective April 1)	203,110						
8	2015-2016 Annual savings	285,000						
9								
10								
11								
12	TY 2016 GRC based upon 5.5 FTE's							
				Dadwaad				2015-2016
		1		Reduced	2014 FTE	2014 Savings	2015-2016 FTE	Savings
13		Original Headcount ¹	Reductions ²	Headcount ³	Reductions	(3/4 year)	Reductions	(Full-Year)
	Escondido	5	(1.5)	3.0	(1.1)	55,394	(1.5)	77,727
	El Cajon	5	(2.0)	3.0	(1.5)	73,858	(2.0)	103,636
16	Chula Vista	6	(1.0)	5.0	(0.8)	36,929	(1.0)	51,818
			\ /		` '			
17	Market Creek	4	-	4.0	-	-	-	-
	National City ⁴	4 4	- (1.0)	3.0	- (0.8)	36,929	- (1.0)	- 51,818
19	,	4 4 24.0	(1.0) (5.5)		(0.8) (4.1)	36,929 203,110	(1.0) (5.5)	51,818 285,000
19 20	National City ⁴ TOTAL			3.0	\ /	1	\ /	
19	National City ⁴			3.0	\ /	1	\ /	
19 20	National City ⁴ TOTAL 1 Does not include Supervisor roles, only ES 2 5.5 full-time employee's moved to other groups of the state of	S' pups	(5.5)	3.0 18.0	(4.1)	203,110	(5.5)	285,000
19 20 21	National City ⁴ TOTAL 1 Does not include Supervisor roles, only ES	S' pups	(5.5)	3.0 18.0	(4.1)	203,110	(5.5)	285,000
19 20 21 22	National City ⁴ TOTAL 1 Does not include Supervisor roles, only ES 2 5.5 full-time employee's moved to other groups of the state of	S' pups vations of employees' trai	(5.5)	3.0 18.0	(4.1)	203,110 egistering custome	(5.5) ers in company pr	285,000

San Diego Gas & Electric Company 2016 GRC - APP

Non-Shared Service Workpapers

Branch Offices 100005.000 Supplemental Workpaper 2 - Closure of Branch Offices (pg. 1 of 3)

	A		В		С		D	Ε	F		G
1				Annı	ual Savings						
2	Labor	Na	tional City	C	Downtown	Oc	eanside		Oceanside - Estimated Additional Annual APL Non-L	abo	r Costs
3	Call center staffing for virtual ESS	\$	-	\$	8,849	\$	8,849		Checkfree	\$	152
4	Monthly audits	\$	-	\$	1,794	\$	1,794		Training	\$	293
5	Bi-monthly office visits	\$	-	\$	1,269	\$	1,269		Audits	\$	880
6	Daily inquiries to supervisors	\$	-	\$	561	\$	561		Telephone	\$	50
7	Management employee	\$	74,500	\$	-	\$	-		Mileage	\$	594
8	Full and part-time employees	\$	21,000	\$	-	\$	-		Office supplies	\$	50
9	Subtotal	\$	95,500	\$	12,473	\$	12,473		Total	\$	2,020
10	Non-labor										
١		,			0.4.60=		00.400		Estimated annual APL costs for increased volume fro	m cl	osures
-	Service agreement	\$	-	\$	84,625	_	33,403		(See pg. 2 of 3 for detail)	٨	22.112
	Lease agreement	\$	84,816	\$,	\$	36,180		National City	\$	33,119
_	ADA remediation	\$	1,214	\$,	\$	794		Downtown	Ş	25,592
	ExpressPay maintenance agreement	\$	7,275	\$	-,	\$	6,747		Oceanside	\$	11,152
_	Aromored transportation fees	\$	4,119	\$	3,888	\$	3,888		Total	\$	69,863
_	Training	\$	-	\$	3,029	\$	-				
_	Telephone	\$	910	\$	423	\$	332		Cost to Achieve		
	ADA surveys	\$	450	\$	450	\$	450		Annual Savings		
	Mileage	\$	3,220	\$	224	\$	1,186		Closure of three branch offices	_	472,017
_	Bank fees	\$	265	\$	265	\$	265		Estimated annual costs of one APL in Oceanside	\$	(2,020)
_	Security for Pricing Challenge	\$	2,482	\$	-	\$	-		Estimated annual APL costs for increased volume		(69,863)
_	Computer equipment	\$	501	\$	-	\$	-		Subtotal	\$	400,135
23	Office supplies	\$	4,955	\$	240	\$	240		One Time Costs (See pg. 3 of 3 for detail)		
24	Facility maintenance	\$	4,530	\$	-	\$	-		One time communication costs	\$	(85,065)
25	Subtotal	\$	114,738	\$	153,349	\$	83,485		Total	\$	315,070
26											
27	Total	'		\$	165,822	\$	95,958				
	Total (Annual Savings closure of National City, Downtown, and Oceanside			Oceanside							
28	Branch Offi	ces)				\$	472,017				

San Diego Gas & Electric Company 2016 GRC - APP

Non-Shared Service Workpapers

Branch Offices 100005.000 Supplemental Workpaper 2 - Closure of Branch Offices (pg. 2 of 3)

D 10	inch Offices 100003.000 Supplemental Worl	habe	
	Α		В
1	Additional APL Costs		
2			
3	National City		
4	2013 Transactions		109,302
5	Volume to be moved to self-service (25%)		27,326
6	Volume to be moved to nearby APLs (30%) ¹		32,791
7	Volume to be moved to nearby branch offices (45%)		49,186
8			
9	National City Additional APL Costs ²	\$	33,119
10	·		
11	Downtown		
12	2013 Transactions		33,785
13	Volume to be moved to self-service (25%)		8,446
14	Volume to be moved to nearby APLs (75%)		25,339
15			
16	Downtown Additional APL Costs ²	\$	25,592
17			
18	Oceanside		
19	2013 Transactions		14,722
20	Volume to be moved to self-service (25%)		3,681
21	Volume to remain at converted APL (75%) ³		11,042
22			
23	Oceanside Additional APL Costs ²	\$	11,152
24			
25	Total Additional APL Costs	\$	69,863
26			
	¹ Based off statistics from temporary closure in 2009 at Natio	nal City	Branch
	Office where 30% moved to S&S Travel located next to the N	National	City
27	Branch Office		-
28	² Based off of 2013 APL Cost per Transaction of \$1.01		
29	³ Oceanside Branch Office to be converted to an APL		

San Diego Gas & Electric Company 2016 GRC - APP Non-Shared Service Workpapers

Branch Offices 100005.000 Supplemental Workpaper 2 - Closure of Branch Offices (pg. 3 of 3)

		чР			71.1					-	Jinees (
	A		В	С		D		E		F	G
1	Communications Costs										
3	Direct Mail Letter				Na	tional City	Do	wntown	0	ceanside	
4	Cost for Quantity of 5,000 (one tim	e co	st)	QTY		10,000		5,000		5,000	
5	Spanish translation	\$	300		\$	300	\$	300	\$	300	
6	Tagalog translation	\$	300		\$	300	\$	-	\$	-	
7	Postage	\$	1,800		\$	3,600	\$	1,800	\$	1,800	
8	Printing	\$	50		\$	100	\$	50	\$	50	
9	Total	\$	2,450		\$	4,300	\$	2,150	\$	2,150	
10	Newspaper Advertising										
11	Ad development	\$	5,000		\$	5,000	\$	5,000	\$	5,000	
12	Placement Costs	\$	15,000		\$	15,000	\$	15,000	\$	15,000	
13	Total	\$	20,000		\$	20,000	\$	20,000	\$	20,000	
14	Insert Cards - Cost for Quantity of	12,5	00								
15	(5,000 English, 5,000 Spanish, 2,500	0 Ta	galog)	QTY		12,500		5,000		5,000	
16	Design - English	\$	480		\$	480	\$	480	\$	480	
17	Design - Spanish	\$	480		\$	480	\$	480	\$	480	
18	Design - Tagalog	\$	480		\$	480	\$	-	\$	-	
19	Spanish translation	\$	300		\$	300	\$	300	\$	300	
20	Tagalog translation	\$	300		\$	300	\$	-	\$	-	
21	Printing - English	\$	700		\$	700	\$	350	\$	350	
22	Printing - Spanish	\$	700		\$	700	\$	350	\$	350	
23	Printing - Tagalog	\$	350		\$	350	\$	-	\$	-	
24	Total	-	3,790		\$	3,790	\$	1,960	\$	1,960	
25	Fact Sheets - Cost for Quantity of 1										
26	(5,000 English, 5,000 Spanish, 2,500	0 Ta	galog)	QTY		12,500		5,000		5,000	
27	Design - English	\$	600		\$	600	\$	600	\$	600	
28	Design - Spanish		600		\$	600	\$	600	\$	600	
29	Design - Tagalog		600		\$	600	\$	-	\$	-	
30	Spanish translation	\$	300		\$	300	\$	300	\$	300	
31	Tagalog translation		300		\$	300	\$	-	\$	-	
32	Printing - English	\$	745		\$	745	\$	373	\$	373	
33	Printing - Spanish		745		\$	745	\$	373	\$	373	
34	Printing - Tagalog	\$	375		\$	375	\$	-	\$	-	
35	Total	\$	4,265		\$	4,265	\$	2,245	\$	2,245	
36						tional City		wntown		ceanside	Total
37	Total Communication Costs				\$	32,355	\$	26,355	\$	26,355	\$ 85,065

San Diego Gas & Electric Company 2016 GRC - APP

Non-Shared Service Workpapers

Beginning of Workpaper 100006.000 - CCC Operations

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Bradley M. Baugh Witness:

A. Customer Service Operations Category: 8. Customer Contact Center Operations Category-Sub

100006.000 - CCC Operations Workpaper:

Activity Description:

The Customer Contact Center (CCC) expenses cover the costs of answering customer telephone calls; responding to incoming email from customers; responding to customer inquiries through on-line chat features; answering written customer correspondence regarding customer account activity; following up on all California Public Utilities Commission telephone referrals and informal and formal customer complaints; and, responding to other customer account related inquiries.

Forecast Explanations:

Labor - Zero-Based

A zero-based forecast method was used for CCC Operations labor because of the dynamics of various communication channels (phone, Interactive Voice Response ["IVR"] and web) and progressive improvements in self-service, additional coaching of ESSs, additional focus on effective call handling, and standardized call scripting that all impact the ESS FTE requirements. The forecast was built using CCC workforce management software and based on projected call volume, level of service ("LOS"), average handle time ("AHT"), agent occupancy, and shrinkage .

The base year actual performance results were used over historical averages to forecast the ESS-handled call volumes because 2013 is the best representation of what we expect for 2014-2016. The 2013 individual "transactions per electric meter" were applied to projected electric meters to obtain transaction volumes. The 2013 base year actual performance results were preferred over historical averages because changes in customer preferences of communication channel, new channel offer (CHAT), and self-service channel improvements (IVR, web and mobile) have fluctuated and thereby impacted ESS-handled calls in the last five years.

Non-Labor - Base YR Rec

A base year forecast method was used for the CCC Operations non-labor by applying the base year non-labor cost per FTE and multiplying that times the number of forecasted FTEs. These non-labor expenses primarily consist of employee related expense, office supplies, office furniture, and headsets. (Communications, annual software maintenance, and telecommunication costs are captured under the CCC Support non-labor category).

NSE - Base YR Rec

N/A

Summary of Results:

		In 2013\$ (000) Incurred Costs										
		Adju	sted-Recor	Ad	cast							
Years	2009	2010	2011	2014	2015	2016						
Labor	9,271	8,941	8,591	8,551	8,804	8,348	7,957	8,429				
Non-Labor	94	322	236	357	384	384	384	384				
NSE	0	0	0	0	0	0	0	0				
Total	9,365	9,264	8,827	8,908	9,188	8,732	8,341	8,813				
FTE	187.8	179.5	168.6	165.8	174.0	169.7	161.0	170.8				

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 8. Customer Contact Center Operations

Workpaper: 100006.000 - CCC Operations

Forecast Summary:

	In 2013 \$(000) Incurred Costs											
Forecast Method Base Forecast				Forec	ast Adjust	tments	Adjus	ted-Forec	ast			
Years	s	2014	2015	2016	2014	2015	2016	2014	2015	2016		
Labor	Zero-Based	0	0	0	8,348	7,957	8,429	8,348	7,957	8,429		
Non-Labor	Base YR Rec	384	384	384	0	0	0	384	384	384		
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0		
Tota	ıl	384	384	384	8,348	7,957	8,429	8,732	8,341	8,813		
FTE	Zero-Based	0.0	0.0	0.0	169.7	161.0	170.8	169.7	161.0	170.8		

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE	Adj Type
2014	8,565	0	0	8,565	174.2	1-Sided Adj

Labor forecast for CSRs/ESSs Associate Supervisors Supervisors, and Manager to support forecasted workload. Forecasted ESS Call Volume equals 1.47 (2013 calls per active meter) times 1,414,346 forecasted electric meters = 2,080,069 ESS handled calls. See CCC Operations1OO006.000 Supplemental Workpapers 1 through 3 - Historical Performances, Call Volume Forecast, and e-Workforce Management FTE Requirements respectively for additional detail.

FTE forecast =

122.0 FT ESS's - \$5.889M (\$23.12 hr.)

33.2 Part time ESS's - \$1.280M (\$18.47 hr.)

19 Management Staff (Manager, Assoc. Supervisors and Supervisors) - \$1.396M

2014 -48 0 0 -48 -1.0 1-Sided Adj

Capital Project Impacts - IVR 2014 Capital Project #14023: CSR/ESS labor benefits from Interactive Voice Response (IVR) 2014 capital project #14023 due to a reduction in the number of calls to the Customer Contact Center as more transactions will be diverted to the IVR for self-service.

-1 FTE (one-fourth of full-year benefit of 4 FTE's).

(1 FTE x 2088 hrs x \$23.12/hr. = \$48K)

2014 -97 0 0 -97 -2.0 1-Sided Adj

Capital Project Impacts - SEAd Phase 1 Capital Project #13009: CSR/ESS labor benefits from the Smart Energy Advisor desktop (SEAd) Phase 1 capital project #13009. This project will make it easier for CSRs/ESSs to obtain customer information and guide the conversation with customers, thus reducing the average handle time.

-2.0 FTE's (44% of 4.5 FTE full year benefit)

(2.0 FTE's x 2088 hrs x \$23.12/hr. = \$97K)

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 8. Customer Contact Center Operations

Workpaper: 100006.000 - CCC Operations

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE Adj Type
2014	-72	0	0	-72	-1.5 1-Sided Adj

Change in Operating Hours: Change in operating hours per AL. 2585-E/2279-G. effective May 2014, implemented July 2014

 $(1.5 \text{ FTE's } \times 2088 \text{ hrs } \times \$23.12/\text{hr.} = \$72\text{K})$

2014 Total	8,348	0	0	8,348	169.7		
2015	8,647	0	0	8,647	175.3	1-Sided Adj	

Labor forecast for CSRs/ESSs Associate Supervisors Supervisors, and Manager to support forecasted workload. Forecasted ESS Call Volume equals 1.47 (2013 calls per active meter) times 1,428,204 forecasted electric meters = 2,100,450 ESS handled calls. See CCC Operations 1OO006.000 Supplemental Workpapers 1 through 3 - Historical Performances, Call Volume Forecast, and e-Workforce Management FTE Requirements respectively for additional detail.

FTE forecast =

126.0 FT ESS's - \$6,083M (\$23.12 hr.)

30.3 Part time ESS's - \$1.168M (\$18.47 hr.)

19 Management Staff (Manager, Assoc. Supervisors and Supervisors) - \$1.396M

2015 -193 0 0 -193 -4.0 1-Sided Adj

Capital Project Impacts - IVR 2014 Capital Project #14023: CSR/ESS labor benefits from IVR 2014 capital project #14023 due to a reduction in the number of calls to the Customer Contact Center as more transactions will be diverted to the IVR for self-service.

-4 FTE s (full-year benefit).

 $(4 FTE's \times 2088 hrs \times $23.12 hr. = $193K)$

2015 -352 0 0 -352 -7.3 1-Sided Adj

Capital Project Impacts - SEAd Phase 1 Capital Project #13009 and SEAd Phase 2 Capital Project #14017: CSR/ESS labor benefits from the Smart Energy Advisor desktop (SEAd) Phase1 capital project #13009 and SEAd Phase 2 capital project #14017. These projects will make it easier for CSRs/ESSs to obtain customer information and guide the conversation with customers, thus reducing the average handle time.

Savings from SEAd Phase 1 (Capital Project #13009): -4.5 FTE (full year benefit). (4.5 FTE's x 2088 hrs x \$23.12/hr = \$217K) Savings from SEAd Phase 2 (Capital Project #14017) : -2.8FTE (full year benefit). (2.8 FTE's x 2088 hrs x \$23.12/hr = \$135K)

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 8. Customer Contact Center Operations

Workpaper: 100006.000 - CCC Operations

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>Total</u>	FTE A	dj Type
2015	-145	0	0	-145	-3.0	1-Sided Adj

Change in Operating Hours: Change in operating hours per AL. 2585-E/2279-G effective May 2014, implemented in July 2014

(3.0 FTE's x 2088 hrs x \$23.12/hr. = \$145K)

2015 Total	7,957	0	0	7,957	161.0		
2016	8,758	0	0	8,758	177.6	1-Sided Adj	

Labor forecast for CSRs/ESSs Associate Supervisors Supervisors, and Manager to support forecasted workload. Forecasted ESS Call Volume equals 1.47 (2013 calls per active meter) times 1,445,387 forecasted electric meters = 2,125,721 ESS handled calls. See CCC Operations 100006.000Supplemental Workpapers 1 through 3 - Historical Performances, Call Volume Forecast, and e-Workforce Management FTE Requirements respectively for additional detail.

FTE forecast =

128.3 FT ESS's - \$6,194M (\$23.12 hr.)

30.3 Part time ESS's - \$1.168M (\$18.47 hr.)

19 Management Staff (Manager, Assoc. Supervisors and Supervisors) - \$1.396M

2016 -193 0 0 -193 -4.0 1-Sided Adj

Capital Project Impacts - IVR 2014 Capital Project #14023: CSR/ESS labor benefits from IVR Phase 4 capital project #14023 due to a reduction in the number of calls to the Customer Contact Center as more transactions will be diverted to the IVR for self-service.

-4 FTE's (full-year benefit). (4 FTE's x 2088 hrs x \$23.12 hr. = \$193K)

See CCC Operations 100006.000 Supplemental Workpaper 4 - TY2016 - FTE Forecast Adjustment Calculations Summary for additional detail. (Reference Row 17)

2016 -352 0 0 -352 -7.3 1-Sided Adj

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area: Witness: Bradley M. Baugh A. Customer Service Operations Category: 8. Customer Contact Center Operations Category-Sub: 100006.000 - CCC Operations Workpaper: Year/Expl. **NLbr** NSE **Total** FTE Adj Type Labor Capial Project Impacts - SEAd Phase 1 Capital Project #13009 and SEAd Phase 2 Capital Project #14017: CSR/ESS labor benefits from the Smart Energy Advisor Desktop (SEAd) Phase 1 capital project #13009 and SEAd Phase 2 capital project #14017. These projects will make it easier for CSRs/ESSs to obtain customer information and guide the conversation with customers, thus reducing the average handle time. Savings from SEAd Phase 1 (Capital Project #13009): -4.5 FTE (full year benefit). $(4.5 \text{ FTE's } \times 2088 \text{ hrs } \times \$23.12/\text{hr} = \$217\text{K})$ Savings from SEAd Phase 2 (Capital Project #14017): -2.8FTE (full year benefit). $(2.8 \text{ FTE's } \times 2088 \text{ hrs } \times \$23.12/\text{hr} = \$135\text{K})$ See CCC Operations 100006.000 Supplemental Workpaper 4 - TY2016 FTE Forecast Adjustment Calculations Summary for additional detail. (Reference Rows 18 and 19) 2016 48 0 48 1-Sided Adj 1.0 Customer Outreach Safety Checks: 1 FTE (CSR/ESS) at \$48K annual salary to respond to customer inquiries and/or scheduling appointments as the result of proactively offering free gas appliance checks to residential customers. Details can be found in the Direct Testimony of Sara Franke, Customer Service Field witness (Ex. SDGE-13). See CCC Operations Supplemental Workpaper 4 - TY2016 FTE Forecast Adjustment Calculations Summary for additional detail. (Reference Row 14) 2016 241 241 5.0 1-Sided Adj New Rate Options and Programs: Assist Residential Customers with time varying rate options. (eg. SPP and Rate Reform) Estimate 80,000 calls from customers who are interested in the enrollment requiring 5 FTE to support the enrollment. (5.0 FTE's x 2088 hrs x \$23.12/hr. = \$241K) See CCC Operations 100006.000 Supplemental Workpaper 4 - TY2016 FTE Forecast Adjustment Calculations Summary for additional detail. (Reference row 15) 2016 72 72 1.5 1-Sided Adj CARE Enrollment: CCC to take calls and process CARE enrollments. Add 1.5 FTE to support this activities. (1.5 FTE x 2088 hrs x \$23.12/hr = \$72K) See CCC Operations 100006.000 Supplemental Workpaper 4 - TY2016 FTE Forecast Adjustment Calculations Summary for additional detail. (Reference Row 16) 2016 -145 -145 -3.0 1-Sided Adj

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 8. Customer Contact Center Operations

Workpaper: 100006.000 - CCC Operations

Year/Expl. Labor NLbr NSE Total FTE Adj Type

Change in Operating Hours: Change in operating hours per AL. 2585-E/2279-G effective May

2014, implemented in July 2014

 $(3.0 \text{ FTE's } \times 2088 \text{ hrs } \times \$23.12/\text{hr.} = \$145\text{K})$

See CCC Operations 100006.000 Supplemental Workpaper 4 - TY2016 FTE Forecast

Adjustment Calculations Summary for additional detail. (Reference Row 10)

2016 Total 8,429 0 0 8,429 170.8

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 8. Customer Contact Center Operations

Workpaper: 100006.000 - CCC Operations

Determination of Adjusted-Recorded (Incurred Costs):

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
corded (Nominal \$)*					
Labor	7,343	7,153	7,325	7,342	7,523
Non-Labor	85	298	227	352	384
NSE	0	0	0	0	0
Total	7,429	7,451	7,553	7,693	7,908
FTE	160.1	151.6	146.7	138.9	145.0
justments (Nominal \$) **					
Labor	52	101	-132	-31	75
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	52	101	-132	-31	75
FTE	0.8	1.4	-1.9	3.9	3.1
corded-Adjusted (Nominal	\$)				
Labor	7,395	7,254	7,194	7,311	7,599
Non-Labor	85	298	227	352	384
NSE	0	0	0	0	0
Total	7,481	7,552	7,421	7,663	7,983
FTE	160.9	153.0	144.8	142.8	148.1
cation & Sick (Nominal \$)					
Labor	1,142	1,155	1,060	1,059	1,205
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	1,142	1,155	1,060	1,059	1,205
FTE	26.9	26.5	23.8	23.1	25.9
calation to 2013\$					
Labor	733	533	338	180	0
Non-Labor	9	24	9	5	0
NSE	0	0	0	0	0
Total	742	557	346	186	0
FTE	0.0	0.0	0.0	0.0	0.0
corded-Adjusted (Constar	it 2013\$)				
Labor	9,271	8,941	8,591	8,551	8,804
Non-Labor	94	322	236	357	384
NSE	0	0	0	0	0
Total	9,365	9,264	8,827	8,908	9,188
FTE	187.8	179.5	168.6	165.9	174.0

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 8. Customer Contact Center Operations

Workpaper: 100006.000 - CCC Operations

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs													
Years 2009 2010 2011 2012 2013													
Labor	52	101	-132	-31	75								
Non-Labor	0	0	0	0	0								
NSE	0	0	0	0	0								
Total	52	101	-132	-31	75								
FTE	0.8	1.4	-1.9	3.9	3.1								

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type	From CCtr	<u>RefID</u>			
2009	-13	0	0	-0.2 CC	TR Transf	To 2100-3516.000	CSCHRAMM2013 1107224436920			
Transfer labo 2100-0013 in work paper g	1101224400020									
2009	54	0	0	0.8 CC	TR Transf	From 2100-3512.000	CSCHRAMM2013 1121182648267			
2100-3512 in	Transfer costs associated with Customer Contact Center (CCC) Supervisor from 2100-3512 in work group 100007 CCC Support to cost center 2100-0013 in work group 100006 CCC Operations to align function where it resides.									
2009	11	0	0	0.2 CC	TR Transf	From 2100-3515.000	CSCHRAMM2013 1121182727487			
2100-3515 in		100007 CC	C Suppo	ort to cost c	enter 2100-00	iate Supervisor from 013 in work group	1121102121401			
2009 Total	52	0	0	0.8						
2010	-11	0	0	-0.2 CC	TR Transf	To 2100-3517.000	CSCHRAMM2013 1107224607510			
Transfer labo cost center 2 2100-3517 in	1101224001010									
2010	111	0	0	1.6 CC	TR Transf	From 2100-3512.000	CSCHRAMM2013			
					. , .	visor and Associate st center 2100-0013	1121182859997			

Note: Totals may include rounding differences.

in work group 100006 CCC Operations to align function where it resides.

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 8. Customer Contact Center Operations

Workpaper: 100006.000 - CCC Operations

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	FTE	Adj Type	From CCtr	<u>RefID</u>			
2010 Total	101	0	0	1.4						
2011	-64	0	0	-0.8	CCTR Transf	To 2100-3518.000	CSCHRAMM2013 1107223003443			
2100-001		p 100006 CC	C Opera	ations to	dvisor function from the cost center 210	om cost center 0-3518 in work group				
2011	-32	0	0	-0.6	CCTR Transf	To 2100-3517.000	CSCHRAMM2013 1107224744710			
cost cente	Transfer labor / FTE costs associatiated with Quality Observation Specialist function from cost center 2100-0013 in work paper group 100006 CCC Operations to cost center 2100-3517 in work paper group 100007 CCC Support to align function where it resides.									
2011	-93	0	0	-1.3	CCTR Transf	To 2100-3516.000	CSCHRAMM2013 1107225014550			
Support A to cost ce	Transfer labor / FTE costs associatiated with Complaint Resolution Supervisor, and Ops Support Analyst functions from 2100-0013 in work paper group 100006 CCC Operations to cost center 2100-3516 in work paper group 100007 CCC Support to align functions where they resides.									
2011	58	0	0	0.8	CCTR Transf	From 2100-3512.000	CSCHRAMM2013 1121182957867			
Superviso	or from 2100-3	512 in work gr	oup 100	0007 C		rvisor and Associate ost center 2100-0013 des.	1121102337007			
2011 Total	-132	0	0	-1.9						
2012	249	0	0	7.2	CCTR Transf	From 2100-3515.000	CSCHRAMM2013 1107222126730			
Transfer labor / FTE costs associated with Energy Service Specialist Trainees labor from CC 2100-3515 in work paper group 100007 CCC Support to cost center 2100-0013 in work group 100006 CCC Operations to align costs where activity resides.										
2012	-70	0	0	-0.6	CCTR Transf	To 2100-3455.000	CSCHRAMM2013 1107222801067			
work grou	Transfer labor / FTE costs associated with Project Manager function from 2100-0013 in work group 100006 CCC Operations to cost center 2100-3455 in work group 100008 Residential Services to align costs where function resides.									
2012	-70	0	0	-0.8	CCTR Transf	To 2100-3518.000	CSCHRAMM2013			
	3 in work grou				dvisor function from the cost center 210	om cost center 00-3518 in work group	11072233382			

Note: Totals may include rounding differences.

100007 CCC Support where function resides.

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 8. Customer Contact Center Operations

Workpaper: 100006.000 - CCC Operations

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	RefID								
2012	-19	0	0	-0.4 (CCTR Transf	To 2100-3515.000	CSCHRAMM2013 1107225941373								
center 21	Transfer labor / FTE costs associatiated with Training Coordinator function from cost center 2100-0013 in work paper group 100006 CCC Operations to cost center 2100-3515 in work paper group 100007 CCC Support to align function where it resides.														
2012	-121	0	0	-1.5 (CCTR Transf	To 2100-3516.000	CSCHRAMM2013 1107230101007								
Resolutio work pape	Transfer labor / FTE costs associatiated with CCC Ops Support Analyst, Complaint Resolution Supervisor, and Service Coordinator functions from cost center 2100-0013 in work paper group 100006 CCC Operations to cost center 2100-3516 in work paper group 100007 CCC Support to align functions where they resides.														
2012 Total	-31	0	0	3.9											
			_												
2013	-132	0	0	-2.1 (CCTR Transf	To 2100-3515.000	CSCHRAMM2014 0213173127597								
group 10		erations to c	ost center			2100-0013 in work up 100007 CCC									
2013	156	0	0	4.5 (CCTR Transf	From 2100-3515.000	CSCHRAMM2014								
work grou	Transfer labor associated with CCC Operations function from cost center 2100-3515 in work group 100007 CCC Support to cost center 2100-0013 in work group 100006 CCC Operations, to align costs where activity resides.														
2013	51	0	0	0.7	CCTR Transf	From 2100-3517.000	CSCHRAMM2014								
work grou	ıp 100007 CC	C Support to	cost cen	ter 2100-	0213173922533 Transfer labor associated with CCC Operations function from cost center 2100-3517 in work group 100007 CCC Support to cost center 2100-0013 in work group 100006 CCC Operations, to align costs where activity resides.										

Supplemental Workpapers for Workpaper 100006.000

Customer Contact Center Operations 100006.000 Supplemental Workpaper 1 - Historical Performances

	A	В	С	D	Е	F	G	Н
1		2009	2010	2011	2012	2013	5-year average	Comments
2	Transaction Statistics							
3	ESS-ans w/ VH	2,436,338	2,353,875	2,242,137	2,127,497	2,066,645	2,245,298	ESS-handled calls including virtual holds
4	IVR SS	406,549	565,140	522,581	521,666	535,836	510,354	IVR self-service transactions
								Increase in Web SS in 2013 was from full automation of WEX by
5	Web and Mobile SS	3,083	12,808	41,811	63,620	171,461	58,557	adding Turn-on, Turn-off, ASO to Web.
								The large reduction in email from 2012 to 2013 was due to the
								automation/transfer of Web Enabled Channel (WEX) to Web SS.
								ESS stopped processing customer requests in KANA for Turn-on,
١.								Shut-off, Appliance Service Order requests. Those requests became
	Email	137,762	163,718	158,485	156,330	62,209		Web SS transactions.
	Chat	0	0	0	0	4,295		Chat functionality was introduced in 2013.
	Abandoned	119,214	114,837	89,352	91,789	98,530	102,744	
	Pay-by-Phone ESS-ans w/ VH + IVR SS	81,870	74,163 2,919,015	59,502	58,514	54,340	65,678 2,755,653	
10	E55-ans w/ vn + ivk 55	2,842,887	2,919,015	2,764,718	2,649,163	2,602,481	2,755,653	
111	ESS-ans w/ VH + IVR SS + Web and Mobile SS	2,845,970	2,931,823	2,806,529	2,712,783	2,773,942	2,814,209	
H	ESS-ans w/ VH + IVR SS + Web and Mobile SS	2,043,970	2,931,023	2,000,329	2,712,703	2,113,942	2,014,209	
12	+ Email + Chat	2,983,732	3,095,541	2,965,014	2,869,113	2,840,446	2 950 769	Total CCC Contacts
13	· Email · Onat	2,000,702	0,000,011	2,000,011	2,000,110	2,010,110	2,000,100	Total CCC Contacto
	Transaction rate per Electric Meter							
	Electric Meters (EM)	1,375,326	1,382,924	1,390,704	1,397,678	1,405,218	1 390 370	Ken Shiermeyer Ex. SDG&E-31
	ESS-ans w/ VH per EM	1.77	1.70	1.61	1.52	1,47		
	IVR SS calls per EM	0.30	0.41	0.38	0.37	0.38		
	Web and Mobile SS per EM	0.00	0.01	0.03	0.05	0.12		
19	Email per EM	0.10	0.12	0.11	0.11	0.04	0.10	
20	Chat per EM	0.00	0.00	0.00	0.00	0.00	0.00	
	Pay-by-Phone per EM	0.06	0.05	0.04	0.04	0.04	0.05	
22								
23								
24								
25	Performance Metrics							
								Total self-service rate equals sum of (IVR SS and Web SS) divided
	IVR & Web SS rate	14.39%	19.71%	20.11%	21.58%	25.50%		by the sum of (IVR SS, Web SS and CSR-ans w/ VH)
27	AHT	273	258	259	273	274		Calculated values from Data Warehouse LOS table
28	ESS LOS	72.32%	70.97%	71.86%	64.96%	68.86%		Agent LOS. Calculated values from DW LOS table
29	ESS&IVR LOS	76.12%	76.38%	77.01%	71.63%	75.04%	75.24%	Agent and IVR LOS. Calculated values from DW LOS table
	0.000			07.070	07.050/	05 500/	00.000/	Partial data for 2011. Using 2013 occupancy rate which is the better
30	Occupancy			87.27%	87.85%	85.53%	86.88%	indicator of future occupancy rate Abandoned calls divided by the sum of (Abandoned and CSR-ans w/
21	Abandoned rate	4.66%	4.65%	3.83%	4.14%	4.55%	4.37%	, ,
	Shrinkage	4.00%	4.05%	3.03%	4.14%	30.53%		V1 1)
33	Ommage					30.33%		
34								
54								

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Non-Shared Service Workpapers

Customer Contact Center Operations 100006.000 Supplemental Workpaper 2 - Call Volume Forecast

	А	В	С	D	E	F
	Zero Base forecast method: 2013 individual "transaction	ns per electric met	er" times forecas	ted electric meter	rs to obtain	
1	transactions forecasts.	-				
2						
3	Transactions Forecast					
4		2013 actual	2014 fcst	2015 fcst	2016 fcst	Commment
	Electric Meters (EM)	1,405,218	1,414,346	1,428,204	1,445,387	Ken Shiermeyer Ex. SDG&E-31
	ESS-ans w/ VH per EM	1.47	1.47	1.47	1.47	
	IVR SS calls per EM	0.38	0.38	0.38	0.38	
	Web and Mobile SS per EM	0.12	0.12	0.12	0.12	
9	Email per EM	0.04	0.04	0.04	0.04	
10	Chat	0.00	0.00	0.00	0.00	
11	Pay-by-Phone per EM	0.04	0.04	0.04	0.04	
12						
	ESS-ans w/ VH	2,066,645	2,080,069	2,100,450	2,125,721	used in EWFM runs
14	IVR SS	535,836	539,317	544,601	551,153	
15	Web and Mobile SS	171,461	172,575	174,266	176,362	
16	Email	62,209	62,613	63,227	63,987	
17	Chat	4,295	4,323	4,365	4,418	
18	Pay-by-Phone	54,340	54,693	55,229	55,893	
19	ESS-ans w/ VH + IVR SS + Web and Mobile SS	2,773,942	2,791,961	2,819,317	2,853,237	
	ESS-ans w/ VH + IVR SS + Web and Mobile SS + Email +					
	Chat	2,840,446	2,858,897	2,886,909	2,921,642	Total Customer Contacts
21						
22	Performance Metrics					
23		2013 actual	2014 fcst	2015 fcst	2016 fcst	
	IVR & Web SS rate	25.50%	25.50%	25.50%	25.50%	
	AHT	274	274	274	274	used in EWFM runs
	ESS LOS	68.86%	70.00%	70.00%	70.00%	used in EWFM runs
27	ESS&IVR LOS	75.04%	77.00%	77.00%	77.00%	
	Occupancy	85.53%	85.53%	85.53%	85.53%	used in EWFM runs
	Abandoned rate	4.55%	4.55%	4.55%	4.55%	
30	Shrinkage	30.53%	30.53%	30.53%	30.53%	used in EWFM runs

San Diego Gas & Electric Company 2016 GRC - APP

Non-Shared Service Workpapers

Customer Contact Center Operations 10 O006.000 Supplemental Workpaper 3 - e-Workforce Management FTE Requirements

	A	В	С	D	Е	F	G	Н		J
	Preparation for and recor						O	- ''		3
H							12042			
2	1. Calculate 3-year av									
	2. Calculate monthly		ing 3-year a	average mon	itniy cali perce	entages and	annuai cali volu	mes for		
3	2013, 2014 fcst, 2015	fcst, 2016 fcst								
	Provide the LOS tea	nm with the list	of eWFM t	est cases inc	luding month	ly call volun	nes, target AHT,	ESS LOS,		
4	occupancy and shrink	age								
5	4. Use the highest mo	nthly staffing r	equiremen	t for annual	staffing requi	rements				
6	5. Summarize eWFM	run results								
7										
	Chan de Calandata 2									
-	Step 1: Calculate 3-year a									
9										
10	Month	2011	2012	2013	3-Y Average					
11	Jan	182,796	183,988	199,025	188,603	8.79%				
12	Feb	174,697	171,649	171,423	172,590	8.04%				
13	Mar	197,848	178,636	178,670	185,051	8.63%				
14	Apr	176,232	159,544	177,858	171,211	7.98%				
15	May	177,747	167,734	167,027	170,836	7.96%				
	Jun	183,132		161,598	172,242	8.03%				
17	Jul	180,001			176,490	8.23%				
-	Aug	202,990		179,042	191,369	8.92%				
-	Sep	197,455		168,536	178,378	8.31%				
	Oct	197,433		176,540	188,421	8.78%				
-		·		,						
-	Nov	191,992		154,172	178,322	8.31%				
-	Dec	182,532			171,913	8.01%				
-	Total ESS Calls w/VH	2,242,137	2,127,497	2,066,645	2,145,426	100.00%				
24										
25 26	volumes for 2013, 2014 f	CST, 2015 ICS	t, 2016 ics	T.						
					2015 - 20-					
-	Month	2013 ACTUAL			2016 FCST					
-	Jan	181,677			186,871					
-	Feb	166,252			171,004					
30	Mar	178,256	179,414	181,172	183,352					
31	Apr	164,924	165,996	167,622	169,639					
32	May	164,563	165,632	167,255	169,267					
33	Jun	165,917	166,995	168,632	170,660					
34	Jul	170,009	171,114	172,790	174,869					
35	Aug	184,342	185,539	187,357	189,611					
-	Sep	171,828	172,944	174,639	176,740					
-	Oct	181,502		184,471	186,690					
	Nov	171,774			176,684					
-	Dec	165,600			170,334					
	Total ESS Calls w/VH		2,080,069		2,125,721					
41		2,000,043	2,000,000	_,0,_0	_,,				1	
	Channe 2	C		1	1	1				
42	Steps 3, 4, 5: EWFM Test		esuits				1			
		ESS Call								
		Volume								
43		Forecast	2013	Base Year Pe	erformance M	etrics		F '1 0	C	
		-					14/51	Email &	Special	-
		Total ESS			_		eWFM FTE	Chat	Service	Total ESS
44	Test cases	Calls w/VH	AHT	ESS LOS	Occupancy	_	requirement	support	Desk	requirement
45	Y2013	2,066,645	274	68.86%	85.53%	30.53%	147.51	3	4	154.5
-	2014 FCST	2,080,069	274	70.00%	85.53%	30.53%	148.16	3	4	155.2
47	2015 FCST	2,100,450	274	70.00%	85.53%	30.53%	149.29	3	4	156.3
ΔΩ	2016 FCST	2,125,721	274	70.00%	85.53%	30.53%	151.60	3	4	158.6
70										

Customer Contact Center Operations 100006.000 Supplemental Workpaper 4 - TY2016 FTE Forecast Adjustment Calculations Summary

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7	Process for calcul	ating ESS FT	E forecast adi	ustments:			Ü	"
H	The Zero-based TY				VFM application	based on a set		
	of input values for ca	ll volume, AH	Γ, LOS, occupano	y and shrinkage	using 2013 base	e year		
2	performance metrics							
	2. Calculate the num	ber of "call*se	conds" per FTE	by taking forecas	sted call volume	x 2013 base		
3	year AHT. The numbe	ers are presen	ted in Table 1.					
	3. For the Change in							eWFM FTE - See CCC Operations
	or AHT. Therefore the							100006.000 Supplemental Workpaper 3 -eWFM FTE
	implemented in 2014 be later used to calcu							Requirements
	For each individua							G48
	Time (AHT), FTE impa	-		-		-		
Ш	"call*seconds" per F							
5	calculation and result	t are presente	d in Table 2.					
6						/	1	
7						Table 1	TY2016	
Ш						(E) = (C) / (D)	Labor	
		(A) TY2016	(B) AHT in	(C) = (A) * (B)	(D) FTE	call*seconds	Forecast	
8	Scenario	Call volume	seconds	call*seconds	requirements	per FTE	(\$000)	Comments
П	·							TY2016 before any upward/downward pressures. Note: cell G10
								includes the costs associated with the eWFM FTE forecast of 151.6 plus
								the 7 additional FTE's required for Email & Chat Support and the Special
	TY2016							Service Desk forecast for a total ESS FTE forecast of 158.6.
	Requirements -							TY2016 ESS Zero-based Labor Forecast Calculation: (128.3 Full-Time FTEs x \$23.12 hrly rate x 2088 hours = \$6.194M) plus (30.3 Part-time FTEs x
9	eWFM	2,125,721	274	582,447,554	151.6	3,842,002	\$7,362	\$18.47 hrly rate x 2088 hours = \$1.168M) = \$7.362M
H		,,	_,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	25210	.,,	Ţ.,20 2	Reduce 3 of 15 positions currently working the shifts between 8 p.m. and
Ш								7 a.m. therefore the number of call*seconds per FTE increases. (Note:
Ш								The e-WFM FTE requirement of 148.6 shown in cell E11 does not include
Ш	After Operating Hour Change							the 7 additional FTE's required for Email & Chat Support and the Special
Ш	implemented in							Service Desk.) TY2016 ESS Labor Forecast Adjustment Calculation: (3 FTEs x \$23.12
	2014	2,125,721	274	582,447,554	148.6	3,919,566	-\$145	· · · · · · · · · · · · · · · · · · ·
11		, -,		, ,				,
12						Table 2		
						1		
Ш		(A) Change	(D) Change in	(C) = (A) * (B)	(D)		TY2016	
	Forecast	(A) Change	(B) Change in	(C) = (A) * (B)	(D)	(F) = (C) / (D)	Labor	
13	Forecast Adjustment	(A) Change in call volume	(B) Change in AHT in seconds	(C) = (A) * (B) Change in call*seconds	call*seconds	(E) = (C) / (D) FTE change	Labor Forecast	Comments
13	Forecast Adjustment	in call	AHT in	Change in		(E) = (C) / (D) FTE change	Labor	Comments Estimated 17,000 customers will call. Lowered the AHT from the
13		in call	AHT in	Change in	call*seconds		Labor Forecast	
13		in call	AHT in	Change in	call*seconds		Labor Forecast	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the
	Adjustment	in call	AHT in	Change in	call*seconds		Labor Forecast	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter.
	Adjustment Customer Outreach	in call volume	AHT in seconds	Change in call*seconds	call*seconds per FTE	FTE change	Labor Forecast (\$000)	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly.
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14	Adjustment Customer Outreach Safety Checks New Rate Options	in call volume	AHT in seconds	Change in call*seconds	call*seconds per FTE 3,919,566	FTE change	Labor Forecast (\$000)	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly. rate x 2088 hrs. = \$48K) Estimated 80,000 customers will call. Lowered the AHT from the Billing Calls average of 254 seconds to 244 seconds. It was assumed that call duration will be shorter because the agents will be equipped with tools and standardized guidances to assist customers. TY2016 ESS Labor Forecast Adjustment Calculation (5 FTEs x \$23.12 hrly.
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14	Adjustment Customer Outreach Safety Checks New Rate Options	in call volume	AHT in seconds	Change in call*seconds	call*seconds per FTE 3,919,566	FTE change	Labor Forecast (\$000)	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly. rate x 2088 hrs. = \$48K) Estimated 80,000 customers will call. Lowered the AHT from the Billing Calls average of 254 seconds to 244 seconds. It was assumed that call duration will be shorter because the agents will be equipped with tools and standardized guidances to assist customers. TY2016 ESS Labor Forecast Adjustment Calculation (5 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$241K) Estimated agents will process 20,000 CARE applications at an AHT of 290
14	Adjustment Customer Outreach Safety Checks New Rate Options	in call volume	AHT in seconds	Change in call*seconds	call*seconds per FTE 3,919,566	FTE change	Labor Forecast (\$000)	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly. rate x 2088 hrs. = \$48K) Estimated 80,000 customers will call. Lowered the AHT from the Billing Calls average of 254 seconds to 244 seconds. It was assumed that call duration will be shorter because the agents will be equipped with tools and standardized guidances to assist customers. TY2016 ESS Labor Forecast Adjustment Calculation (5 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$241K) Estimated agents will process 20,000 CARE applications at an AHT of 290 seconds per application.
14	Adjustment Customer Outreach Safety Checks New Rate Options and Programs	in call volume 17,000 80,000	AHT in seconds	Change in call*seconds 4,114,000	3,919,566	1.0	Labor Forecast (\$000)	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly. rate x 2088 hrs. = \$48K) Estimated 80,000 customers will call. Lowered the AHT from the Billing Calls average of 254 seconds to 244 seconds. It was assumed that call duration will be shorter because the agents will be equipped with tools and standardized guidances to assist customers. TY2016 ESS Labor Forecast Adjustment Calculation (5 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$241K) Estimated agents will process 20,000 CARE applications at an AHT of 290 seconds per application. TY2016 ESS Labor Forecast Adjustment Calculation (1.5 FTE x \$23.12 hrly.
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14	Adjustment Customer Outreach Safety Checks New Rate Options and Programs	in call volume 17,000 80,000	AHT in seconds	Change in call*seconds 4,114,000	3,919,566	1.0	Labor Forecast (\$000)	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly. rate x 2088 hrs. = \$48K) Estimated 80,000 customers will call. Lowered the AHT from the Billing Calls average of 254 seconds to 244 seconds. It was assumed that call duration will be shorter because the agents will be equipped with tools and standardized guidances to assist customers. TY2016 ESS Labor Forecast Adjustment Calculation (5 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$241K) Estimated agents will process 20,000 CARE applications at an AHT of 290 seconds per application. TY2016 ESS Labor Forecast Adjustment Calculation (1.5 FTE x \$23.12 hrly. rate x 2088 hrs. = \$72K) Estimated 57,000 calls will be avoided and employed the system average
14	Adjustment Customer Outreach Safety Checks New Rate Options and Programs CARE Enrollment	in call volume 17,000 80,000	AHT in seconds	Change in call*seconds 4,114,000	3,919,566	1.0	Labor Forecast (\$000)	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly. rate x 2088 hrs. = \$48K) Estimated 80,000 customers will call. Lowered the AHT from the Billing Calls average of 254 seconds to 244 seconds. It was assumed that call duration will be shorter because the agents will be equipped with tools and standardized guidances to assist customers. TY2016 ESS Labor Forecast Adjustment Calculation (5 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$241K) Estimated agents will process 20,000 CARE applications at an AHT of 290 seconds per application. TY2016 ESS Labor Forecast Adjustment Calculation (1.5 FTE x \$23.12 hrly. rate x 2088 hrs. = \$72K) Estimated 57,000 calls will be avoided and employed the system average AHT of 274 seconds for the estimate.
14	Adjustment Customer Outreach Safety Checks New Rate Options and Programs	in call volume 17,000 80,000	AHT in seconds	Change in call*seconds 4,114,000	3,919,566	1.0	Labor Forecast (\$000)	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly. rate x 2088 hrs. = \$48K) Estimated 80,000 customers will call. Lowered the AHT from the Billing Calls average of 254 seconds to 244 seconds. It was assumed that call duration will be shorter because the agents will be equipped with tools and standardized guidances to assist customers. TY2016 ESS Labor Forecast Adjustment Calculation (5 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$241K) Estimated agents will process 20,000 CARE applications at an AHT of 290 seconds per application. TY2016 ESS Labor Forecast Adjustment Calculation (1.5 FTE x \$23.12 hrly. rate x 2088 hrs. = \$72K) Estimated 57,000 calls will be avoided and employed the system average AHT of 274 seconds for the estimate. TY2016 ESS Labor Forecast Adjustment Calculation (-4 FTEs x \$23.12 hrly.
14	Customer Outreach Safety Checks New Rate Options and Programs CARE Enrollment IVR 2014 Capital	17,000 80,000	AHT in seconds 242 244	Change in call*seconds 4,114,000 19,520,000 5,800,000	3,919,566 3,919,566	1.0 5.0	\$48 \$241	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly. rate x 2088 hrs. = \$48K) Estimated 80,000 customers will call. Lowered the AHT from the Billing Calls average of 254 seconds to 244 seconds. It was assumed that call duration will be shorter because the agents will be equipped with tools and standardized guidances to assist customers. TY2016 ESS Labor Forecast Adjustment Calculation (5 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$241K) Estimated agents will process 20,000 CARE applications at an AHT of 290 seconds per application. TY2016 ESS Labor Forecast Adjustment Calculation (1.5 FTE x \$23.12 hrly. rate x 2088 hrs. = \$72K) Estimated 57,000 calls will be avoided and employed the system average AHT of 274 seconds for the estimate. TY2016 ESS Labor Forecast Adjustment Calculation (-4 FTEs x \$2.12 hrly.
15	Adjustment Customer Outreach Safety Checks New Rate Options and Programs CARE Enrollment IVR 2014 Capital Project #14023	17,000 80,000	AHT in seconds 242 244	Change in call*seconds 4,114,000 19,520,000 5,800,000	3,919,566 3,919,566	1.0 5.0	\$48 \$241	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly. rate x 2088 hrs. = \$48K) Estimated 80,000 customers will call. Lowered the AHT from the Billing Calls average of 254 seconds to 244 seconds. It was assumed that call duration will be shorter because the agents will be equipped with tools and standardized guidances to assist customers. TY2016 ESS Labor Forecast Adjustment Calculation (5 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$241K) Estimated agents will process 20,000 CARE applications at an AHT of 290 seconds per application. TY2016 ESS Labor Forecast Adjustment Calculation (1.5 FTE x \$23.12 hrly. rate x 2088 hrs. = \$72K) Estimated 57,000 calls will be avoided and employed the system average AHT of 274 seconds for the estimate. TY2016 ESS Labor Forecast Adjustment Calculation (-4 FTEs x \$23.12 hrly. rate x 2088 hrs. = -\$193)
15	Customer Outreach Safety Checks New Rate Options and Programs CARE Enrollment IVR 2014 Capital Project #14023 SEAd Phase 1	17,000 80,000	AHT in seconds 242 244	Change in call*seconds 4,114,000 19,520,000 5,800,000	3,919,566 3,919,566	1.0 5.0	\$48 \$241	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly. rate x 2088 hrs. = \$48K) Estimated 80,000 customers will call. Lowered the AHT from the Billing Calls average of 254 seconds to 244 seconds. It was assumed that call duration will be shorter because the agents will be equipped with tools and standardized guidances to assist customers. TY2016 ESS Labor Forecast Adjustment Calculation (5 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$241K) Estimated agents will process 20,000 CARE applications at an AHT of 290 seconds per application. TY2016 ESS Labor Forecast Adjustment Calculation (1.5 FTE x \$23.12 hrly. rate x 2088 hrs. = \$72K) Estimated 57,000 calls will be avoided and employed the system average AHT of 274 seconds for the estimate. TY2016 ESS Labor Forecast Adjustment Calculation (-4 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$193) Call volume is the total of 2016 base and all upward/downward pressures. Estimated the project will lower the overall AHT by 8 seconds.
14	Customer Outreach Safety Checks New Rate Options and Programs CARE Enrollment IVR 2014 Capital Project #14023 SEAd Phase 1 Capital Project	17,000 80,000 20,000 (57,000)	242 244 290	Change in call*seconds 4,114,000 19,520,000 5,800,000 (15,618,000)	3,919,566 3,919,566 3,919,566	1.0 5.0 (4.0)	\$48 \$241 \$72 -\$193	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly. rate x 2088 hrs. = \$48K) Estimated 80,000 customers will call. Lowered the AHT from the Billing Calls average of 254 seconds to 244 seconds. It was assumed that call duration will be shorter because the agents will be equipped with tools and standardized guidances to assist customers. TY2016 ESS Labor Forecast Adjustment Calculation (5 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$241K) Estimated agents will process 20,000 CARE applications at an AHT of 290 seconds per application. TY2016 ESS Labor Forecast Adjustment Calculation (1.5 FTE x \$23.12 hrly. rate x 2088 hrs. = \$72K) Estimated 57,000 calls will be avoided and employed the system average AHT of 274 seconds for the estimate. TY2016 ESS Labor Forecast Adjustment Calculation (-4 FTEs x \$23.12 hrly. rate x 2088 hrs. = -\$193) Call volume is the total of 2016 base and all upward/downward pressures. Estimated the project will lower the overall AHT by 8 seconds. TY2016 ESS Labor Forecast Adjustment Calculation (-4.5 FTEs x \$23.12
14	Customer Outreach Safety Checks New Rate Options and Programs CARE Enrollment IVR 2014 Capital Project #14023 SEAd Phase 1	17,000 80,000	AHT in seconds 242 244	Change in call*seconds 4,114,000 19,520,000 5,800,000	3,919,566 3,919,566	1.0 5.0	\$48 \$241 \$72 -\$193	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly. rate x 2088 hrs. = \$48K) Estimated 80,000 customers will call. Lowered the AHT from the Billing Calls average of 254 seconds to 244 seconds. It was assumed that call duration will be shorter because the agents will be equipped with tools and standardized guidances to assist customers. TY2016 ESS Labor Forecast Adjustment Calculation (5 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$241K) Estimated agents will process 20,000 CARE applications at an AHT of 290 seconds per application. TY2016 ESS Labor Forecast Adjustment Calculation (1.5 FTE x \$23.12 hrly. rate x 2088 hrs. = \$72K) Estimated 57,000 calls will be avoided and employed the system average AHT of 274 seconds for the estimate. TY2016 ESS Labor Forecast Adjustment Calculation (-4 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$193) Call volume is the total of 2016 base and all upward/downward pressures. Estimated the project will lower the overall AHT by 8 seconds.
15	Customer Outreach Safety Checks New Rate Options and Programs CARE Enrollment IVR 2014 Capital Project #14023 SEAd Phase 1 Capital Project	17,000 80,000 20,000 (57,000)	242 244 290	Change in call*seconds 4,114,000 19,520,000 5,800,000 (15,618,000)	3,919,566 3,919,566 3,919,566	1.0 5.0 (4.0)	\$48 \$241 \$72 -\$193	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly. rate x 2088 hrs. = \$48K) Estimated 80,000 customers will call. Lowered the AHT from the Billing Calls average of 254 seconds to 244 seconds. It was assumed that call duration will be shorter because the agents will be equipped with tools and standardized guidances to assist customers. TY2016 ESS Labor Forecast Adjustment Calculation (5 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$241K) Estimated agents will process 20,000 CARE applications at an AHT of 290 seconds per application. TY2016 ESS Labor Forecast Adjustment Calculation (1.5 FTE x \$23.12 hrly. rate x 2088 hrs. = \$72K) Estimated 57,000 calls will be avoided and employed the system average AHT of 274 seconds for the estimate. TY2016 ESS Labor Forecast Adjustment Calculation (-4 FTEs x \$23.12 hrly. rate x 2088 hrs. = -\$193) Call volume is the total of 2016 base and all upward/downward pressures. Estimated the project will lower the overall AHT by 8 seconds. TY2016 ESS Labor Forecast Adjustment Calculation (-4.5 FTEs x \$23.12
14 15 16	Adjustment Customer Outreach Safety Checks New Rate Options and Programs CARE Enrollment IVR 2014 Capital Project #14023 SEAd Phase 1 Capital Project #13009	17,000 80,000 20,000 (57,000)	242 244 290	Change in call*seconds 4,114,000 19,520,000 5,800,000 (15,618,000)	3,919,566 3,919,566 3,919,566	1.0 5.0 (4.0)	\$48 \$241 \$72 -\$193	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly. rate x 2088 hrs. = \$48K) Estimated 80,000 customers will call. Lowered the AHT from the Billing Calls average of 254 seconds to 244 seconds. It was assumed that call duration will be shorter because the agents will be equipped with tools and standardized guidances to assist customers. TY2016 ESS Labor Forecast Adjustment Calculation (5 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$241K) Estimated agents will process 20,000 CARE applications at an AHT of 290 seconds per application. TY2016 ESS Labor Forecast Adjustment Calculation (1.5 FTE x \$23.12 hrly. rate x 2088 hrs. = \$72K) Estimated 57,000 calls will be avoided and employed the system average AHT of 274 seconds for the estimate. TY2016 ESS Labor Forecast Adjustment Calculation (-4 FTEs x \$23.12 hrly. rate x 2088 hrs. = -\$193) Call volume is the total of 2016 base and all upward/downward pressures. Estimated the project will lower the overall AHT by 8 seconds. TY2016 ESS Labor Forecast Adjustment Calculation (-4.5 FTEs x \$23.12 hrly. rate x 2088 hrs. = -\$217)
14 15 16	Customer Outreach Safety Checks New Rate Options and Programs CARE Enrollment IVR 2014 Capital Project #14023 SEAd Phase 1 Capital Project #13009	17,000 80,000 20,000 (57,000)	242 244 290	Change in call*seconds 4,114,000 19,520,000 5,800,000 (15,618,000)	3,919,566 3,919,566 3,919,566	1.0 5.0 (4.0)	\$48 \$241 \$72 -\$193	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly. rate x 2088 hrs. = \$48K) Estimated 80,000 customers will call. Lowered the AHT from the Billing Calls average of 254 seconds to 244 seconds. It was assumed that call duration will be shorter because the agents will be equipped with tools and standardized guidances to assist customers. TY2016 ESS Labor Forecast Adjustment Calculation (5 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$241K) Estimated agents will process 20,000 CARE applications at an AHT of 290 seconds per application. TY2016 ESS Labor Forecast Adjustment Calculation (1.5 FTE x \$23.12 hrly. rate x 2088 hrs. = \$72K) Estimated 57,000 calls will be avoided and employed the system average AHT of 274 seconds for the estimate. TY2016 ESS Labor Forecast Adjustment Calculation (-4 FTEs x \$23.12 hrly. rate x 2088 hrs. = -\$193) Call volume is the total of 2016 base and all upward/downward pressures. Estimated the project will lower the overall AHT by 8 seconds. TY2016 ESS Labor Forecast Adjustment Calculation (-4.5 FTEs x \$23.12 hrly. rate x 2088 hrs. = -\$217)
14 15 17	Adjustment Customer Outreach Safety Checks New Rate Options and Programs CARE Enrollment IVR 2014 Capital Project #14023 SEAd Phase 1 Capital Project #13009	17,000 80,000 20,000 (57,000)	242 244 290	Change in call*seconds 4,114,000 19,520,000 5,800,000 (15,618,000)	3,919,566 3,919,566 3,919,566	1.0 5.0 (4.0)	\$48 \$241 \$72 -\$193	Estimated 17,000 customers will call. Lowered the AHT from the Seasonal Appliance Service Order average of 252 seconds to 242 seconds. It was assumed that only 40% of callers will schedule for the safety check therefore the average call duration will be shorter. TY2016 ESS Labor Forecst Adjustment Calculation (1 FTE x \$23.12 hrly. rate x 2088 hrs. = \$48K) Estimated 80,000 customers will call. Lowered the AHT from the Billing Calls average of 254 seconds to 244 seconds. It was assumed that call duration will be shorter because the agents will be equipped with tools and standardized guidances to assist customers. TY2016 ESS Labor Forecast Adjustment Calculation (5 FTEs x \$23.12 hrly. rate x 2088 hrs. = \$241K) Estimated agents will process 20,000 CARE applications at an AHT of 290 seconds per application. TY2016 ESS Labor Forecast Adjustment Calculation (1.5 FTE x \$23.12 hrly. rate x 2088 hrs. = \$72K) Estimated 57,000 calls will be avoided and employed the system average AHT of 274 seconds for the estimate. TY2016 ESS Labor Forecast Adjustment Calculation (-4 FTEs x \$23.12 hrly. rate x 2088 hrs. = -\$193) Call volume is the total of 2016 base and all upward/downward pressures. Estimated the project will lower the overall AHT by 8 seconds. TY2016 ESS Labor Forecast Adjustment Calculation (-4.5 FTEs x \$23.12 hrly. rate x 2088 hrs. = -\$217)

Beginning of Workpaper 100007.000 - CCC Support

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations
Category-Sub 9. Customer Contact Center Support

Workpaper: 100007.000 - CCC Support

Activity Description:

Customer Contact Center (CCC) Support work group activities include resource planning and scheduling; technology support; training; quality assurance; policy and procedures support; planning and analysis functions; and clerical support. And also includes the costs associated with software licensing and maintenance, and telephone expenses.

Forecast Explanations:

Labor - Base YR Rec

A base year forecast method was used because the workgroup experienced reorganizational changes that began in 2010 and completed in 2012. The changes consisted of moving the Level of Service ("LOS") team from SoCalGas to SDG&E in 2010. In addition, three new positions were added in 2012 to: (1) support analytics, and review processes and enhancements for CCC systems including IVR, ClickFox, Nexedia and Data Warehouse; (2) monitor real-time level of service, call volume forecasting, resource planning and dispatch for the ESSs; and (3) to assist in training, coordination, planning and scheduling. Therefore, the base year provides a reasonable starting point for future expenditures.

Non-Labor - Base YR Rec

See above.

NSE - Base YR Rec

N/A

Summary of Results:

		In 2013\$ (000) Incurred Costs											
		Adjι	ısted-Recor		Adjusted-Forecast								
Years	2009	2010	2011	2012 2013		2014	2015	2016					
Labor	1,300	1,154	1,300	1,403	1,313	1,313	1,313	1,313					
Non-Labor	993	1,251	1,088	903	1,009	1,060	1,224	1,082					
NSE	0	0	0	0	0	0	0	0					
Total	2,293	2,405	2,389	2,306	2,322	2,373	2,537	2,395					
FTE	19.7	18.0	19.5	21.7	20.3	20.3	20.3	20.3					

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations
Category-Sub: 9. Customer Contact Center Support

Workpaper: 100007.000 - CCC Support

Forecast Summary:

	In 2013 \$(000) Incurred Costs												
Forecas	Forecast Method Base Forecast				Forec	ast Adjust	tments	Adjusted-Forecast					
Years	s	2014	2015	2016	2014	2015	2016	2014	2015	2016			
Labor	Base YR Rec	1,313	1,313	1,313	0	0	0	1,313	1,313	1,313			
Non-Labor	Base YR Rec	1,009	1,009	1,009	51	215	73	1,060	1,224	1,082			
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0			
Tota	ıl	2,322	2,322	2,322	51	215	73	2,373	2,537	2,395			
FTE	Base YR Rec	20.3	20.3	20.3	0.0	0.0	0.0	20.3	20.3	20.3			

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>Total</u>	<u>FTE</u>	Adj Type				
2014	0	36	0	36	0.0	1-Sided Adj				
Upgrade A	psect/EWFM softv	vare used for	forecasting	and schedulir	ng ESS					
2014	0	15	0	15	0.0	1-Sided Adj				
Upgrade Nexidia software used for call analytics										

2014 Total	0	51	0	51	0.0	
2015	0	25	0	25	0.0	1-Sided Adj
Acquire additional N	NCE (call re	cording) licens	ses			
2015	0	117	0	117	0.0	1-Sided Adj
Call Recording Rep	lacement Pr	oject				
2015	0	73	0	73	0.0	1-Sided Adj

Capital Project Impacts: Annual software maintenance fee resulting from the implementation of the SEAd Capital Projects #13009 and #14017.

2015 Total	0	215	0	215	0.0	
2016	0	73	0	73	0.0 1	-Sided Adj

Capital Project Impacts: Annual software maintenance fee resulting from the implementation of the SEAd Capital Projects #13009 and #14017.

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations
Category-Sub: 9. Customer Contact Center Support

Workpaper: 100007.000 - CCC Support

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE Adj Type	
2016 Total	0	73	0	73	0.0	

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Bradley M. Baugh Witness:

A. Customer Service Operations Category: 9. Customer Contact Center Support Category-Sub:

100007.000 - CCC Support Workpaper:

Determination of Adjusted-Recorded (Incurred Costs):

Determination of Aujusteu-	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	1,807	1,741	1,137	1,239	1,135
Non-Labor	1,078	1,384	1,285	889	907
NSE	0	0	0	0	0
Total	2,885	3,125	2,422	2,128	2,042
FTE	24.2	22.9	16.8	23.2	19.5
Adjustments (Nominal \$) **					
Labor	-770	-805	-48	-39	-2
Non-Labor	-180	-227	-237	0	102
NSE	0	0	0	0	0
Total	-950	-1,032	-285	-39	101
FTE	-7.3	-7.5	0.0	-4.5	-2.3
Recorded-Adjusted (Nomina	al \$)				
Labor	1,037	936	1,089	1,200	1,134
Non-Labor	898	1,157	1,048	889	1,009
NSE	0	0	0	0	0
Total	1,936	2,093	2,137	2,089	2,143
FTE	16.9	15.4	16.8	18.7	17.2
acation & Sick (Nominal \$)					
Labor	160	149	160	174	180
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	160	149	160	174	180
FTE	2.8	2.7	2.7	3.0	3.0
scalation to 2013\$					
Labor	103	69	51	30	0
Non-Labor	95	94	41	14	0
NSE	0	0	0	0	0
Total	197	162	92	43	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Consta	nt 2013\$)				
Labor	1,300	1,154	1,300	1,403	1,313
Non-Labor	993	1,251	1,088	903	1,009
NSE	0	0	0	0	0
Total	2,293	2,405	2,389	2,306	2,322
FTE	19.7	18.1	19.5	21.7	20.2

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations
Category-Sub: 9. Customer Contact Center Support

Workpaper: 100007.000 - CCC Support

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs												
Years	2009	2010	2011	2012	2013							
abor	-770	-805	-48	-39	-2							
Non-Labor	-180	-227	-237	0	102							
NSE	0	0	0	0	0							
Total	-950	-1,032	-285	-39	101							
TE	-7.3	-7.5	0.0	-4.5	-2.3							

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	FTE	Adj Type	From CCtr	RefID					
2009	0	-109	0	0.0 1-5	Sided Adj	N/A	CSCHRAMM2013 1107221046890					
	z patent infrin 07 CCC Sup _l	•	ement ch	narges fror	n cost center:	2100-0019 in work	1107221040030					
2009	-304	-3	0	-3.8 CC	TR Transf	To 2100-0642.000	CSCHRAMM2013 1107221220710					
cost center 2	2100-0019 in Nork Paper	Work Paper (Group 10	O0007 CC	CC Support to	oort function from cost center gn function where						
2009	-232	-5	0	-1.8 CC	TR Transf	To 2100-0642.000	CSCHRAMM2013					
cost center 2 2100-0642 in	Transfer labor, FTE, and non-labor costs associated with IT Tech Manager function from cost center 2100-0019 in Work Paper Group 100007 CCC Support to cost center 2100-0642 in Work Paper Group 1IT001 Information Technology to align function where activity resides.											
2009	0	-34	0	0.0 CC	TR Transf	To 2200-0404.000	CSCHRAMM2013 1107223742667					
internal orde Support to S	Transfer costs associated with software maintenance (Kana) charged to SCG billing internal order 7037650 from cost center 2100-0019 in work group 100007 SDG&E CCC Support to SCG cost center 2200-0404 in work group 200001 SCG CCC Support where activity resides.											
2009 Transfer labo	13 or/FTE costs	0 associatiated	0 with Pr		TR Transf	From 2100-0013.000 om cost center	CSCHRAMM2013 1107224436920					
0400 0040 :												

Transfer labor/FTE costs associatiated with Project Advisor function from cost center 2100-0013 in work paper group 100006 CCC Operations to cost center 2100-3516 in work paper group 100007 CCC Support to align function where it resides.

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations
Category-Sub: 9. Customer Contact Center Support

Workpaper: 100007.000 - CCC Support

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type	From CCtr	RefID				
2009	-182	0	0		CTR Transf	To 2200-0401.000	CSCHRAMM2013 1121182148840				
center 210	00-3510 in wor	k group 100	007 SDG	&E CCC	Center (CCC) Support to SC where activity re						
2009	-54	0	0	-0.8 C	CTR Transf	To 2100-0013.000	CSCHRAMM2013 1121182648267				
2100-3512		100007 CC	C Suppo	rt to cost		rvisor from 1013 in work group					
2009	-11	0	0	-0.2 C	CTR Transf	To 2100-0013.000	CSCHRAMM2013 1121182727487				
Transfer costs associated with Customer Contact Center (CCC) Associate Supervisor from 2100-3515 in work group 100007 CCC Support to cost center 2100-0013 in work group 100006 CCC Operations to align function where it resides.											
2009	0	-29	0	0.0 C	CTR Transf	From 2200-0404.000	RMCHRIST20131				
Transfer costs associated with software ,computer maintenance charged to SDG&E billing internal order 300589479 from cost center 2200-0404 in work group 200001 SCG Support to SDG&E cost center 2100-0019 in work group 100007 SDG&E CCC Support where activity resides.											
2009 Total	-770	-180	0	-7.3							
2010	-298	-12	0	-3.5 C	CCTR Transf	To 2100-0642.000	CSCHRAMM2013 1107221328560				
cost cente	r 2100-0019 ir	n Work Paper	Group 1	OO007 C	CCC Support to		110722102000				
2100-0642 activity res		er Group 1IT0	01 Inforn	nation Te	chnology to ali	ign function where					
2010	-226	-6	0	-1.7 C	CTR Transf	To 2100-0642.000	CSCHRAMM2013 1107221705560				
Transfer labor, FTE, and non-labor costs associated with IT Tech Manager function from cost center 2100-0019 in Work Paper Group 100007 CCC Support to cost center 2100-0642 in Work Paper Group 1IT001 Information Technology to align function where activity resides.											
2010	0	-303	0	0.0 C	CTR Transf	To 2200-0404.000	CSCHRAMM2013 1107223849000				
Transfer costs associated with software maintenance (Kana, Nexidia) charged to SCG billing internal order 7037650 from cost center 2100-0019 in work group 100007 SDG&E CCC Support to SCG cost center 2200-0404 in work group 200001 SCG CCC Support where activity resides											

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations
Category-Sub: 9. Customer Contact Center Support

Workpaper: 100007.000 - CCC Support

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	RefID					
2010	11	0	0	0.2	CCTR Transf	From 2100-0013.000	CSCHRAMM2013 1107224607510					
cost cente	r 2100-0013 ir	n work paper (group 1C	O006 C	CC Operations	cialist function from to cost center n where it resides.						
2010	-181	0	0	-0.9	CCTR Transf	To 2200-0401.000	CSCHRAMM2013 1121182235890					
center 210	Transfer costs associated with SCG Customer Contact Center (CCC) Director from cost center 2100-3510 in work group 100007 SDG&E CCC Support to SCG cost center 2200-0401 in work group 200001 SCG CCC Support where activity resides.											
2010	-111	0	0	-1.6	CCTR Transf	To 2100-0013.000	CSCHRAMM2013					
Supervisor	Transfer costs associated with Customer Contact Center (CCC) Supervisor and Associate Supervisor from 2100-3512 in work group 100007 CCC Support to cost center 2100-0013 in work group 100006 CCC Operations to align function where it resides.											
2010	0	94	0	0.0	CCTR Transf	From 2200-0404.000	RMCHRIST20131 111111508593					
internal ord Support to	Transfer costs associated with software, computer maintenance charged to SDG&E billing internal order 300589479 from cost center 2200-0404 in work group 200001 SCG CCC Support to SDG&E cost center 2100-0019 in work group 100007 SDG&E CCC Support where activity resides.											
2010 Total	-805	-227	0	-7.5								
0044	400	_	0	47.0	00TD Tf	T- 0400 0040 000	0001711110010					
2011	-163	-7	0		CCTR Transf	To 2100-0642.000	CSCHRAMM2013 1107221427490					
cost center 2100-0642	Transfer labor, FTE, and non-labor costs associated with IT Tech Support function from cost center 2100-0019 in Work Paper Group 100007 CCC Support to cost center 2100-0642 in Work Paper Group 1IT001 Information Technology to align function where activity resides.											
2011	-6	-0.506	0	-0.1 (CCTR Transf	To 2100-0642.000	CSCHRAMM2013 1107221831967					
cost center 2100-0642	Transfer labor, FTE, and non-labor costs associated with IT Tech Manager function from cost center 2100-0019 in Work Paper Group 100007 CCC Support to cost center 2100-0642 in Work Paper Group 1IT001 Information Technology to align function where activity resides.											
2011	64	0	0	0.8	CCTR Transf	From 2100-0013.000	CSCHRAMM2013 1107223003443					
2100-0013		100006 CC	C Opera	tions to	visor function fro cost center 210	om cost center 0-3518 in work group	1101223003443					

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations
Category-Sub: 9. Customer Contact Center Support

Workpaper: 100007.000 - CCC Support

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	FTE	Adj Type	From CCtr	RefID				
2011	0	-261	0	0.0 C	CTR Transf	To 2200-0404.000	CSCHRAMM2013 1107224215740				
Avaya, an 2100-001	ıd Nice) charge	d to SCG billi 100007 SD	ng intern G&E CC	al order C Suppo	7054940 from rt to SCG cost	a, Nexidia, NARC, cost center center 2200-0404 in	1101224210140				
2011	32	0	0		CTR Transf	From 2100-0013.000	CSCHRAMM2013 1107224744710				
cost cente	Transfer labor / FTE costs associatiated with Quality Observation Specialist function from cost center 2100-0013 in work paper group 100006 CCC Operations to cost center 2100-3517 in work paper group 100007 CCC Support to align function where it resides.										
2011	93	0	0	1.3 C	CTR Transf	From 2100-0013.000	CSCHRAMM2013 1107225014550				
Support A	nalyst function nter 2100-3516	s from 2100-0	013 in w	ork pape	er group 1000	upervisor, and Ops 06 CCC Operations to align functions					
2011	-10	0	0	-0.1 C	CTR Transf	To 2200-0401.000	CSCHRAMM2013 1121182349287				
center 210	costs associate 00-3510 in wor 1 in work group	k group 1000	007 SDG	&E CCC	Support to SC		1121102010201				
2011	-58	0	0	-0.8 C	CTR Transf	To 2100-0013.000	CSCHRAMM2013 1121182957867				
Superviso		12 in work gr	oup 1OC	0007 CC	C Support to co	rvisor and Associate ost center 2100-0013 des.	1121102501501				
2011	0	32	0	0.0 C	CTR Transf	From 2200-0404.000	RMCHRIST20131 111111548373				
Transfer costs associated with software, computer maintenance charged to SDG&E billing internal order 300589479 from cost center 2200-0404 in work group 2OO001 SCG CCC Support to SDG&E cost center 2100-0019 in work group 1OO007 SDG&E CCC Support where activity resides.											
2011 Total	-48	-237	0	0.0							
2012	-249	0	0	-72 C	CTR Transf	To 2100-0013.000	CSCHRAMM2013				
							1107222126730				
Transfer la	abor / FTE cos	ts associated	with Ene	ergy Serv	ice Specialist	Trainees labor from					

Note: Totals may include rounding differences.

CC 2100-3515 in work paper group 100007 CCC Support to cost center 2100-0013 in

work group 100006 CCC Operations to align costs where activity resides.

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Witness: Bradley M. Baugh

A. Customer Service Operations Category: 9. Customer Contact Center Support Category-Sub:

100007.000 - CCC Support Workpaper:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type	From CCtr	RefID			
2012	70	0	0	0.8 C	CTR Transf	From 2100-0013.000	CSCHRAMM2013 1107223338207			
2100-0013	bor/FTE costs a in work group CCC Support wh	100006 CC	C Opera	tions to c		om cost center 00-3518 in work group	1107223330207			
2012	19	0	0	0.4 C	CTR Transf	From 2100-0013.000	CSCHRAMM2013 1107225941373			
center 210	nbor / FTE costs 10-0013 in work per group 1000	1107223341373								
2012	121	0	0	1.5 C	CTR Transf	From 2100-0013.000	CSCHRAMM2013			
Transfer labor / FTE costs associatiated with CCC Ops Support Analyst, Complaint Resolution Supervisor, and Service Coordinator functions from cost center 2100-0013 in work paper group 100006 CCC Operations to cost center 2100-3516 in work paper group 100007 CCC Support to align functions where they resides.										
2012 Total	-39	0	0	-4.5						
2013	74	0	0	0.8 C	CTR Transf	From 2100-3455.000	CSCHRAMM2014			
							0205184637780			
function fro to cost cer	Transfer labor and FTE associated with Customer Contact Center Business Analyst function from cost center 2100-3455 in Work Paper Group 100008 (Residential Services) to cost center 2100-3518 In Work Paper Group 100007 (Customer Contact Center - Support) to align costs where function resides.									
2013	132	0	0	2.1 C	CTR Transf	From 2100-0013.000	CSCHRAMM2014 0213173127597			
group 1OC		ations to cos	t center			2100-0013 in work up 100007 CCC	32.1011.012.1007			
2013	-156	0	0	-4.5 C	CTR Transf	To 2100-0013.000	CSCHRAMM2014 0213173755263			
						nter 2100-3515 in group 100006 CCC	3210110100200			

Note: Totals may include rounding differences.

-51

2013

Operations, to align costs where activity resides.

Operations, to align costs where activity resides.

0

Transfer labor associated with CCC Operations function from cost center 2100-3517 in work group 100007 CCC Support to cost center 2100-0013 in work group 100006 CCC

-0.7 CCTR Transf

To 2100-0013.000

CSCHRAMM2014 0213173922533

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations
Category-Sub: 9. Customer Contact Center Support

Workpaper: 100007.000 - CCC Support

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	RefID
2013	0	60	0	0.0 C	CTR Transf	From 2100-3167.000	CSCHRAMM2014 0514141403607
100010 c		00-3167 to C	CC Suppo	rt Work (Group 100007	ons Work Group ' cost center	
2013	0	43	0	0.0	CCTR Transf	From 2200-0404.000	RMCHRIST20140 210135428873
	•	•	•			04 in work group 07 CCC-Support	

-2.3

102

2013 Total

Beginning of Workpaper 100012.000 - Other Office

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Witness: Bradley M. Baugh

A. Customer Service Operations Category:

Category-Sub 10. Other Office

100012.000 - Other Office Workpaper:

Activity Description:

The Customer Service Other Office work group contains the Vice President of Customer Services and a Business Planning & Budget Project Manager. The Vice President provides oversight and leadership for all Customer Services activities. The Business Planning & Budgets Project Manager provides support and guidance to the Customer Service organization in all aspects of budget planning, outlooks, key performance indicators and acts as a liaison between operations and the financial department of the company.

Forecast Explanations:

Labor - Base YR Rec

A base year forecast method was used because 2013 represents the current activity level and is not expected to change. Furthermore, this workgroup has a small number of FTEs whose work is not cyclical in nature and should remain constant for 2014 through TY 2016. Therefore, the base year provides a reasonable starting point for future expenditures.

Non-Labor - Base YR Rec

See above.

NSE - Base YR Rec

N/A

Summary of Results:

		In 2013\$ (000) Incurred Costs										
		Adju	ısted-Recor	Adjusted-Forecast								
Years	2009	2010	2011	2012	2013	2014	2015	2016				
Labor	516	400	423	437	588	588	588	588				
Non-Labor	312	49	462	1,007	283	283	283	283				
NSE	0	0	0	0	0	0	0	0				
Total	828	449	885	1,443	871	871	871	871				
FTE	3.4	2.8	3.2	3.1	4.3	4.3	4.3	4.3				

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 10. Other Office

Workpaper: 100012.000 - Other Office

Forecast Summary:

	In 2013 \$(000) Incurred Costs													
Forecast Method Base Forecast					Forec	ast Adjust	ments	Adjusted-Forecast						
Years	s	2014 2015 2016			2014	2015	2016	2014	2015	2016				
Labor	Base YR Rec	588	588	588	0	0	0	588	588	588				
Non-Labor	Base YR Rec	283	283	283	0	0	0	283	283	283				
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0				
Tota	Total		871	871	0		0	871	871	871				
FTE	Base YR Rec	4.3	4.3	4.3	0.0	0.0	0.0	4.3	4.3	4.3				

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type
2014 Total	0	0	0	0	0.0	
2015 Total	0	0	0	0	0.0	
2016 Total	0	0	0	0	0.0	

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Bradley M. Baugh Witness:

A. Customer Service Operations Category:

10. Other Office Category-Sub:

100012.000 - Other Office Workpaper:

Determination of Adjusted-Recorded (Incurred Costs):

eternimation of Aujustet	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
ecorded (Nominal \$)*					
Labor	726	581	420	409	593
Non-Labor	1,029	255	632	1,445	733
NSE	0	0	0	0	0
Total	1,755	836	1,052	1,854	1,326
FTE	4.0	3.6	3.5	3.2	4.6
djustments (Nominal \$) *	•				
Labor	-314	-257	-66	-35	-86
Non-Labor	-746	-210	-187	-454	-450
NSE	0	0	0	0	0
Total	-1,061	-467	-252	-489	-535
FTE	-1.1	-1.2	-0.8	-0.5	-0.9
ecorded-Adjusted (Nomir	nal \$)				
Labor	412	325	354	373	507
Non-Labor	282	45	445	991	283
NSE	0	0	0	0	0
Total	694	370	799	1,364	790
FTE	2.9	2.4	2.7	2.7	3.7
acation & Sick (Nominal S	\$)				
Labor	64	52	52	54	80
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	64	52	52	54	80
FTE	0.5	0.4	0.4	0.4	0.6
scalation to 2013\$					
Labor	41	24	17	9	0
Non-Labor	30	4	17	15	0
NSE	0	0	0	0	0
Total	71	27	34	25	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Const	ant 2013\$)				
Labor	516	400	423	437	588
Non-Labor	312	49	462	1,007	283
NSE	0	0	0	0	0
Total	828	449	885	1,443	871
FTE	3.4	2.8	3.1	3.1	4.3

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Witness: Bradley M. Baugh

A. Customer Service Operations Category:

10. Other Office Category-Sub:

100012.000 - Other Office Workpaper:

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs									
Years	2009	2010	2011	2012	2013				
Labor	-314	-257	-66	-35	-86				
Non-Labor	-746	-210	-187	-454	-450				
NSE	0	0	0	0	0				
Total	-1,061	-467	-252	-489	-535				
FTE	-1.1	-1.2	-0.8	-0.5	-0.9				

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	<u>RefID</u>
2009	-85	-724	0	-0.1 CC	TR Transf	To 2100-0058.000	CSCHRAMM2013 1030113343797
Transfer asso 2100-0058 in		•				ons cost center	
2009	-230	-22	0	-1.0 CC	TR Transf	To 2200-2282.000	CSCHRAMM2013 1030114445713
	ars from cost	center 2100	0-3701 in			or and non-labor the SCG USS	1000111110110

2009 Total	-314	-746	0	-1.1			
2010	-27	-63	0	-0.2	CCTR Transf	To 2100-0058.000	CSCHRAMM2013 1030113527273
	sociated fire s in Work Grou	•				ations cost center	
2010	-230	-48	0	-1.0	CCTR Transf	To 2200-2282.000	CSCHRAMM2013 1030114607590
Transfer as	sociated SCG	Shared Serv	ices VP	Custo	mer Solutions lal	bor and non-labor	1000111001000
	ollars from cos 2200-2282 w) Work	Group 100012	to the SCG USS	
2010	0	-99	0	0.0	1-Sided Adj	N/A	CSCHRAMM2013 1104171542260
Exclusion for	or Dynamic Pi	ricing 100 % I	Refundal	ble per	filing in Applicat	ion 10-07-009.	

Reference Internal Order: 7049031

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 10. Other Office

Workpaper: 100012.000 - Other Office

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	FTE	Adj Type	From CCtr	RefID
2010 Total	-257	-210	0	-1.2			
2011	-13	-9	0	-0.1	CCTR Transf	To 2200-2282.000	CSCHRAMM2013
historical o		ost center 210	00-3701 ir		mer Solutions lab Group 100012 t	or and non-labor to the SCG USS	1030114650473
2011	-52	-178	0	-0.7	1-Sided Adj	N/A	CSCHRAMM2013
Reference	Internal Orde	ers:			filing in Applicatio	on 10-07-009.	1104172805513
	7049031, 704		35, 70536 0				
2011 Total	-66	-187	U	-0.8			
2012	0	-83	0	0.0	1-Sided Adj	N/A	CSCHRAMM2013 1030114902377
Exclude le	gal/audit fees	which were	a one time	e fee ar	nd non-recurring.		1030114902377
2012	-35	-371	0	-0.5	1-Sided Adj	N/A	CSCHRAMM2013
Exclusion	for Dynamic F	Pricing 100%	Refundat	ole per t	filing in Application	on 10-07-009.	1104173749297
Deference	Internal Orde	aro:					
	7049031, 705	-					
2012 Total	-35	-454	0	-0.5			
2013	-37	-15	0	-0.4	1-Sided Adj	N/A	CSCHRAMM2014
	for Dynamic F 31 - DPP PM0		dable IO s	s per fili	ng in Application	10-07-009	0205094357247
2013	-32	0	0	-0.3	1-Sided Adj	N/A	CSCHRAMM2014
	for Dynamic F 35 - DPP COE	•	dable IO s	s per fili	ng in Application	10-07-009	0205094544823
2013	-16	0	0	-0.2	1-Sided Adj	N/A	CSCHRAMM2014
Evolucion	for Dynamic F	Pricing Dofus	dable IO a	ner fili	na in Application	10-07-000	0205094718737

Note: Totals may include rounding differences.

(IO 7049037 - DPP Customer Experience)

Exclusion for Dynamic Pricing Refundable IO s per filing in Application 10-07-009

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations

Category-Sub: 10. Other Office

2013 Total

Workpaper: 100012.000 - Other Office

-86

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	RefID
2013	0	-356	0	0.0 1	-Sided Adj	N/A	CSCHRAMM2014 0205095120080
	for Dynamic F 29 - DPP Faci	•	dable IO s	per filing	g in Application	10-07-009	0203033120000
2013	0	-78	0	0.0 C	CCTR Transf	To 2100-0058.000	CSCHRAMM2014 0513140915767
in work gro	oup 100012 (Other Office to	o cost cer	iter 2100	ations from cost 1-0058 in work on nction resides.	• •	3310140310707

0

-450

-0.9

In 2013\$ (000) Incurred Costs

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information

Workpaper: VARIOUS

Summary for Category: B. Customer Service Information

	Adjusted-Recorded		Adjusted-Forecast	
	2013	2014	2015	2016
Labor	10,618	11,309	11,709	12,673
Non-Labor	10,923	12,700	15,270	17,447
NSE	0	0	5	5
Total	21,541	24,009	26,984	30,125
FTE	117.6	124.9	128.9	139.6
Workpapers belonging	to this Category:			
100008.000 Resident	ial Customer Services			
Labor	2,578	2,578	2,578	2,903
Non-Labor	2,997	2,559	2,684	3,703
NSE	0	0	0	0
Total		5,137	5,262	6,606
FTE	25.1	25.1	25.1	28.6
100009.000 C&I Serv	ices			
Labor	4,417	4,644	4,641	4,826
Non-Labor	887	887	887	962
NSE	0	0	0	0
Total	5,304	5,531	5,528	5,788
FTE	52.2	54.5	54.5	56.5
100010.000 Commun	ications Research & Web			
Labor	2,204	2,668	2,768	3,023
Non-Labor	5,736	7,951	10,396	11,264
NSE	0	0	0	0
Total	7,940	10,619	13,164	14,287
FTE	23.9	28.9	29.9	32.9
100011.000 Custome	r Programs & Projects			
Labor	1,419	1,419	1,722	1,921
Non-Labor	1,303	1,303	1,303	1,518
NSE	0	0	5	5
Total	2,722	2,722	3,030	3,444
FTE	16.4	16.4	19.4	21.6

Beginning of Workpaper
100008.000 - Residential Customer Services

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub 1. Residential Customer Services

Workpaper: 100008.000 - Residential Customer Services

Activity Description:

The Residential Customer Services (RCS) represents a department formed in 2012 with the objective of centralizing key functional groups that deliver, manage or support Residential Customers. The formation of the RCS department involved combining various functions that were previously located in other SDG&E Customer Service departments to provide a more synergistic working group focused on delivering and enhancing the overall customer experience for the approximately 1.25 million residential residences in the region. The key subgroups within the new RCS department are the Customer Contact Center (CCC), Residential Marketing and Outreach groups, the Customer Assistance group, Residential Support Services, Electric Clean Transportation, and Residential Products and Services. Note the expenses for the CCC can be found in Workgroups 100006 and 100007.

Forecast Explanations:

Labor - Base YR Rec

A base year forecast method was used because it represents the first full year the RCS department was operational. Labor increases were needed to support services for the rapidly growing electric vehicle and residential photovoltaic markets. In addition, several changes to electric rates in 2013 required an increase in education and outreach resources to address significant increases in customers' utility bills which will continue with activities such as NEM reform and residential rate reform. The associated spike in non-labor expenses included the launch of a new customer behavioral program (Manage Act Save program) designed to encourage energy management behaviors, and increased education on rate structures and how they impact utility bills. These activities are needed to help customers gain a more holistic understanding of how to mitigate potential bill increases. Therefore, the base year provides a reasonable starting point for future expenditures.

Non-Labor - Base YR Rec

See above.

NSE - Base YR Rec

ln/a

Summary of Results:

				In 2013\$ (000) Incurred Costs										
		Adju	ısted-Recor	Adjusted-Forecast										
Years	2009	2010	2011	2012	2013	2014	2015	2016						
Labor	1,688	1,422	1,833	2,471	2,578	2,578	2,578	2,903						
Non-Labor	1,768	1,422	1,616	1,635	2,997	2,559	2,684	3,703						
NSE	0	0	0	0	0	0	0	0						
Total	3,457	2,844	3,449	4,105	5,576	5,138	5,263	6,607						
FTE	17.4	15.0	19.1	25.5	25.1	25.1	25.1	28.6						

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 1. Residential Customer Services

Workpaper: 100008.000 - Residential Customer Services

Forecast Summary:

	In 2013 \$(000) Incurred Costs												
Forecas	t Method	Base Forecast			Forecast Adjustments			Adjusted-Forecast					
Years	s	2014	2014 2015 2016			2015	2016	2014	2015	2016			
Labor	Base YR Rec	2,578	2,578	2,578	0	0	325	2,578	2,578	2,903			
Non-Labor	Base YR Rec	2,997	2,997	2,997	-438	-313	706	2,559	2,684	3,703			
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0			
Tota	ıl	5,576	5,576	5,576	-438	-313	1,031	5,138	5,263	6,607			
FTE	Base YR Rec	25.1	25.1	25.1	0.0	0.0	3.5	25.1	25.1	28.6			

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE	Adj Type
2014	0	-438	0	-438	0.0	1-Sided Adj

Adjustment for Manage Act Save: (\$438K) reduction for one-time non-recurring third party development costs for a customer engagement multi-channel platform to deliver customer energy insight to targeted customer groups. (Manage Act Save)

2014 Total	0	-438	0	-438	0.0	
2015	0	-438	0	-438	0.0	1-Sided Adj
Adjustment for Mar development costs energy insight to ta	for a cus	tomer engage	ment multi-	channel platfo		• ' '
2015	0	75	0	75	0.0	1-Sided Adj
Plug-In Electric Ve fund education and community events, messaging. These in proceeding R.09	d outreach , collateral e activities	related to ele design and r comply with	ectric vehicle naterials, we the Californi	es including c ebsite tools, a	ontract labo and online to	or to attend argeted
2015	0	50	0	50	0.0	1-Sided Adj
Rate Reform: Coll	ateral for	rate reform.				
2015 Total	0	-313	0	-313	0.0	

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Bradley M. Baugh Witness:

B. Customer Service Information Category: Categ

Workp

gury.	B. Customer Service information								
gory-Sub:	1. Residential Cu	ıstomer Ser	vices						
paper:	100008.000 - R	esidential C	Customer Sei	vices					
Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE A	dj Type			
2016	0	-438	0	-438	0.0	1-Sided Adj			
developm	nt for Manage Act sent costs for a cussight to targeted cu	tomer enga	gement mult	i-channel plat					
2016	0	100	0	100	0.0	1-Sided Adj			
\$100K to attend cor messaging	ectric Vehicle Outro fund education and mmunity events, co g. These activities ding R.09-08-099.	d outreach r ollateral des	elated to ele	ctric vehicles erials, website	including co tools, and o	ntract labor to online targeted			
2016	95	3	0	98	1.0	1-Sided Adj			
and relate contract fo features, o	anagement Tool - I d non-labor at \$3K or SDG&E's online oversight of produc nhancements.	 Project M Energy Ma 	lanager will l nagement T	oe responsible ool including t	e for managi he release o	ng the vendor of new product			
2016	0	424	0	424	0.0	1-Sided Adj			
and maint See Resid Aclara/Ba	anagement Tool - l enance fees in the dential Customer S tch Rate Comparis for details. (Refe	amount of ervices 100 on Annual I	\$424K for SI 0008.000 Su Hosting and	DG&E's online opplemental W	e Energy Ma Vorkpaper 1	nagement Tool. - Calculations for			
2016	0	327	0	327	0.0	1-Sided Adj			
increase i analytics t	Data Analytics and non-labor in the a cools. The tools held by prefer about topic	amount of \$ p to ensure	327K for ma we are com	intenance of o	customer se	gmentation and			

Customer Data Analytics and Technical Studies - tools and consulting services: 2.5 FTEs (\$230K) and associated non-labor (\$7K) to support customer data analytics for current and future time variant rates. These positions will perform analytics work as it relates to targeted marketing and the effectiveness of the marketing in the future. The positions include: 1 FTE (Senior Market Analyst) at \$90K annual salary; .5 FTE (Business Systems Advisor) at \$44K representing 50% of the annual salary; and 1 FTE (Project Manager II) at \$96K annual salary.

7

Note: Totals may include rounding differences.

230

2016

237

2.5

1-Sided Adj

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 1. Residential Customer Services

Workpaper: 100008.000 - Residential Customer Services

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE Adj Type
2016	0	158	0	158	0.0 1-Sided Adj

Energy management Tool - licensing hosting and maintenance fees: One-fifth of the license renewal costs for SDG&E's online Energy Management Tool and batch processing of customer information (5 year term). The online Energy Management Tool and batch processing of customer rate comparison information was implemented in response to the California Public Utilities Commission's Decision 12-12-004 in SDG&E's Dynamic Pricing Application 10-07-009. See Residential Customer Services 100008.000 Supplemental Workpaper - Calculations for Aclara/Batch Rate Comparison Annual Hosting and Mainenenace Fees and 5 Year License Term fees for details. (Reference cell D23)

2016	0	50	0	50	0.0	1-Sided Adj
Rate Reform: Coll	ateral for Rat	e Reform				
2016	0	75	0	75	0.0	1-Sided Adj

Energy Management Tool - batch rate comparisons: Incremental costs for increased licensing fees to offer rate comparisons to a larger residential population.

			_		
2016 Total	325	706	0	1,031	3.5

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 1. Residential Customer Services

Workpaper: 100008.000 - Residential Customer Services

Determination of Adjusted-Recorded (Incurred Costs):

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	1,386	1,394	1,956	2,492	2,800
Non-Labor	1,537	1,232	2,266	2,725	3,915
NSE	0	0	0	0	0
Total	2,923	2,626	4,222	5,217	6,715
FTE	15.9	15.0	20.9	26.5	27.6
djustments (Nominal \$) **					
Labor	-39	-241	-421	-380	-574
Non-Labor	63	84	-711	-1,115	-918
NSE	0	0	0	0	0
Total	24	-157	-1,132	-1,495	-1,492
FTE	-1.0	-2.2	-4.5	-4.5	-6.2
ecorded-Adjusted (Nomina	al \$)				
Labor	1,347	1,154	1,535	2,112	2,225
Non-Labor	1,600	1,315	1,556	1,610	2,997
NSE	0	0	0	0	0
Total	2,947	2,469	3,090	3,722	5,223
FTE	14.9	12.8	16.4	22.0	21.4
acation & Sick (Nominal \$)	1				
Labor	208	184	226	306	353
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	208	184	226	306	353
FTE	2.5	2.2	2.7	3.5	3.7
scalation to 2013\$					
Labor	134	85	72	52	0
Non-Labor	168	106	60	25	0
NSE	0	0	0	0	0
Total	302	191	132	77	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Consta	nt 2013\$)				
Labor	1,688	1,422	1,833	2,471	2,578
Non-Labor	1,768	1,422	1,616	1,635	2,997
NSE	0	0	0	0	0
Total	3,457	2,844	3,449	4,105	5,576
FTE	17.4	15.0	19.1	25.5	25.1

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 1. Residential Customer Services

Workpaper: 100008.000 - Residential Customer Services

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs										
Years	2009	2010	2011	2012	2013					
Labor	-39	-241	-421	-380	-574					
Non-Labor	63	84	-711	-1,115	-918					
NSE	0	0	0	0	0					
Total	24	-157	-1,132	-1,495	-1,492					
FTE	-1.0	-2.2	-4.5	-4.5	-6.2					

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	FTE	Adj Type	From CCtr	RefID
2009	0	66	0	0.0 CC	TR Transf	From 2100-0650.000	CSCHRAMM2013 1022110957087
2100-0650 ir	l-labor costs a n work group f n work group f	100011 Cus	stomer P	rograms &	Projects to c		1022110307007
2009	-84	-2	0	-0.9 CC	TR Transf	To 2100-3584.000	CSCHRAMM2013 1030181032860
Projects fund Services) to	ction from cos	t center 210 100-3584 In	0-3593 ir	ı Work Pap	er Group 10	Customer Services O008 (Residential stomer Programs &	1000 101002000
2009	-85	-3	0	-0.9 CC	TR Transf	To 2100-0006.000	CSCHRAMM2013 1030181311083
Strategy fund	ction from cos	t center 210	0-3593 ir	n Work Pap	per Group 10	ustomer Service 00008 (Residential where function	1030101311003
2009	130	2	0	0.8 CC	TR Transf	From 2100-3434.000	CSCHRAMM2013 1111145243463
USS cost ce	or, FTE, and r nter 2100-343 n work group	4 Planning	& Develo	pment Dire	ector to NSS		1111145243403
2009 Total	-39	63	0	-1.0			

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 1. Residential Customer Services

Workpaper: 100008.000 - Residential Customer Services

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type	From CCtr	RefID
2010	-85	-0.643	0	-0.8 C	CTR Transf	To 2100-0006.000	CSCHRAMM2013 1030181506603
Strategy fu	inction from co	ost center 210	0-3593 i	n Work F	aper Group 1	Customer Service OO008 (Residential where function	1000101000000
2010	-80	-4	0	-0.8 C	CTR Transf	To 2100-3584.000	CSCHRAMM2013 1030181631797
Projects fu Services) t	nction from co	ost center 210 2100-3584 In	0-3593 iı	n Work P	aper Group 10	of Customer Services OO008 (Residential ustomer Programs &	1000101001737
2010	-76	-3	0	-0.6 1	-Sided Adj	N/A	CSCHRAMM2013 1104181605337
Exclusion f	for Dynamic P	ricing 100% R	Refundab	le per fili	ng in Applicati	on 10-07-009.	1104101000001
Reference	Internal Orde	rs: 7049031,	7049035	5, 704903	39, 7049060		
2010	0	92	0	0.0 C	CTR Transf	From 2100-0650.000	CSCHRAMM2013 1107163134693
2100-0650	in work group	100011 Cus	stomer P	rograms	Ifillment from o & Projects to to align activi		1107103134093
2010 Total	-241	84	0	-2.2			
2011	-83	-9	0	-0.8 C	CTR Transf	To 2100-3584.000	CSCHRAMM2013
Projects fu Services) t	nction from co	ost center 210 2100-3584 In	0-3593 iı	n Work P	aper Group 10	of Customer Services OO008 (Residential ustomer Programs &	1030182031727
2011	-438	-793	0	-4.5 1	-Sided Adj	N/A	CSCHRAMM2013
	-	-				on 10-07-009. 049039, 7049060	1104182604460

Transfer labor and FTE for Project Manager position from cost center 2100-3780 in work group 100000 Advanced Meter Operations to cost center 2100-3703 in work group 100008 Residential Services to align costs where function resides.

Note: Totals may include rounding differences.

100

2011

0.8 CCTR Transf

From 2100-3780.000

CSCHRAMM2013 1107092739560

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 1. Residential Customer Services

Workpaper: 100008.000 - Residential Customer Services

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	FTE	Adj Type	From CCtr	RefID
2011	0	92	0	0.0	CCTR Transf	From 2100-0650.000	CSCHRAMM2013
2100-0650	in work group	100011 Cı	ustomer P	rogram	fulfillment from c ns & Projects to c es to align activit		1107163252047
2011 Total	-421	-711	0	-4.5			
			•				
2012	-68	-0.819	0	-0.7	CCTR Transf	To 2100-3584.000	CSCHRAMM2013 1030182531353
Projects fu Services) t	nction from co	st center 21 2100-3584 Ir	00-3593 iı	n Work	Paper Group 10	of Customer Services OO008 (Residential Ustomer Programs &	.555.5250.500
2012	-495	-1,226	0	-5.2	1-Sided Adj	N/A	CSCHRAMM2013
Exclusion f	or Dynamic P	ricing 100%	Refundab	le per f	iling in Application	on 10-07-009.	1104182730710
			, 7049035 0		036, 7049037, 70		00011044440040
2012	113	0	U	0.8	CCTR Transf	From 2100-3780.000	CSCHRAMM2013 1107092826583
group 100	0000 Advance	d Meter Ope	rations to	cost ce	rom cost center enter 2100-3703 nction resides.	2100-3780 in work in work group	
2012	0	112	0	0.0	CCTR Transf	From 2100-0650.000	CSCHRAMM2013
Transfer no	on-labor costs	associated v	with broch	iures / 1	fulfillment from c	ost center	1107163345293
				-	ns & Projects to des to align activit	cost center y where it resides.	
2012	70	0	0	0.6	CCTR Transf	From 2100-0013.000	CSCHRAMM2013
work group		C Operations	s to cost o	enter 2	100-3455 in wor	rom 2100-0013 in k group 100008	1107222801067
2012 Total	-380	-1,115	0	-4.5			
2013	-39	-1	0	-0.4	1-Sided Adj	N/A	CSCHRAMM2014
		•			-,		0205183907233

Note: Totals may include rounding differences.

(Reference Internal Order: 7049031)

Exclusion for Dynamic Pricing Refundable IO s per filing in Application 10-07-009

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 1. Residential Customer Services

Workpaper: 100008.000 - Residential Customer Services

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	<u>RefID</u>
2013	0	-2	0	0.0	1-Sided Adj	N/A	CSCHRAMM2014 0205184017767
	for Dynamic P e Internal Orde	•	dable IO s	per filin	ng in Applicatior	n 10-07-009	0200101011101
2013	-0.115	0	0	0.0	1-Sided Adj	N/A	CSCHRAMM2014 0205184055633
	for Dynamic P e Internal Orde	•		per filin	ng in Applicatior	า 10-07-009	0230101000000
2013	-129	-129	0		1-Sided Adj	N/A	CSCHRAMM2014 0205184222797
	•	•		-	ng in Applicatior 039, 7067162, 7		
2013	-334	-925	0	-3.6	1-Sided Adj	N/A	CSCHRAMM2014 0205184317957
	•	•		•	ng in Applicatior 37, 7049039, 70		
2013	-74	0	0	-0.8	CCTR Transf	To 2100-3518.000	CSCHRAMM2014 0205184637780
function fro to cost cen	om cost center	r 2100-3455 3 In Work Pa	in Work P per Group	aper Gr	ntact Center Bus oup 100008 (F 07 (Customer C	Residential Services)	
2013	0	139	0	0.0	CCTR Transf	From 2100-0650.000	CSCHRAMM2014
Group 100	D011 Custome	er Programs	& Projects	s to cost		00-0650 in Work 593 in Work Group es.	0211124020870
2013 Total	-574	-918	0	-6.2			

Supplemental Workpapers for Workpaper 100008.000

Residential Customer Services 100008-000 Supplemental Workpaper 1 Calculations for Aclara/Batch Rate Comparison Annual Hosting, Maintenance Fees and 5 Year License Fees

	A	В	С	D	E	F	G	I н	1	J		
1		_	2016		_	2017			2018			
2			O&M			O&M			O&M			
3		Hosting	Maintenance	Total	Hosting	Maintenance	Total	Hosting	Maintenance	Total		
4	Aclara Original Contract	\$ 138,100	\$ 163,844	\$ 301,944	\$ 53,479	\$ 63,448	\$ 116,927	\$ -	\$ -	\$ -		
5	Aclara Annual Renewal	\$ -	\$ -	\$ -	\$ 92,167	\$ 165,900	\$ 258,067	\$ 148,198	\$ 266,756	\$ 414,954		
6	Sub-total	\$ 138,100	\$ 163,844	\$ 301,944	\$ 145,646	\$ 229,348	\$ 374,994	\$ 148,198	\$ 266,756	\$ 414,954		
7	Batch RC - Original	\$ 18,500	\$ 37,000	\$ 55,500	\$ 7,708	\$ 15,417	\$ 23,125	\$ -	\$ -	\$ -		
	Batch Rate Comparison (BRC) Annual											
8	Renewal	\$ -	\$ -	\$ -	\$ 12,790	\$ 25,568						
9	Sub Total	\$ 18,500	\$ 37,000	\$ 55,500	\$ 20,498	\$ 40,985			\$ 41,111	\$ 61,677		
10	Total	\$ 156,600	\$ 200,844	\$ 357,444	\$ 166,144	\$ 270,333	\$ 436,477	\$ 168,764	\$ 307,867	\$ 476,631		
11												
12		2016 Total (D10)	2017 Total (G10)	2018 Total (J10)	Total Costs for Hosting & Maintenance (2016-2018)	Forecast Adjustment 1/3rd of total Costs (E13)						
13		\$ 357,444	\$436,477	\$476,631	\$1,270,552	\$423,517						
14		Φ 357,444	\$430,477	\$476,631	\$1,270,552	\$423,517						
	TY2016 Forecast Aclara / BRC Hosting & M. Customer Services 100008.000 Workpaper			\$ 423,517								
17		License Renewal 5 yr term [A]	Term (Yr) [B]	1/5th of License Renewal [C] = (A/B)								
18	Aclara	\$ 606,263	5	\$ 121,253								
19	Aclara Batch RC	\$ 185,000	5	\$ 37,000								
20	Total TY2016 Forecast - 5 Year License as shown in Residential Customer 20 Services 100008.000 Workpapers forecast adjustments in TY2016.			\$ 158,253								
	Total Energy Management Tool - licensing referenced in testimony Table 34.	\$ 581,770										

San Diego Gas & Electric Company

2016 GRC - APP Non-Shared Service Workpapers

Beginning of Workpaper 100009.000 - C&I Services

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Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub 2. Commercial & Industrial Services

Workpaper: 100009.000 - C&I Services

Activity Description:

Commercial, Industrial & Governmental Services provides a number of necessary customer support services to commercial customers, including agricultural, industrial, and governmental entities and some customer services to residential customers. Its primary objective is to support the energy service and information needs of San Diego's diverse business population both proactively and reactively. Provide the information and tools to assist them in understanding their rate and service options, managing their energy costs, acquiring or modifying their energy service needs, and safely dealing with unplanned service disruptions.

Forecast Explanations:

Labor - Base YR Rec

A base year forecast method was used because in late 2012 C&I reorganized to include a Customer Experience & Engagement team and in mid-2013 a Small and Medium Business team was established. Therefore, the base year provides a reasonable starting point for future expenditures.

Non-Labor - Base YR Rec

See above.

NSE - Base YR Rec

N/A

Summary of Results:

		In 2013\$ (000) Incurred Costs										
		Adjι	sted-Recor		Adjusted-Forecast							
Years	2009	2010	2011	2012	2013	2014	2015	2016				
Labor	4,599	4,563	4,311	4,447	4,417	4,644	4,641	4,826				
Non-Labor	665	579	894	958	887	887	887	962				
NSE	0	0	0	0	0	0	0	0				
Total	5,265	5,142	5,205	5,405	5,305	5,532	5,529	5,789				
FTE	53.7	53.0	50.1	52.3	52.2	54.5	54.5	56.5				

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 2. Commercial & Industrial Services

Workpaper: 100009.000 - C&I Services

Forecast Summary:

	In 2013 \$(000) Incurred Costs										
Forecas	t Method	Base Forecast			Forec	ast Adjust	ments	Adjus	ted-Forec	ast	
Years	s	2014	2015	2016	2014	2015	2016	2014	2015	2016	
Labor	Base YR Rec	4,417	4,417	4,417	227	224	409	4,644	4,641	4,826	
Non-Labor	Base YR Rec	887	887	887	0	0	75	887	887	962	
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0	
Tota	ıl	5,305	5,305	5,305	227	224	484	5,532	5,529	5,789	
FTE	Base YR Rec	52.2	52.2	52.2	2.3	2.3	4.3	54.5	54.5	56.5	

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE	Adj Type
2014	125	0	0	125	1.5	1-Sided Adj

New Rate Options and Programs: 1 FTE (Business System Analyst) at \$75K annual salary and .5 FTE (Project Specialist) at \$100K annual salary to support the goals and objectives of the newly developed Small and Medium Business team.

2014 107 0 0 107 1.0 1-Sided Adj

Improving Outage Activities - Project Manager: 1 FTE (Project Manager) at \$107K annual salary to manage and coordinate leading to improved outage management and communication processes.

2014 -5 0 0 -5 -0.2 1-Sided Adj

Process Improvements: (\$5K) reduction due to process improvement identified in the Planned Outage area. 16% of one FTE for 9 months of the year in 2014.

2014 Total	227	0	0	227	2.3		
2015	125	0	0	125	1.5	1-Sided Adj	
New Rate Opt	ions and Progr	ams: 1 FTE	(Business S	System Analys	st) at \$75K	Cannual salary	

and .5 FTE (Project Specialist) at \$100K annual salary to support the goals and objectives of the newly developed Small and Medium Business team.

2015 107 0 0 107 1.0 1-Sided Adj

Improving Outage Activities - Project Manager: 1 FTE (Project Manager) at \$107K annual salary to manage and coordinate leading to improved outage management and communication processes.

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 2. Commercial & Industrial Services

Workpaper: 100009.000 - C&I Services

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE Adj Type
2015	-8	0	0	-8	-0.2 1-Sided Adj

Process Improvements: (\$8K) reduction due to process improvements identified in the Planned Outage area. 20% of one FTE.

2015 Total	224	0	0	224	2.3				
2016	125	0	0	125	1.5	1-Sided Adj			
.5 FTE (Proje	otion and Progra ect Specialist) at ped Small and I	\$100K annu	ial salary to	•		annual salary and bjectives of the			
2016	107	0	0	107	1.0	1-Sided Adj			
Improving Outage Activities - Project Manager: 1 FTE (Project Manager) at \$107K annual salary to manage and coordinate leading to improved outage management and communication processes.									
-	lage and coordi		•	· ·					
processes.	185	0	0	185	2.0	1-Sided Adj			
processes. 2016 New Rate Opsupport the g The 2 FTEs i		0 rams: Increntives of the near Energy S	0 nental increa	se in labor of ed Small and	\$185K an Medium E	d 2 FTE s to Business team.			
processes. 2016 New Rate Opsupport the g The 2 FTEs i	185 otions and Progr oals and objecti nclude a Custor	0 rams: Increntives of the near Energy S	0 nental increa	se in labor of ed Small and	\$185K an Medium E	d 2 FTE s to Business team.			
processes. 2016 New Rate Opsupport the garber 2 FTEs in Executive at 2016 Process Impressions	185 ptions and Progr poals and objecti nclude a Custor \$97K annual sa	0 rams: Increntives of the net energy Stary. 0	0 nental increa ewly develop Specialist at 0	ise in labor of sed Small and \$88K annual s	\$185K an Medium E salary and -0.2	d 2 FTE s to Business team. an Account			

Note: Totals may include rounding differences.

409

75

0

484

4.3

2016 Total

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 2. Commercial & Industrial Services

Workpaper: 100009.000 - C&I Services

Determination of Adjusted-Recorded (Incurred Costs):

•	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
ecorded (Nominal \$)*					
Labor	3,669	3,702	3,610	3,802	3,813
Non-Labor	602	536	861	944	887
NSE	0	0	0	0	0
Total	4,271	4,237	4,471	4,746	4,700
FTE	46.0	45.2	43.0	45.0	44.4
ljustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Nomin	nal \$)				
Labor	3,669	3,702	3,610	3,802	3,813
Non-Labor	602	536	861	944	887
NSE	0	0	0	0	0
Total	4,271	4,237	4,471	4,746	4,700
FTE	46.0	45.2	43.0	45.0	44.4
acation & Sick (Nominal \$	5)				
Labor	566	589	532	551	605
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	566	589	532	551	605
FTE	7.7	7.8	7.1	7.3	7.8
scalation to 2013\$					
Labor	364	272	169	94	0
Non-Labor	63	43	33	15	0
NSE	0	0	0	0	0
Total	427	315	203	109	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Consta	ant 2013\$)				
Labor	4,599	4,563	4,311	4,447	4,417
Non-Labor	665	579	894	958	887
NSE	0	0	0	0	0
Total	5,265	5,142	5,205	5,405	5,305
FTE	53.7	53.0	50.1	52.3	52.2

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 2. Commercial & Industrial Services

Workpaper: 100009.000 - C&I Services

Summary of Adjustments to Recorded:

	In Nominal \$ (000) Incurred Costs									
Years	2009	2010 2011		2012	2013					
Labor	0	0	0	0	0					
Non-Labor	0	0	0	0	0					
NSE	0	0	0	0	0					
Total	0	0	0	0	0					
FTE	0.0	0.0	0.0	0.0	0.0					

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	RefID	
2009 Total	0	0	0	0.0				
2010 Total	0	0	0	0.0				
2011 Total	0	0	0	0.0				
2012 Total	0	0	0	0.0				
2013 Total	0	0	0	0.0				

Beginning of Workpaper
100010.000 - Communications Research & Web

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub 3. Communications, Research & Web

Workpaper: 100010.000 - Communications Research & Web

Activity Description:

The Customer Communications, Research and Web expenses cover the costs associated with developing and implementing mass outreach communications, providing oversight and management of the SDG&E web site, providing oversight of the development of outreach materials, conducting qualitative and quantitative research, engaging customers through social media channels, and providing key services through mobile application development and management.

Forecast Explanations:

Labor - Base YR Rec

A base year forecast method was used because there were new, major communications topics related to rates and energy pricing that had not been included at that scale in previous years, and these efforts will continue in the future as rate reform progresses. Also, there were new technologies introduced, such as texting, a new development platform for the mobile application, and a focus on a need for mobile friendly communications which will also continue to shape future communications. Therefore, the base year provides a reasonable starting point for future expenditures.

Non-Labor - Base YR Rec

See above.

NSE - Base YR Rec

N/A

Summary of Results:

				In 2013\$ (00	0) Incurred (Costs		
		Adju	sted-Recor	Adjusted-Forecast				
Years	2009	2010	2011	2012	2013	2014	2015	2016
Labor	1,839	1,468	2,047	2,482	2,204	2,668	2,768	3,023
Non-Labor	4,738	3,197	3,689	5,764	5,736	7,951	10,396	11,264
NSE	0	0	0	0	0	0	0	0
Total	6,578	4,665	5,735	8,246	7,940	10,619	13,164	14,287
FTE	20.5	16.9	23.4	27.6	23.9	28.9	29.9	32.9

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 3. Communications, Research & Web

Workpaper: 100010.000 - Communications Research & Web

Forecast Summary:

	In 2013 \$(000) Incurred Costs												
Forecas	Forecast Method Base Forecast				Forec	ast Adjust	ments	Adjusted-Forecast					
Years	s	2014	2015	2016	2014	2015	2016	2014	2015	2016			
Labor	Base YR Rec	2,204	2,204	2,204	464	564	819	2,668	2,768	3,023			
Non-Labor	Base YR Rec	5,736	5,736	5,736	2,215	4,660	5,528	7,951	10,396	11,264			
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0			
Tota	ıl	7,940	7,940	7,940	2,679	5,224	6,347	10,619	13,164	14,287			
FTE	Base YR Rec	23.9	23.9	23.9	5.0	6.0	9.0	28.9	29.9	32.9			

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE	Adj Type
2014	85	0	0	85	1.0	1-Sided Adj

Social Media Advisor: 1 FTE (Social Media Advisor) at \$85K annual salary to assist SDG&E in using social media channels and tools to engage with customers and stakeholders on behalf of SDG&E. The main duties will center on providing excellent customer service via SDG&E's social channels, including Twitter, Facebook, LinkedIn, Google+ and more.

2014 0 50 0 50 0.0 1-Sided Adj

Mobile Application Capabilities: \$50K in non-labor to maintain and enhance SDG&E s mobile application. This would include providing more capabilities to connect with our customers on the device of their choice while simplifying and enhancing the online user experience.

2014 379 0 0 379 4.0 1-Sided Adj

Customer Research Activities - labor: 4 FTEs to routinely conduct customer surveys and measure results to understand drivers for customer decisions and make changes to better serve our customers. This includes 3 FTEs (Sr. Research Analysts) at \$98K annual salary each and 1 FTE (Research Analyst) at \$85K annual salary.

2014 0 2,075 0 2,075 0.0 1-Sided Adj

Customer Research Activities - surveys: \$2.1M non-labor cost for ongoing research activities related to customer segmentation, assessing customer needs and interest in new products and services, understanding customer drivers towards alternatives, and transactional measurement with enhancements to the Connections Survey, which measures various transactions customers have with SDG&E.

See Communications, Research, Web 100010.000 Supplemental Workpaper 2 - Forecast Calculations for New Surveys. (Reference cell B7)

2014 0 90 0 90 0.0 1-Sided Adj

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area: Witness: Bradley M. Baugh B. Customer Service Information Category: 3. Communications, Research & Web Category-Sub: 100010.000 - Communications Research & Web Workpaper: Year/Expl. NLbr NSE **Total** FTE Adj Type Labor Social Media Tools: \$90K in non-labor for additional licensing and social media analytics tools including Cision, Clickfox and building out of Google Analytics. 2014 Total 464 2,215 2,679 5.0 2015 85 0 0 85 1.0 1-Sided Adi Social Media Advisor: 1 FTE (Social Media Advisor) at \$85K annual salary to assist SDG&E in using social media channels and tools to engage with customers and stakeholders on behalf of SDG&E. The main duties will center on providing excellent customer service via SDG&E's social channels, including Twitter, Facebook, LinkedIn, Google+ and more. 2015 379 379 4.0 1-Sided Adj Customer Research Activities - labor: 4 FTEs to routinely conduct customer surveys and measure results to understand drivers for customer decisions and make changes to better serve our customers. This includes 3 FTEs (Sr. Research Analysts) at \$98K annual salary each and 1 FTE (Research Analyst) at \$85K annual salary. 2015 1,650 1,650 0.0 1-Sided Adj Customer Research Activities - surveys: \$1.65M non-labor cost for ongoing research activities for transactional measurement with enhancements to the Connections Survey, which measures various transactions customers have with SDG&E. See Communications, Research, Web 100010.000 Supplemental Workpaper 2 - Forecast Calculations for New Surveys. (Reference cell C7) 2015 0 50 50 0.0 1-Sided Adi Mobile Application Capabilities: \$50K in non-labor to maintain and enhance SDG&E s mobile application. This would include providing more capabilities to connect with our customers on the device of their choice while simplifying and enhancing the online user experience. 2015 100 0 100 1.0 1-Sided Adi Social Media Advisor: 1 FTE Website Content Management at \$100K annual salary to provide on-going management of the My Account Content Management System for information contained on SDG&E's website. 2015 0 2.870 0 2,870 0.0 1-Sided Adi New Rate Options and Programs: Rate Reform Communications includes mass media/online communications / research / email / directmail / bill inserts 2015 0 90 90 0.0 1-Sided Adj

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area: Witness: Bradley M. Baugh B. Customer Service Information Category: 3. Communications, Research & Web Category-Sub: 100010.000 - Communications Research & Web Workpaper: Year/Expl. NLbr NSE **Total** FTE Adj Type Labor Social Media Tools: \$90K in non-labor for additional licensing and social media analytics tools including Cision, Clickfox and building out of Google Analytics. 2015 Total 564 4,660 5,224 6.0 2016 0 1,842 1,842 0.0 1-Sided Adi Customer Research Activities - surveys: \$1.842M non-labor cost for ongoing research activities to assess customer needs and interest in new products and services, understand customer drivers towards alternatives, and transactional measurement with enhancements to the Connections Survey, which measures various transactions customers have with SDG&E. See Communications, Research, Web 100010.000 Supplemental Workpaper 2 - Forecast Calculations for New Surveys. (Reference cell D7) 2016 85 85 1-Sided Adj Social Media Advisor: 1 FTE (Social Media Advisor) at \$85K annual salary to assist SDG&E in using social media channels and tools to engage with customers and stakeholders on behalf of SDG&E. The main duties will center on providing excellent customer service via SDG&E's social channels, including Twitter, Facebook, LinkedIn, Google+ and more. 2016 379 379 4.0 1-Sided Adi Customer Research Activities - labor: 4 FTEs to routinely conduct customer surveys and measure results to understand drivers for customer decisions and make changes to better serve our customers. This includes 3 FTEs (Sr. Research Analysts) at \$98K annual salary each and 1 FTE (Research Analyst) at \$85K annual salary. 2016 255 255 1-Sided Adi Ongoing SPP activities: 3 FTEs (Senior Communications Advisor Senior Research Analyst an Web Business Technologist) to support the new time varying rate options adopted by CPUC Decision 12-12-004 in SDG&E's Dynamic Pricing Application 10-07-009 as well as other new rate options, such as rate reform. 2016 0 50 0 50 0.0 1-Sided Adj Mobile Application Capabilities: \$50K in non-labor to maintain and enhance SDG&E s mobile application. This would include providing more capabilities to connect with our customers on the device of their choice while simplifying and enhancing the online user experience. 2016 100 100 1.0 1-Sided Adj

My Account Content Management System: 1 FTE Website Content Management at \$100K annual salary to provide on-going management of the My Account Content Management System for information contained on SDG&E's website.

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information

Category-Sub: 3. Communications, Research & Web

Workpaper: 100010.000 - Communications Research & Web

Year/I	Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE A	<u>dj Type</u>
2016		0	19	0	19	0.0	1-Sided Adj
ar ca	nd mail to cus	tomer education stomers information the Direct Te	ation about	SDG&E's fre	e gas applian	ce check p	orogram. Details
2016		0	281	0	281	0.0	1-Sided Adj
M Fi	lonoxide cust ield employee	omer collateral	. The colla arding the p	teral will be le rogram can b	eft with custon	ners by Cu	nt and Carbon Istomer Service stimony of Sara
2016		0	376	0	376	0.0	1-Sided Adj
ev al S N	vent notificati lert, weekly e ee Communi	ons and alerts nergy use sum cations,Resear and Goals and a	(tier crossir mary) via e ch, & Web	ng notification mail and text 100010.000	, spending thr Supplementa	reshold ale al Workpap	te to customers ert, consumption er 1- SPP Event al detail.
2016		0	2,870	0	2,870	0.0	1-Sided Adj
		ons and Progra				ıcludes ma	ss media/online
2016		0	90	0	90	0.0	1-Sided Adj

Social Media Tools: \$90K in non-labor for additional licensing and social media analytics tools

6,347

9.0

including Cision, Clickfox and building out of Google Analytics.

5,528

819

Note: Totals may include rounding differences.

2016 Total

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Bradley M. Baugh Witness:

B. Customer Service Information Category: 3. Communications, Research & Web Category-Sub:

100010.000 - Communications Research & Web Workpaper:

Determination of Adjusted-Recorded (Incurred Costs):

Determination of Aujusteu-	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	1,757	1,590	1,728	2,122	2,045
Non-Labor	3,724	2,944	3,551	5,676	5,718
NSE	0	0	0	0	0
Total	5,481	4,533	5,279	7,798	7,763
FTE	22.0	18.7	20.2	23.8	22.1
Adjustments (Nominal \$) **					
Labor	-289	-398	-14	0	-143
Non-Labor	563	14	0	0	18
NSE	0	0	0	0	0
Total	273	-385	-14	0	-125
FTE	-4.4	-4.3	-0.1	0.0	-1.8
Recorded-Adjusted (Nomina	al \$)				
Labor	1,467	1,191	1,714	2,122	1,902
Non-Labor	4,287	2,957	3,551	5,676	5,736
NSE	0	0	0	0	0
Total	5,754	4,149	5,265	7,798	7,638
FTE	17.6	14.4	20.1	23.8	20.3
acation & Sick (Nominal \$)					
Labor	227	190	252	307	302
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	227	190	252	307	302
FTE	2.9	2.5	3.3	3.8	3.6
Escalation to 2013\$					
Labor	145	88	80	52	0
Non-Labor	451	239	138	89	0
NSE	0	0	0	0	0
Total	597	327	218	141	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant	nt 2013\$)				
Labor	1,839	1,468	2,047	2,482	2,204
Non-Labor	4,738	3,197	3,689	5,764	5,736
NSE	0	0	0	0	0
Total	6,578	4,665	5,735	8,246	7,940
FTE	20.5	16.9	23.4	27.6	23.9

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Witness: Bradley M. Baugh

B. Customer Service Information Category: 3. Communications, Research & Web Category-Sub:

100010.000 - Communications Research & Web Workpaper:

Summary of Adjustments to Recorded:

	In Nominal \$ (000) Incurred Costs												
Years	2009	2010	2011	2012	2013								
Labor	-289	-398	-14	0	-143								
Non-Labor	563	14	-0.222	0	18								
NSE	0	0	0	0	0								
Total	273	-385	-14	0	-125								
FTE	-4.4	-4.3	-0.1	0.0	-1.8								

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>F1</u>	E Adj Type	From CCtr	RefID
2009	85	724	0	0.1	CCTR Transf	From 2100-3562.000	CSCHRAMM2013 1030113343797
	ociated fire sa n Work Group	•			s to Communicatides.	tions cost center	
2009	-203	-121	0	-2.8	CCTR Transf	To 2200-2215.000	CSCHRAMM2013 1107140850350
function from Communicat	n NSS cost ce tions & Resea	nter 2100-3 rch to SCG	166 in wo cost cent	ork pap er 220	0-2215 in work p	onimunication 0 SDG&E Customer aper group 2IN001 s where function	
2009	-80	-26	0	-0.8	CCTR Transf	To 2200-2321.000	CSCHRAMM2013 1107142356347
Web function Customer Co	n from NSS communication 1 SCG Custo	ost center 2′ s & Researd	100-3167 ch to SCG	in wor	with SCG Custon k paper group 10 center 2200-232 earch, & E-Servic	1 in work paper	
2009	-91	-14	0	-0.9	CCTR Transf	To 2200-2215.000	CSCHRAMM2013 1107143326533
Director fund Customer Co	ction from NSS communication 1 SCG Custo	S cost cente s & Researd	r 2100-31 ch to SCG	68 in v			1107170020000

Note: Totals may include rounding differences.

-289

563

2009 Total

-4.4

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 3. Communications, Research & Web

Workpaper: 100010.000 - Communications Research & Web

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type	From CCtr	RefID
2010	27	63	0	0.2	CCTR Transf	From 2100-3562.000	CSCHRAMM2013
	ssociated fire s in Work Grou	,				tions cost center	1030113527273
2010	-299	-26	0	-3.4	CCTR Transf	To 2200-2215.000	CSCHRAMM2013
function fro Communic	om NSS cost o ations & Rese	enter 2100-3 arch to SCG	3166 in wo	ork pape ter 2200	-2215 in work p	ommunication 0 SDG&E Customer aper group 2IN001 s where function	1107141052203
2010	-74	-19	0	-0.6	CCTR Transf	To 2200-2215.000	CSCHRAMM2013 1107141339123
Director fur Customer (group 2INC	nction from NS Communicatio	SS cost cente ns & Resear	er 2100-37 ch to SC0	783 in w	ork paper group enter 2200-221	ner Communications o 100010 SDG&E 5 in work paper es to align costs	1107141333123
2010	-14	-0.994	0	-0.1	CCTR Transf	To 2200-2321.000	CSCHRAMM2013 1107143136813
Web functi Customer (group 2INC	on from NSS o	cost center 2 ns & Resear	100-3167 ch to SC0	in work G cost ce	paper group 10 enter 2200-232		1107140100010
2010	-24	-2	0	-0.2	CCTR Transf	To 2200-2143.000	CSCHRAMM2013
E-Services SDG&E Cu paper grou	function from ustomer Comn	NSS cost con nunications & Customer (enter 2100 & Researd	0-3168 ir ch to SC	n work paper gr G cost center 2	ner Communications oup 100010 200-2143 in work Services to align	1107143616713
2010	-14	-0.469	0	-0.2	CCTR Transf	To 2200-2320.000	CSCHRAMM2013
function fro Communic	om NSS cost o ations & Rese	enter 2100-3 arch to SCG	3783 in wo	ork pape ter 2200	er group 10001 -2320 in work p	ner Communications 0 SDG&E Customer aper group 2IN001 ts where function	1108132301157

Note: Totals may include rounding differences.

-398

14

2010 Total

-4.3

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Bradley M. Baugh Witness:

2011

B. Customer Service Information Category: 3. Communications, Research & Web Category-Sub:

100010.000 - Communications Research & Web Workpaper:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type	From CCtr	<u>RefID</u>
2011	-9	-0.161	0	-0.1 CC	TR Transf	To 2200-2215.000	CSCHRAMM2013 1107141128757

Transfer labor, FTE, and non-labor costs associated with SCG Cust Communication function from NSS cost center 2100-3166 in work paper group 100010 SDG&E Customer Communications & Research to SCG cost center 2200-2215 in work paper group 2IN001 SCG Customer Communications, Research & E-Services to align costs where function resides.

0.0 CCTR Transf -0.061 To 2200-2215.000 CSCHRAMM2013 1107141556187

Transfer labor, FTE, and non-labor costs assoicated with SCG Customer Communications Director function from NSS cost center 2100-3783 in work paper group 100010 SDG&E Customer Communications & Research to SCG cost center 2200-2215 in work paper group 2IN001 SCG Customer Communications, Research, & E-Services to align costs where function resides.

2011 Total -14 -0.222 -0.1

-6

2012 Total	0	0	0	0.0			
2013	-68	0	0	-0.9	1-Sided Adj	N/A	CSCHRAMM2014 0211182930493
	or Dynamic Pri Internal Order	J	ible IO s	s per fil	ing in Applicatior	10-07-009	0211102930493
2013	-68	0	0	-0.8	1-Sided Adj	N/A	CSCHRAMM2014 0211183016480
	or Dynamic Pri Internal Order	-	ible IO s	s per fil	ing in Applicatior	10-07-009	
2013	-8	0	0	-0.1	1-Sided Adj	N/A	CSCHRAMM2014 0211183100583
	or Dynamic Pri Internal Order	-	ible IO s	s per fil	ing in Applicatior	10-07-009	0211100100000
2013	0	78	0	0.0	CCTR Transf	From 2100-0004.000	CSCHRAMM2014 0513140915767
in work grou	up 100012 Ot	her Office to	cost cer	nter 21	ications from cos 00-0058 in work function resides	~ .	0010110010101
2013	0	-60	0	0.0	CCTR Transf	To 2100-0019.000	CSCHRAMM2014 0514141403607

Transfer non-labor costs associated with Live Chat from Communications Work Group 100010 cost center 2100-3167 to CCC Support Work Group 100007 cost center 2100-0019 to align costs where activity/ function resides.

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 3. Communications, Research & Web

Workpaper: 100010.000 - Communications Research & Web

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	RefID	
2013 Total	-143	18	0	-1.8				

Supplemental Workpapers for Workpaper 100010.000

Communications, Research, & Web 100010.000 Supplemental Workpaper 1 - SPP Event Notifications, and Goals and Alerts TY2016 Forecast Calculations

3 En 4 Sp						<u> </u>	G	Н
3 En 4 Sp				SPP Ev	ent Notificat	ions and Goals	and Alerts Tra	nsaction Costs
3 En 4 Sp	Alert	# Emails	Email Cost	# Texts	Cost	Total Cost	2016 -2018 Total Cost	Assumptions
4 Sp	nergy Use Summary (WAE)	3,640,000	\$ 65,520	N/A	N/A	\$ 65,520	\$ 168,480	Account level subscriptions - assumes total of 50,000 accounts enrolled at year end 2015, and that an additional 10,000 enroll each year. Assumes emails sent once per week.
5	nergy Usage Alerts (Electric and Gas	294,000	\$ 5,292	210,000	\$ 25,200	\$ 30,492	\$ 78,408	Meter level subscription - assumes 25,000 meters enrolled at year-end 2015, and that an additional 5,000 enroll each year. Assumes 50% of these enrolled customers want email only, 30% want text only and 20% want both. Assumes each meter only meets the trigger threshold once per month.
Ele	pending Alert	462,000	\$ 8,316	330,000	\$ 39,600	\$ 47,916	\$ 117,612	Account level subscription - assumes 35,000 accounts enrolled at year-end 2015, and that an additional 10,000 accounts enroll each year. Assumes 50% of these enrolled customers want email only, 30% want text only and 20% want both. Assumes each account only meets the trigger threshold once per month.
6	ectric Consumption Alert	1,058,400	\$ 19,051	756,000	\$ 90,720	\$ 109,771	\$ 282,269	Meter level subscription - assumes 30,000 meters enrolled at year-end 2015, and that an additional 6,000 meters enroll each year. Assumes 50% of these enrolled customers want email only, 30% want text only and 20% want both. Assumes each meter meets the trigger three times per month.
Re	educe Your Use Day Alerts	510,000	\$ 9,180	714,000	\$ 85,680	\$ 94,860	\$ 267,840	Meter level subscription - assumes 120,000 small business meters enrolled at year- end 2015, 30,000 residential customers enrolled in 2016 and an additional 10,000 residential customers enroll each year. Assumes 6 Reduce Your Use day notifications. Assumes 30% want email only, 50% want text only, 20% want both. Assumes customers can only sign up one email address and one text phone number per meter.
_	ew Alert		\$ 21,472		\$ 60,300	\$ 81,772	\$ 214,782	Discussion currently underway about new alert options to provide additional value to customers.
9	Total	5,964,400	\$ 128,831	2,010,000	\$ 301,500	\$ 430,331	\$ 1,129,393	
10 No	ote: The TY 2016 GRC forecast inclu	des one third o	of the total cost	s for 2016 thr	ough 2018 o	r \$376,000.		
11								

San Diego Gas & Electric Company

2016 GRC - APP Non-Shared Service Workpapers

12	Key Assumptions
13	120,000 small business meters
14	1,250,000 residential meters
15	Only non-labor costs included
16	Assumes goals and alerts are only sent to one email address and one phone number per meter
17	Emails cost \$0.018 each
18	Text costs \$0.12 each
19	

Communications, Research, Web 100010.000 Supplemental Workpaper 2 Forecast Calculations for New Surveys

A	В	С	D	E
1		Forecast		
2 Survey	<u>2014</u>	<u>2015</u>	<u>2016</u>	
3 New Segmentation Survey	\$275,000		\$91,667	
4 Refresh Voice of Customer Survey	\$150,000		\$100,000	
5 New Competitive Survey	\$150,000	\$150,000	\$150,000	
6 Enhanced Customer Connections Survey	\$1,500,000	\$1,500,000	\$1,500,000	
7 Total	\$2,075,000	\$1,650,000	\$1,841,667	
8				
9				
10 Survey Frequency is the Basis for the TY20	16 Forecast:			
11 Survey	<u>Frequency</u>	Cost	<u>%</u>	<u>\$</u>
	Once every 3 years			
12 New Segmentation Survey	(1x every 3Yrs)	\$275,000	33%	\$91,667
	Every other year (2x			
13 Refresh Voice of Customer Survey	every 3 Yrs)	\$150,000	67%	\$100,000
14 New Competitive Survey	Every Year	\$150,000	100%	\$150,000
15 Enhanced Customer Connections Survey	Every Year	\$1,500,000	100%	\$1,500,000
16				\$1,841,667
17				

San Diego Gas & Electric Company 2016 GRC - APP

Non-Shared Service Workpapers

Beginning of Workpaper
100011.000 - Customer Programs & Projects

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Witness: Bradley M. Baugh

Category: B. Customer Service Information 4. Customer Programs & Projects Category-Sub

100011.000 - Customer Programs & Projects Workpaper:

Activity Description:

The Customer Programs and Projects (CP&P) expenses cover the costs to administer social programs, such as Energy Efficiency and Demand Response Programs including analytical, technical and Regulatory support; manage the Office of Customer privacy in support of SDG&E's privacy goals and objectives; oversee the delivery of major Customer Service projects and initiatives; and strategy development and business integration of technology including Home Area Network support.

Forecast Explanations:

Labor - Base YR Rec

A base year forecast method was used because during 2012 and 2013 the group expanded to include new activities requiring additional resources to support those activities. These new activities included managing the Office of Customer Privacy in support of SDG&E's privacy goals and objectives; overseeing the delivery of major Customer Services projects and initiatives; and business integration of technology including HAN support. Furthermore, the group took on new activities such as conducting a third party privacy audit. Therefore, the base year provides a reasonable starting point for future expenditures.

Non-Labor - Base YR Rec

See above.

NSE - Base YR Rec

N/A

Summary of Results:

		In 2013\$ (000) Incurred Costs												
		Adjι	ısted-Recor	Adjusted-Forecast										
Years	2009	2010	2011	2012	2013	2014	2015	2016						
Labor	905	942	976	1,453	1,419	1,419	1,722	1,921						
Non-Labor	1,393	853	808	973	1,303	1,303	1,303	1,518						
NSE	0	0	0	0	0	0	5	5						
Total	2,298	1,795	1,784	2,425	2,721	2,721	3,029	3,443						
FTE	11.1	11.9	11.9	17.6	16.4	16.4	19.4	21.6						

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 4. Customer Programs & Projects

Workpaper: 100011.000 - Customer Programs & Projects

Forecast Summary:

			In 201	3 \$(000) lı	ncurred Co	sts				
Forecas	t Method	Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Base YR Rec	1,419	1,419	1,419	0	303	502	1,419	1,722	1,921
Non-Labor	Base YR Rec	1,303	1,303	1,303	0	0	215	1,303	1,303	1,518
NSE	Base YR Rec	0	0	0	0	5	5	0	5	5
Tota	ıl	2,721	2,721	2,721	0	308	722	2,721	3,029	3,443
FTE	Base YR Rec	16.4	16.4	16.4	0.0	3.0	5.2	16.4	19.4	21.6

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type
2014 Total	0	0	0	0	0.0	
2015	133	0	0	133	1.0	1-Sided Adj

Other - program office: 1 FTE (50% of Program Manager and 50% of Project Manager) to support the delivery of major Customer Service capital projects including project organization, risk management, planning, monitoring, budgeting, communicating, staffing, and quality assurance. 50% of Program Manager's annual salary = \$68K and 50% of Project Manager's annual salary = \$65K.

2015 0 0 5 5 0.0 1-Sided Adj

Other - software maintenance agreement: \$5K for the Consumer Products Index annual increase provided for in the software maintenance agreeement for SDG&E's service order routing system.

2015 170 0 0 170 2.0 1-Sided Adj

Customer Privacy Office: 2 FTE (Program Advisors) at \$85K annual salary to support customer privacy initiatives, manage third party data requests from inception to final delivery, manage the Energy Data Portal and associated website support customer privacy initiatives.

2015 Total	303	0	5	308	3.0		
2016	199	0	0	199	2.2	1-Sided Adj	

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area: Witness: Bradley M. Baugh B. Customer Service Information Category: 4. Customer Programs & Projects Category-Sub: 100011.000 - Customer Programs & Projects Workpaper: Year/Expl. NLbr NSE FTE Adj Type Labor **Total** Ongoing SPP and CPP-D Activities: 2.2 FTEs (Program Assistant Program Advisor and 20% of Program Manager) to support customer participation in the new time varying rate options adopted by CPUC Decision 12-12-004 in SDG&E's Dynamic Pricing Application 10-07-009. In addition, these resources will support CPP-D for medium business customers.. Cost of FTEs: \$67K annual salary for Program Assistant; \$109K annual salary for Program Advisor; and \$23K representing 20% of Program Manager's annual salary. 2016 82 82 0.0 1-Sided Adj Ongoing SPP and CPP-D Activities: Non-labor costs in the amount of \$82K to manage two new demand response programs: 1) the Smart Pricing Program adopted by CPUC Decision 12-12-004 in SDG&E's Dynamic Pricing Application 10-07-009. 2) Default Critical Peak Pricing for medium commercial customers adopted by California Public Utilities Commission Decision 08-02-034 in SDG&E's Rate Design Window Application 07-01-047. 2016 170 170 1-Sided Adj Customer Privacy Office: 2 FTE (Program Advisors) at \$85K annual salary to support customer privacy initiatives, manage third party data requests from inception to final delivery, manage the Energy Data Portal and associated website support customer privacy initiatives. 2016 0 0 133 133 0.0 1-Sided Adj Privacy Audit: Cost for independent privacy audit mandated by CPUC Decision 11-07-056 and 12-08-045 in proceeding R.08-12-009. Audit shall be performed once every GRC cycle. Total cost for audit: \$400K / 3 = \$133K. 2016 5 5 1-Sided Adi Other - software maintenance agreement: \$5K for the Consumer Products Index annual increase provided for in the software maintenance agreeement for SDG&E's service order routing system. 2016 133 133 1.0 1-Sided Adi Other - program office: 1 FTE (50% of Program Manager and 50% of Project Manager) to support the delivery of Customer Service capital projects including project organization, risk management, planning, monitoring, budgeting, communicating, staffing, and quality assurance. 50% of Program Manager's annual salary = \$68K and 50% of Project Manager's annual salary = \$65K. 2016 Total 215 502 722 5.2

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Bradley M. Baugh Witness:

B. Customer Service Information Category: 4. Customer Programs & Projects Category-Sub:

100011.000 - Customer Programs & Projects Workpaper:

Determination of Adjusted-Recorded (Incurred Costs):

Determination of Adjusted-	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	772	1,022	1,000	1,337	1,372
Non-Labor	977	619	584	1,165	1,005
NSE	0	0	0	0	0
Total	1,749	1,642	1,583	2,502	2,377
FTE	10.8	13.1	13.0	16.3	16.2
Adjustments (Nominal \$) **					
Labor	-50	-258	-182	-96	-148
Non-Labor	284	169	194	-207	297
NSE	0	0	0	0	0
Total	233	-89	11	-303	150
FTE	-1.3	-3.0	-2.8	-1.1	-2.2
Recorded-Adjusted (Nomina	al \$)				
Labor	722	764	817	1,242	1,224
Non-Labor	1,261	789	778	958	1,303
NSE	0	0	0	0	0
Total	1,982	1,553	1,595	2,200	2,527
FTE	9.5	10.1	10.2	15.2	14.0
Vacation & Sick (Nominal \$))				
Labor	111	122	120	180	194
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	111	122	120	180	194
FTE	1.6	1.8	1.7	2.5	2.5
Escalation to 2013\$					
Labor	72	56	38	31	0
Non-Labor	133	64	30	15	0
NSE	0	0	0	0	0
Total	204	120	69	46	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Consta	nt 2013\$)				
Labor	905	942	976	1,453	1,419
Non-Labor	1,393	853	808	973	1,303
NSE	0	0	0	0	0
Total	2,298	1,795	1,784	2,425	2,721
FTE	11.1	11.9	11.9	17.7	16.5

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 4. Customer Programs & Projects

Workpaper: 100011.000 - Customer Programs & Projects

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs									
Years	2009	2009 2010 2011 2012							
Labor	-50	-258	-182	-96	-148				
Non-Labor	284	169	194	-207	297				
NSE	0	0	0	0	0				
Total	233	-89	11	-303	150				
FTE	-1.3	-3.0	-2.8	-1.1	-2.2				

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	FTE	Adj Type	From CCtr	<u>ReflD</u>
2009	0	-66	0	0.0 CC	TR Transf	To 2100-3593.000	CSCHRAMM2013 1022110957087
2100-0650 ir	n work group	100011 Cu	stomer P	rograms &	Iment from co Projects to co align activity		1022110337007
2009	84	2	0	0.9 CC	TR Transf	From 2100-3593.000	CSCHRAMM2013 1030181032860
Projects fund Services) to	ction from cos	t center 210 100-3584 In	0-3593 in	Work Par	per Group 10	Customer Services O008 (Residential stomer Programs &	1030101032000
2009	0	89	0	0.0 CC	TR Transf	From 2100-0042.000	CSCHRAMM2013 1107092342123
2100-0042 ir	n work group	100000 Ad	vanced M	leter Opera	tenance from ations to cost align costs w	t center 2100-3440	1107092342123
2009	-134	258	0	-2.2 1-S	ided Adj	N/A	CSCHRAMM2013 1107153730513
	ne agreement		•		n (CEC) New n SDG&E and		110/155/30513
2009	-0.701	-0.025	0	0.0 1-S	sided Adj	N/A	CSCHRAMM2013
Exclusion for	r Refundable	Billing IO's t	o SCG.				1107153911983
2009 Total	-50	284	0	-1.3			

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 4. Customer Programs & Projects

Workpaper: 100011.000 - Customer Programs & Projects

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	RefID
2010	80	4	0	0.8	CCTR Transf	From 2100-3593.000	CSCHRAMM2013 1030181631797
Projects for Services)	unction from co	st center 210 2100-3584 In	0-3593 ir	n Work F	Paper Group 1C	f Customer Services 00008 (Residential ustomer Programs &	1000 10100 1101
2010	0	94	0	0.0	CCTR Transf	From 2100-0042.000	CSCHRAMM2013 1107092439103
2100-004	2 in work group	100000 Ad	vanced M	leter Op	aintenance from perations to cos to align costs w	t center 2100-3440	1107092459105
2010	-113	212	0	-2.2	1-Sided Adj	N/A	CSCHRAMM2013 1107154030130
	The agreemer		• • •		sion (CEC) New reen SDG&E an		1101101000100
2010	0	-92	0	0.0	CCTR Transf	To 2100-3593.000	CSCHRAMM2013 1107163134693
2100-0650	0 in work group	100011 Cu	stomer P	rograms	ulfillment from co s & Projects to c s to align activity		110/100/04000
2010	-83	-42	0	-0.7	CCTR Transf	To 2200-2059.000	CSCHRAMM2013 1108072410047
function fr Projects to	om cost center o SCG cost cer	· 2100-4018 i nter 2200-205	n work gr 59 in work	oup 100 group 2		•	1100072410047
2010	-142	-8	0	-0.9 (CCTR Transf	To 2200-2286.000	CSCHRAMM2013
center 210 SoCalGas	00-3642 in wor	k paper grou _l ter 2200-228	o 10001′ 6 Biofuels	1 Custor	mer Programs a	function from cost and Projects to so align costs with	1108074345013
2010 Total	-258	169	0	-3.0			

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 4. Customer Programs & Projects

Workpaper: 100011.000 - Customer Programs & Projects

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	FTE	Adj Type	From CCtr	RefID		
2011	83	9	0	8.0	CCTR Transf	From 2100-3593.000	CSCHRAMM2013		
Projects fu Services)	unction from co	ost center 210 2100-3584 Ir	00-3593 ir	n Work	Paper Group 10	f Customer Services 00008 (Residential Istomer Programs &	1030182031727		
2011	0	94	0	0.0	CCTR Transf	From 2100-0042.000	CSCHRAMM2013 1107092542680		
2100-0042	Transfer costs associated with Kwickview license & maintenance from cost center 2100-0042 in work group 100000 Advanced Meter Operations to cost center 2100-3440 in work group 100011 Customer Programs & Projects to align costs where activity resides.								
2011	-116	201	0	-2.2	1-Sided Adj	N/A	CSCHRAMM2013		
	The agreemen				sion (CEC) New veen SDG&E an		1107154339633		
2011	0	-92	0	0.0	CCTR Transf	To 2100-3593.000	CSCHRAMM2013		
2100-0650) in work group	ว 100011 Cเ	stomer P	rogram	ulfillment from co s & Projects to c s to align activity		1107163252047		
2011	-21	-0.365	0	-0.4	1-Sided Adj	N/A	CSCHRAMM2013		
Exclusion	for Dynamic P	ricing 100%	Refundab	le per fi	iling in Application	on 10-07-009.	1107171302763		
Reference	Internal Orde	rs: 7049033,	7049039	ı					
2011	-120	-19	0	-0.9	CCTR Transf	To 2200-2059.000	CSCHRAMM2013		
function fr Projects to	om cost center SCG cost cer	⁻ 2100-4018 i nter 2200-209	n work gr 59 in work	oup 10 group		-	1108072649737		
2011	-9	-0.114	0	-0.1	CCTR Transf	To 2200-2286.000	CSCHRAMM2013		
center 210 SoCalGas	00-3642 in wor	k paper grou ter 2200-228	o 10001 6 Biofuels	1 Custo	mer Programs a	function from cost and projects to o align costs with	1108074520380		
2011 Total	-182	194	0	-2.8					

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 4. Customer Programs & Projects

Workpaper: 100011.000 - Customer Programs & Projects

Year/Expl.	Labor	<u>NLbr</u>	<u>NSE</u>	FTE	Adj Type	From CCtr	RefID
2012	68	0.819	0		CCTR Transf	From 2100-3593.000	CSCHRAMM2013
Projects f Services)	function from co	st center 210 2100-3584 In	00-3593 iı	n Work	Paper Group 10	f Customer Services 20008 (Residential ustomer Programs &	1030182531353
2012	-42	-75	0	-0.9	1-Sided Adj	N/A	CSCHRAMM2013
Program.					sion (CEC) New veen SDG&E an		1107154502643
2012	0	-112	0	0.0	CCTR Transf	To 2100-3593.000	CSCHRAMM2013 1107163345293
2100-065	0 in work group	100011 Cu	ıstomer P	rogram	ulfillment from cos & Projects to cost to align activity		1107103343293
2012	-5	0	0	0.0	1-Sided Adj	N/A	CSCHRAMM2013
	n for Dynamic P ce Internal Orde	-		le per fi	iling in Application	on 10-07-009.	1107171502423
2012	0	-1	0	0.0	1-Sided Adj	N/A	CSCHRAMM2013
Exclusion	n for Refundable	Billing interi	nal order's	s to SC	G.		1107172337537
2012	-117	-21	0	-0.9	CCTR Transf	To 2200-2059.000	CSCHRAMM2013
function f Projects t	rom cost center to SCG cost cer	· 2100-4018 i nter 2200-20	n work gr 59 in work	oup 10 group		-	1108072905180
2012 Total	-96	-207	0	-1.1			
2013	-61	0	0	-0.5	1-Sided Adj	N/A	CSCHRAMM2014 0211123001470
Exclusion	n for Refundable	Billing Inter	nal Order	to SCG	G (Reference IO	7043704)	0211123001470
2013	0	26	0	0.0	1-Sided Adj	N/A	CSCHRAMM2014
Exclusion 70428128		e IO (CPUC E	Energy Di	vision F	Pmts) accrual rev	versal (Reference IO	0211123046070

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. Customer Service Information
Category-Sub: 4. Customer Programs & Projects

Workpaper: 100011.000 - Customer Programs & Projects

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type	From CCtr	<u>RefID</u>					
2013	0	426	0	0.0	1-Sided Adj	N/A	CSCHRAMM2014 0211123130540					
Program (Exclusion for reimbursable California Energy Commission (CEC) New Solar Homes Program (Reference IO 7028662). The agreement number for this activity between -SDG&E and the -CEC is 400-07-006-01.											
2013	0	-0.582	0	0.0	1-Sided Adj	N/A	CSCHRAMM2014 0211123212220					
Program (7028662). T	he agreer		sion (CEC) New mber for this act		0211123212220					
2013	-49	0	0	-1.0	1-Sided Adj	N/A	CSCHRAMM2014 0211123252727					
Program (7028662). T	he agreer		sion (CEC) New mber for this act		0211123232121					
2013	0	-0.335	0	0.0	1-Sided Adj	N/A	CSCHRAMM2014 0211123417567					
Program (7028662). T	he agreer		sion (CEC) New mber for this act		0211125417507					
2013	0	-0.166	0	0.0	1-Sided Adj	N/A	CSCHRAMM2014 0211123453290					
	for Dynamic P IO 7049036)	ricing Refund	dable IO s	per filir	ng in Application	10-07-009	0211123453290					
2013	0	-0.245	0	0.0	1-Sided Adj	N/A	CSCHRAMM2014 0211123541270					
	for Dynamic P IO 7049036)	ricing Refund	dable IO s	per filir	ng in Application	10-07-009	0211123341270					
2013	-30	-1	0	-0.6	1-Sided Adj	N/A	CSCHRAMM2014 0211123635480					
	The agreemen				sion (CEC) New veen -SDG&E ar		0211123033400					
2013	-2	0	0	0.0	1-Sided Adj	N/A	CSCHRAMM2014					
	for Dynamic P IO 7067162)	ricing Refund	lable IO s	per filir	ng in Application	10-07-009	0211123857400					
2013	0	-139	0	0.0	CCTR Transf	To 2100-3593.000	CSCHRAMM2014					
Group 10	O011 Custome	er Programs	& Projects	s to cost	cost center 210 t center 2100-35 currently reside	593 in Work Group	0211124020870					

Non-Shared Service Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Bradley M. Baugh Witness:

B. Customer Service Information Category: 4. Customer Programs & Projects Category-Sub:

100011.000 - Customer Programs & Projects Workpaper:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	FTE Adj Type	From CCtr	RefID
2013	-6	-12	0	-0.1 CCTR Transf	To 2200-2059.001	CSCHRAMM2014 0212111921920

Transfer labor FTE and non-labor costs associated with SoCalGas RD&D Project Manager function from cost center 2100-4018 in work group 100011 Customer Programs & Projects to SoCalGas cost center 2200-2059.001 in work group 2RD001.001 SoCalGas CS - Technologies RD&D Refundable to align costs where function resides. Reference internal orders: 7025532, 7043704

2013 Total -148 -2.2 297

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Summary of Shared Services Workpapers:

Description

A. Customer Service Operations Shared Services

B. CS Technologies, Policies, and Solutions SS

Total

In 2013 \$ (000) Incurred Costs									
Adjusted- Recorded	Adjusted-Forecast								
2013	2014 2015 2016								
376	376	376	376						
600	603	603	603						
976	979 979 979								

In 2013\$ (000) Incurred Costs

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services

Cost Center: VARIOUS

Summary for Category: A. Customer Service Operations Shared Services

Adjusted-Recorded		Adjusted-Forecast				
2013	2014	2015	2016			
360	360	360	360			
16	16	16	16			
0	0	0	0			
376	376	376	376			
3.0	3.0	3.0	3.0			
g to this Category:						
mer Service Strategies						
113	113	113	113			
8	8	8	8			
0	0	0	0			
121	121	121	121			
1.0	1.0	1.0	1.0			
ess Planning & Budgets Custor	mer Service					
122	122	122	122			
3	3	3	3			
0	0	0	0			
125	125	125	125			
1.0	1.0	1.0	1.0			
trategy and Analysis Manager						
125	125	125	125			
5	5	5	5			
0	0	0	0			
130	130	130	130			
1.0	1.0	1.0	1.0			
	2013 360 16 0 376 3.0 g to this Category: mer Service Strategies 113 8 0 121 1.0 ess Planning & Budgets Custor 122 3 0 125 1.0 trategy and Analysis Manager 125 5 0 130	2013 2014	2013 2014 2015			

Beginning of Workpaper 2100-0006.000 - Customer Service Strategies

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services

Category-Sub 1. Customer Service Strategies

Cost Center: 2100-0006.000 - Customer Service Strategies

Activity Description:

The Customer Services Strategies Project Manager shared service cost center provides support for continuous improvement initiatives, SCG Strategic Initiative support, and planning / case management for SDG&E and SCG Customer Service TY2016 GRC.

Forecast Explanations:

Labor - Base YR Rec

A base year forecast method was used because 2013 represents the current activity level and is not expected to change. Furthermore, this workgroup has a small number of FTEs whose work is not cyclical in nature and should remain constant for 2014 through 2016. Therefore, the base year provides a reasonable starting point for future expenditures.

Non-Labor - Base YR Rec

See above.

NSE - Base YR Rec

IN/A

Summary of Results:

		In 2013\$ (000) Incurred Costs									
		Adju	sted-Recor	Ad	justed-Fore	cast					
Years	2009	2010	2011	2012	2013	2014	2015	2016			
Labor	108	105	111	109	113	113	113	113			
Non-Labor	3	1	8	9	8	8	8	8			
NSE	0	0	0	0	0	0	0	0			
Total	111	106	119	117	121	121	121	121			
FTE	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0			

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services

Category-Sub: 1. Customer Service Strategies

Cost Center: 2100-0006.000 - Customer Service Strategies

Cost Center Allocations (Incurred Costs):

Directly Retained
Directly Allocated
Subj. To % Alloc.
Total Incurred
% Allocation
Retained
SEU
CORP
Unreq

	2013 Adju	sted-Reco	rded		2014 Adjusted-Forecast				
Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
0	0	0	0	0.00	0	0	0	0	0.00
0	0	0	0	0.00	0	0	0	0	0.00
113	8	0	121	1.05	113	8	0	121	1.05
113	8	0	121	1.05	113	8	0	121	1.05
57.96%	57.96%				50.00%	50.00%			
42.04%	42.04%				50.00%	50.00%			
0.00%	0.00%				0.00%	0.00%			
0.00%	0.00%				0.00%	0.00%			

Directly Retained
Directly Allocated
Subj. To % Alloc.
Total Incurred
% Allocation
Retained
SEU
CORP
Unreg

	2015 Adju	sted-Fore	cast		2016 Adjusted-Forecast					
Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE	
0	0	0	0	0.00	0	0	0	0	0.00	
0	0	0	0	0.00	0	0	0	0	0.00	
113	8	0	121	1.05	113	8	0	121	1.05	
113	8	0	121	1.05	113	8	0	121	1.05	
50.00%	50.00%				50.00%	50.00%				
50.00%	50.00%				50.00%	50.00%				
0.00%	0.00%				0.00%	0.00%				
0.00%	0.00%				0.00%	0.00%				

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2013

The percentage allocation for this cost center should be shared equally between SDG&E and SCG, as the Project Manager supports both utilites GRC efforts, and strategic process improvements. 2013 actual percentage was 58% retained 42% allocated.

Cost Center Allocation Percentage for 2014

The percentage allocation for this cost center should be shared equally between SDG&E and SCG, as the Project Manager supports both utilities GRC efforts, and strategic process improvements.

Cost Center Allocation Percentage for 2015

The percentage allocation for this cost center should be shared equally between SDG&E and SCG, as the Project Manager supports both utilities GRC efforts, and strategic process improvements.

Cost Center Allocation Percentage for 2016

The percentage allocation for this cost center should be shared equally between SDG&E and SCG, as the Project Manager supports both utilities GRC efforts, and strategic process improvements.

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services

Category-Sub: 1. Customer Service Strategies

Cost Center: 2100-0006.000 - Customer Service Strategies

Forecast Summary:

	In 2013 \$(000) Incurred Costs											
Forecas	t Method	Base Forecast			Forecast Adjustments			Adjusted-Forecast				
Years	s	2014	2015	2016	2014	2015	2016	2014	2015	2016		
Labor	Base YR Rec	113	113	113	0	0	0	113	113	113		
Non-Labor	Base YR Rec	8	8	8	0	0	0	8	8	8		
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0		
Tota	ıl	121	121	121	0	0	0	121	121	121		
FTE	Base YR Rec	1.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0		

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type
2014 Total	0	0	0	0	0.0	
2015 Total	0	0	0	0	0.0	
2016 Total	0	0	0	0	0.0	

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services

Category-Sub: 1. Customer Service Strategies

Cost Center: 2100-0006.000 - Customer Service Strategies

Determination of Adjusted-Recorded (Incurred Costs):

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	168	167	102	93	98
Non-Labor	21	17	8	8	8
NSE	0	0	0	0	0
Total	188	184	110	102	105
FTE	1.0	1.0	1.0	0.9	0.9
Adjustments (Nominal \$) *	*				
Labor	-82	-83	-9	0	0
Non-Labor	-18	-16	0	0	0
NSE	0	0	0	0	0
Total	-100	-99	-9	0	0
FTE	-0.1	-0.2	-0.1	0.0	0.0
Recorded-Adjusted (Nomir	nal \$)				
Labor	85	85	93	93	98
Non-Labor	3	1	8	8	8
NSE	0	0	0	0	0
Total	88	85	101	102	105
FTE	0.9	0.8	0.9	0.9	0.9
Vacation & Sick (Nominal S	\$)				
Labor	13	14	14	14	15
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	13	14	14	14	15
FTE	0.1	0.1	0.1	0.1	0.2
Escalation to 2013\$					
Labor	9	7	4	2	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	10	7	4	2	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Const	ant 2013\$)				
Labor	108	105	111	109	113
Non-Labor	3	1	8	9	8
NSE	0	0	0	0	0
Total	111	106	119	117	121
FTE	1.0	0.9	1.0	1.0	1.1

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services

Category-Sub: 1. Customer Service Strategies

Cost Center: 2100-0006.000 - Customer Service Strategies

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs									
Years	2009	2010	2011	2012	2013				
Labor	-82	-83	-9	0	0				
Non-Labor	-18	-16	0	0	0				
NSE	0	0	0	0	0				
Total	-100	-99	-9	0	0				
FTE	-0.1	-0.2	-0.1	0.0	0.0				

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	FTE	Adj Type	From CCtr	RefID	
2009	-3	0	0	0.0 CC	CTR Transf	To 2200-0342.000	CSCHRAMM2013 1030132022020	
Performance 2200-0342 d 2200-0342 w	1000102022020							
2009	-82	-10	0	-0.5 CC	CTR Transf	To 2200-0342.000	CSCHRAMM2013 1030132117850	
2200-0342 d	-	of 2011. Tr	ansfer his			red to SCG CCTR JSS cost center	1030132117030	
2009	-82	-10	0	-0.5 CC	CTR Transf	To 2200-0342.000	CSCHRAMM2013 1030132324477	
2200-0342 d	•	of 2011. Tr	ansfer his	•		red to SCG CCTR JSS cost center	1000 10202 1111	
2009	85	3	0	0.9 CC	CTR Transf	From 2100-3593.000	CSCHRAMM2013 1030181311083	
Transfer labor, FTE, and non-labor associated with Project Manager Customer Service Strategy function from cost center 2100-3593 in Work Paper Group 100008 (Residential Services) to USS cost center 2100-0006 (Customer Service Strategy) where function resides.								
2009 Total	-82	-18	0	-0.1				

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services

Category-Sub: 1. Customer Service Strategies

Cost Center: 2100-0006.000 - Customer Service Strategies

<u>Year/Expl.</u>	<u>Labor</u>	<u>NLbr</u>	NSE	FTE	Adj Type	From CCtr	RefID				
2010	-21	-1	0	-0.1	CCTR Transf	To 2200-0342.000	CSCHRAMM2013				
Performance Management & Organizational Strategy Director transferred to SCG CCTR 2200-0342 during January of 2011. Transfer historical dollars to SCG USS cost center 2200-0342 where the function resides.											
2010	-146	-15	0	-0.9	CCTR Transf	To 2200-0342.000	CSCHRAMM2013 1030132818700				
2200-0342	Performance Management & Organizational Strategy Director transferred to SCG CCTR 2200-0342 during January of 2011. Transfer historical dollars to SCG USS cost center 2200-0342 where the function resides.										
2010	85	0.643	0	8.0	CCTR Transf	From 2100-3593.000	CSCHRAMM2013 1030181506603				
Strategy fu	Transfer labor, FTE, and non-labor associated with Project Manager Customer Service Strategy function from cost center 2100-3593 in Work Paper Group 100008 (Residential Services) to USS cost center 2100-0006 (Customer Service Strategy) where function										
2010 Total											
_0.0 10tai	-83	-16	0	-0.2							
2011	-83 -9	-16 0	0		CCTR Transf	To 2200-0342.000	CSCHRAMM2013				
2011 Performan 2200-0342	-9 ce Managem	0 ent & Organia ary of 2011. 1	0 zational S ransfer h	-0.1	Director transfer	To 2200-0342.000 rred to SCG CCTR USS cost center	CSCHRAMM2013 1030133000520				
2011 Performan 2200-0342	-9 ice Managem 2 during Janua	0 ent & Organia ary of 2011. 1	0 zational S ransfer h	-0.1	Director transfer	rred to SCG CCTR					
2011 Performan 2200-0342 2200-0342	-9 ce Managem during Janua where the fu	0 ent & Organia ary of 2011. T nction reside	0 zational S ransfer h s.	-0.1 trategy istorica	Director transfer	rred to SCG CCTR					
2011 Performan 2200-0342 2200-0342 2011 Total	-9 ce Manageme during Janua where the fu -9	0 ent & Organiz ary of 2011. T nction reside 0	0 zational S ransfer h s. 0	-0.1 trategy istorica -0.1	Director transfer	rred to SCG CCTR					

Beginning of Workpaper 2100-3461.000 - Business Planning & Budgets Customer Service

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services
Category-Sub 2. Business Planning & Budgets Customer Service

Cost Center: 2100-3461.000 - Business Planning & Budgets Customer Service

Activity Description:

Business Planning & Budgets Customer Service manages the business planning work and provides supervision to the planners who support SCG Customer Service Office Operations and some SDG&E functions. SDG&E functions supported include Remittance Processing, Natural Gas Vehicles, and Business Solutions. Furthermore, this workgroup provides oversight, guidance, compliance, budget tracking, reporting and forecasting.

Forecast Explanations:

Labor - Base YR Rec

A base year forecast method was used because 2013 represents the current activity level and is not expected to change. Furthermore, this workgroup has a small number of FTEs whose work is not cyclical in nature and should remain constant for 2014 through TY 2016. Therefore, the base year provides a reasonable starting point for future expenditures.

Non-Labor - Base YR Rec

See above.

NSE - Base YR Rec

N/A

Summary of Results:

[In 2013\$ (000) Incurred Costs									
		Adjı	ısted-Recor	Adjusted-Forecast						
Years	2009	2010	2011	2012	2013	2014	2015	2016		
Labor	220	212	115	112	122	122	122	122		
Non-Labor	1	1	2	2	3	3	3	3		
NSE	0	0	0	0	0	0	0	0		
Total	221	213	117	114	125	125	125	125		
FTE	2.0	2.0	1.1	1.0	1.0	1.0	1.0	1.0		

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Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services
Category-Sub: 2. Business Planning & Budgets Customer Service

Cost Center: 2100-3461.000 - Business Planning & Budgets Customer Service

Cost Center Allocations (Incurred Costs):

Directly Retained
Directly Allocated
Subj. To % Alloc.
Total Incurred
% Allocation
Retained
SEU
CORP
Unreq

	2013 Adju	rded	2014 Adjusted-Forecast						
Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
0	0	0	0	0.00	0	0	0	0	0.00
0	0	0	0	0.00	0	0	0	0	0.00
122	3	0	125	1.04	122	3	0	125	1.04
122	3	0	125	1.04	122	3	0	125	1.04
2.85%	2.85%				3.47%	3.47%			
97.15%	97.15%				96.53%	96.53%			
0.00%	0.00%				0.00%	0.00%			
0.00%	0.00%				0.00%	0.00%			

Directly Retained
Directly Allocated
Subj. To % Alloc.
Total Incurred
% Allocation
Retained
SEU
CORP
Unreg

		2015 Adj u	sted-Fore	cast	2016 Adjusted-Forecast					
ı	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
ı	0	0	0	0	0.00	0	0	0	0	0.00
ı	0	0	0	0	0.00	0	0	0	0	0.00
I	122	3	0	125	1.04	122	3	0	125	1.04
	122	3	0	125	1.04	122	3	0	125	1.04
- [3.47%	3.47%				3.47%	3.47%			
Ī	96.53%	96.53%				96.53%	96.53%			
	0.00%	0.00%				0.00%	0.00%	•		•
ı	0.00%	0.00%				0.00%	0.00%			

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Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services
Category-Sub: 2. Business Planning & Budgets Customer Service

Cost Center: 2100-3461.000 - Business Planning & Budgets Customer Service

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2013

Allocation for Business Planning and Budget manger is based on budget distribution between companies as the manager provides oversigt, guidance, compliance, budget tracking, reporting, and forecasting for SCG Customer Service Office Operations and SDG&E functions such as Remittance Processing, Natural Gas Vehicles, and Business Solutions.

Cost Center Allocation Percentage for 2014

Allocation for Business Planning and Budget manger is based on budget distribution between companies as the manager provides oversigt, guidance, compliance, budget tracking, reporting, and forecasting for SCG Customer Service Office Operations and SDG&E functions such as Remittance Processing, Natural Gas Vehicles, and Business Solutions.

Cost Center Allocation Percentage for 2015

Allocation for Business Planning and Budget manger is based on budget distribution between companies as the manager provides oversigt, guidance, compliance, budget tracking, reporting, and forecasting for SCG Customer Service Office Operations and SDG&E functions such as Remittance Processing, Natural Gas Vehicles, and Business Solutions.

Cost Center Allocation Percentage for 2016

Allocation for Business Planning and Budget manger is based on budget distribution between companies as the manager provides oversigt, guidance, compliance, budget tracking, reporting, and forecasting for SCG Customer Service Office Operations and SDG&E functions such as Remittance Processing, Natural Gas Vehicles, and Business Solutions.

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services
Category-Sub: 2. Business Planning & Budgets Customer Service

Cost Center: 2100-3461.000 - Business Planning & Budgets Customer Service

Forecast Summary:

			In 201	3 \$(000) Ir	ncurred Co	sts					
Forecas	Forecast Method		se Foreca	st	Forecast Adjustments Adjusted					ed-Forecast	
Years	s	2014	2015	2016	2014	2015	2016	2014	2015	2016	
Labor	Base YR Rec	122	122	122	0	0	0	122	122	122	
Non-Labor	Base YR Rec	3	3	3	0	0	0	3	3	3	
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0	
Tota	ıl	125	125	125	0		0	125	125	125	
FTE	Base YR Rec	1.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0	

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type
2014 Total	0	0	0	0	0.0	
2015 Total	0	0	0	0	0.0	
2016 Total	0	0	0	0	0.0	

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services
Category-Sub: 2. Business Planning & Budgets Customer Service

Cost Center: 2100-3461.000 - Business Planning & Budgets Customer Service

Determination of Adjusted-Recorded (Incurred Costs):

•	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
ecorded (Nominal \$)*					
Labor	174	171	97	96	105
Non-Labor	1	1	2	2	3
NSE	0	0	0	0	0
Total	175	172	99	98	109
FTE	1.7	1.7	0.9	0.9	0.9
djustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Nomin	al \$)				
Labor	174	171	97	96	105
Non-Labor	1	1	2	2	3
NSE	0	0	0	0	0
Total	175	172	99	98	109
FTE	1.7	1.7	0.9	0.9	0.9
acation & Sick (Nominal \$	5)				
Labor	27	27	14	14	17
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	27	27	14	14	17
FTE	0.3	0.3	0.2	0.1	0.2
scalation to 2013\$					
Labor	19	14	4	2	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0 2	0
Total	19	14	4	2	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Consta	ant 2013\$)				
Labor	220	212	115	112	122
Non-Labor	1	1	2	2	3
NSE	0	0	0	0	0
Total	221	213	117	114	125
FTE	2.0	2.0	1.1	1.0	1.1

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services
Category-Sub: 2. Business Planning & Budgets Customer Service

Cost Center: 2100-3461.000 - Business Planning & Budgets Customer Service

Summary of Adjustments to Recorded:

	In Nominal \$ (000) Incurred Costs										
Years	2009	2010	2011	2012	2013						
Labor	0	0	0	0	0						
Non-Labor	0	0	0	0	0						
NSE	0	0	0	0	0						
Total	0	0	0	0	0						
FTE	0.0	0.0	0.0	0.0	0.0						

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	<u>RefID</u>	
2009 Total	0	0	0	0.0				
2010 Total	0	0	0	0.0				
2011 Total	0	0	0	0.0				
2012 Total	0	0	0	0.0				
2013 Total	0	0	0	0.0				

Beginning of Workpaper 2100-3511.000 - CCC Strategy and Analysis Manager

San Diego Gas & Electric Company 2016 GRC - APP

Shared Services Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Witness: Bradley M. Baugh

A. Customer Service Operations Shared Services Category:

Category-Sub 3. CCC Strategy and Analysis Manager

2100-3511.000 - CCC Strategy and Analysis Manager Cost Center:

Activity Description:

The CCC Strategy & Analysis manger provides oversight to the SCG Customer Contact Center budget planning group The main focus of this position is on strategies and planning activities for the SCG Customer Contact Centers.

Forecast Explanations:

Labor - Base YR Rec

A base year forecast method was used because 2013 represents the current activity level and is not expected to change. Furthermore, this workgroup has a small number of FTEs whose work is not cyclical in nature and should remain constant for 2014 through TY 2016. Therefore, the base year provides a reasonable starting point for future expenditures.

Non-Labor - Base YR Rec

See above.

NSE - Base YR Rec

IN/A

Summary of Results:

		In 2013\$ (000) Incurred Costs							
		Adju	ısted-Recor	Ad	cast				
Years	2009	2010	2011	2012	2013	2014	2015	2016	
Labor	122	123	124	123	125	125	125	125	
Non-Labor	3	2	4	11	5	5	5	5	
NSE	0	0	0	0	0	0	0	0	
Total	125	125	128	133	130	130	130	130	
FTE	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services

Category-Sub: 3. CCC Strategy and Analysis Manager

Cost Center: 2100-3511.000 - CCC Strategy and Analysis Manager

Cost Center Allocations (Incurred Costs):

Directly Retained
Directly Allocated
Subj. To % Alloc.
Total Incurred
% Allocation
Retained
SEU
CORP
Unreg

	2013 Adju	sted-Reco	rded		2014 Adjusted-Forecast					
Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE	
0	0	0	0	0.00	0	0	0	0	0.00	
0	0	0	0	0.00	0	0	0	0	0.00	
125	5	0	130	1.01	125	5	0	130	1.01	
125	5	0	130	1.01	125	5	0	130	1.01	
0.00%	0.00%				0.00%	0.00%				
100.00%	100.00%				100.00%	100.00%				
0.00%	0.00%				0.00%	0.00%				
0.00%	0.00%				0.00%	0.00%				

Directly Retained
Directly Allocated
Subj. To % Alloc.
Total Incurred
% Allocation
Retained
SEU
CORP
Unreg

	2015 Adj u	sted-Fore	cast			2016 Adju	sted-Fore	cast	
Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
0	0	0	0	0.00	0	0	0	0	0.00
0	0	0	0	0.00	0	0	0	0	0.00
125	5	0	130	1.01	125	5	0	130	1.01
125	5	0	130	1.01	125	5	0	130	1.01
0.00%	0.00%				0.00%	0.00%			
100.00%	100.00%				100.00%	100.00%			
0.00%	0.00%				0.00%	0.00%			
0.00%	0.00%				0.00%	0.00%			

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services

Category-Sub: 3. CCC Strategy and Analysis Manager

Cost Center: 2100-3511.000 - CCC Strategy and Analysis Manager

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2013

The CCC Strategy & Analysis manger provides oversight of the SCG Customer Contact Center budget planning group. The main focus of this position is on strategies and planning activities for the SCG Customer Contact Centers. Therefore it is reasonable to allocate 100% to SCG, as the CCC Stategy and Analysis Manager soley supports SCG.

Cost Center Allocation Percentage for 2014

The CCC Strategy & Analysis manger provides oversight of the SCG Customer Contact Center budget planning group. The main focus of this position is on strategies and planning activities for the SCG Customer Contact Centers. Therefore it is reasonable to allocate 100% to SCG, as the CCC Stategy and Analysis Manager soley supports SCG.

Cost Center Allocation Percentage for 2015

The CCC Strategy & Analysis manger provides oversight of the SCG Customer Contact Center budget planning group. The main focus of this position is on strategies and planning activities for the SCG Customer Contact Centers. Therefore it is reasonable to allocate 100% to SCG, as the CCC Stategy and Analysis Manager soley supports SCG.

Cost Center Allocation Percentage for 2016

The CCC Strategy & Analysis manger provides oversight of the SCG Customer Contact Center budget planning group. The main focus of this position is on strategies and planning activities for the SCG Customer Contact Centers. Therefore it is reasonable to allocate 100% to SCG, as the CCC Stategy and Analysis Manager soley supports SCG.

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services

Category-Sub: 3. CCC Strategy and Analysis Manager

Cost Center: 2100-3511.000 - CCC Strategy and Analysis Manager

Forecast Summary:

			In 201	3 \$(000) lı	ncurred Co	sts				
Forecas	t Method	Bas	se Foreca	st	Forecast Adjustments Adjusted-Fore					ast
Years	s	2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Base YR Rec	125	125	125	0	0	0	125	125	125
Non-Labor	Base YR Rec	5	5	5	0	0	0	5	5	5
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Tota	ıl	130	130	130	0	0	0	130	130	130
FTE	Base YR Rec	1.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE	Adj Type
2014 Total	0	0	0	0	0.0	
2015 Total	0	0	0	0	0.0	
2016 Total	0	0	0	0	0.0	

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services

Category-Sub: 3. CCC Strategy and Analysis Manager

Cost Center: 2100-3511.000 - CCC Strategy and Analysis Manager

Determination of Adjusted-Recorded (Incurred Costs):

Determination of Aujusteu-	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	97	99	104	105	108
Non-Labor	2	2	4	10	5
NSE	0	0	0	0	0
Total	99	101	108	116	113
FTE	0.9	0.9	0.9	0.9	0.9
Adjustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nomina	l \$)				
Labor	97	99	104	105	108
Non-Labor	2	2	4	10	5
NSE	0	0	0	0	0
Total	99	101	108	116	113
FTE	0.9	0.9	0.9	0.9	0.9
Vacation & Sick (Nominal \$)					
Labor	15	16	15	15	17
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	15	16	15	15	17
FTE	0.1	0.2	0.1	0.1	0.2
Escalation to 2013\$					
Labor	11	8	5	2	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	11	8	5	2	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constar	nt 2013\$)				
Labor	122	123	124	123	125
Non-Labor	3	2	4	11	5
NSE	0	0	0	0	0
Total	125	125	128	133	130
FTE	1.0	1.1	1.0	1.0	1.1

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: A. Customer Service Operations Shared Services

Category-Sub: 3. CCC Strategy and Analysis Manager

Cost Center: 2100-3511.000 - CCC Strategy and Analysis Manager

Summary of Adjustments to Recorded:

	In Nominal \$ (000) Incurred Costs										
Years	2009	2010	2011	2012	2013						
Labor	0	0	0	0	0						
Non-Labor	0	0	0	0	0						
NSE	0	0	0	0	0						
Total	0	0	0	0	0						
FTE	0.0	0.0	0.0	0.0	0.0						

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	RefID
2009 Total	0	0	0	0.0			
2010 Total	0	0	0	0.0			
2011 Total	0	0	0	0.0			
2012 Total	0	0	0	0.0			
2013 Total	0	0	0	0.0			

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. CS Technologies, Policies, and Solutions SS

Cost Center: VARIOUS

Summary for Category: B. CS Technologies, Policies, and Solutions SS

	_	In 2013\$ (000) Incu	rred Costs	
	Adjusted-Recorded		Adjusted-Forecast	
	2013	2014	2015	2016
Labor	343	343	343	343
Non-Labor	257	260	260	260
NSE	0	0	0	0
Total	600	603	603	603
FTE	2.9	2.9	2.9	2.9
Cost Centers belonging	g to this Category:			
2100-3434.000 Plannir	ng & Development			
Labor	259	259	259	259
Non-Labor	246	246	246	246
NSE	0	0	0	0
Total	505	505	505	505
FTE	1.8	1.8	1.8	1.8
2100-3709.000 Low En	nissions Vehicle Program			
Labor	84	84	84	84
Non-Labor	11	14	14	14
NSE	0	0	0	0
Total	95	98	98	98
FTE	1.1	1.1	1.1	1.1

Beginning of Workpaper 2100-3434.000 - Planning & Development

San Diego Gas & Electric Company 2016 GRC - APP

Shared Services Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Witness: Bradley M. Baugh

B. CS Technologies, Policies, and Solutions SS Category:

1. Planning & Development Category-Sub

2100-3434.000 - Planning & Development Cost Center:

Activity Description:

The purpose of the Planning & Development group is to provide analytical and execution support for initiatives in four strategic priority area: operational excellence, development and deployment of clean energy solutions for customers, advocacy for sensible policies and regulations that support ratepayer interests and advance Commission policy, maintaining a properly skilled workforce. This group also manages various external information services on a company-wide basis.

Forecast Explanations:

Labor - Base YR Rec

A base year forecast method because 2013 represents the current activity level and is not expected to change. Furthermore, this workgroup has a small number of FTEs whose work is not cyclical in nature and should remain constant for 2014 through TY 2016. Therefore, the base year provides a reasonable starting point for future expenditures.

Non-Labor - Base YR Rec

See above.

NSE - Base YR Rec

N/A

Summary of Results:

	In 2013\$ (000) Incurred Costs										
		Adju	sted-Recor	Ad	Adjusted-Forecast						
Years	2009	2010	2011	2014	2015	2016					
Labor	579	388	353	276	259	259	259	259			
Non-Labor	397	279	249	366	246	246	246	246			
NSE	0	0	0	0	0	0	0	0			
Total	976	667	602	642	505	505	505	505			
FTE	4.0	3.3	2.9	2.2	1.8	1.8	1.8	1.8			

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. CS Technologies, Policies, and Solutions SS

Category-Sub: 1. Planning & Development

Cost Center: 2100-3434.000 - Planning & Development

Cost Center Allocations (Incurred Costs):

Directly Retained
Directly Allocated
Subj. To % Alloc.
Total Incurred
% Allocation
Retained
SEU
CORP
Unreq

	2013 Adju	sted-Reco	rded		2014 Adjusted-Forecast					
Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE	
0	11	0	11	0.00	0	11	0	11	0.00	
0	0	0	0	0.00	0	0	0	0	0.00	
259	235	0	494	1.80	259	235	0	494	1.80	
259	246	0	505	1.80	259	246	0	505	1.80	
31.12%	31.12%				13.77%	13.77%				
68.88%	68.88%				86.23%	86.23%				
0.00%	0.00%				0.00%	0.00%				
0.00%	0.00%				0.00%	0.00%				

Directly Retained
Directly Allocated
Subj. To % Alloc.
Total Incurred
% Allocation
Retained
SEU
CORP
Unreg

	2015 Adju	sted-Fore	cast		2016 Adjusted-Forecast						
Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE		
0	11	0	11	0.00	0	11	0	11	0.00		
0	0	0	0	0.00	0	0	0	0	0.00		
259	235	0	494	1.80	259	235	0	494	1.80		
259	246	0	505	1.80	259	246	0	505	1.80		
13.77%	13.77%				13.77%	13.77%					
86.23%	86.23%				86.23%	86.23%					
0.00%	0.00%				0.00%	0.00%					
0.00%	0.00%				0.00%	0.00%					

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. CS Technologies, Policies, and Solutions SS

Category-Sub: 1. Planning & Development

Cost Center: 2100-3434.000 - Planning & Development

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2013

The Planning & Development Director Group allocation methodology was based on the Director assessment of time spent completing specific activities and the alloation of this time between the utilities.

Cost Center Allocation Percentage for 2014

The purpose of the Planning & Development group is to provide analytical and execution support for initiatives in four strategic priority area: operational excellence, development and deployment of clean energy solutions for customers, advocacy for sensible policies and regulations that support ratepayer interests and advance Commission policy, maintaining a properly skilled workforce. Labor is allocated based on revenue shares for the gas operations of SCG and SDG&E which is the best proxy for the joint benefit of joint analysis and development tasks. Non-labor is based on line-item determination of beneficiary of planned expenses such as retainer information services.

Cost Center Allocation Percentage for 2015

The purpose of the Planning & Development group is to provide analytical and execution support for initiatives in four strategic priority area: operational excellence, development and deployment of clean energy solutions for customers, advocacy for sensible policies and regulations that support ratepayer interests and advance Commission policy, maintaining a properly skilled workforce. Labor is allocated based on revenue shares for the gas operations of SCG and SDG&E which is the best proxy for the joint benefit of joint analysis and development tasks. Non-labor is based on line-item determination of beneficiary of planned expenses such as retainer information services.

Cost Center Allocation Percentage for 2016

The purpose of the Planning & Development group is to provide analytical and execution support for initiatives in four strategic priority area: operational excellence, development and deployment of clean energy solutions for customers, advocacy for sensible policies and regulations that support ratepayer interests and advance Commission policy, maintaining a properly skilled workforce. Labor is allocated based on revenue shares for the gas operations of SCG and SDG&E which is the best proxy for the joint benefit of joint analysis and development tasks. Non-labor is based on line-item determination of beneficiary of planned expenses such as retainer information services.

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. CS Technologies, Policies, and Solutions SS

Category-Sub: 1. Planning & Development

Cost Center: 2100-3434.000 - Planning & Development

Forecast Summary:

	In 2013 \$(000) Incurred Costs												
Forecas	t Method	Bas	se Foreca	st	Forec	ast Adjust	ments	Adjusted-Forecast					
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016			
Labor	Base YR Rec	259	259	259	0	0	0	259	259	259			
Non-Labor	Base YR Rec	246	246	246	0	0	0	246	246	246			
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0			
Tota	al	505	505	505	0		0	505	505	505			
FTE	Base YR Rec	1.8	1.8	1.8	0.0	0.0	0.0	1.8	1.8	1.8			

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type
2014 Total	0	0	0	0	0.0	
2015 Total	0	0	0	0	0.0	
2016 Total	0	0	0	0	0.0	

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. CS Technologies, Policies, and Solutions SS

Category-Sub: 1. Planning & Development

Cost Center: 2100-3434.000 - Planning & Development

Determination of Adjusted-Recorded (Incurred Costs):

Determination of Aujusteu-i	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	686	438	312	237	224
Non-Labor	368	266	254	382	260
NSE	0	0	0	0	0
Total	1,054	704	567	620	484
FTE	5.2	3.9	2.6	1.9	1.5
Adjustments (Nominal \$) **					
Labor	-228	-126	-16	0	0
Non-Labor	-6	-6	-15	-23	-14
NSE	0	0	0	0	0
Total	-234	-131	-31	-23	-14
FTE	-1.7	-1.1	-0.1	0.0	0.0
Recorded-Adjusted (Nomina	I \$)				
Labor	458	312	296	237	224
Non-Labor	362	261	239	359	246
NSE	0	0	0	0	0
Total	820	573	536	596	469
FTE	3.5	2.8	2.5	1.9	1.5
/acation & Sick (Nominal \$)					
Labor	71	50	44	34	35
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	71	50	44	34	35
FTE	0.6	0.5	0.4	0.3	0.3
Escalation to 2013\$					
Labor	50	26	13	5	0
Non-Labor	34	18	9	6	0
NSE	0	0	0	0	0
Total	84	44	23	11	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constar	nt 2013\$)				
Labor	579	388	353	276	259
Non-Labor	397	279	249	366	246
NSE	0	0	0	0	0
Total	976	667	602	642	505
FTE	4.1	3.3	2.9	2.2	1.8

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. CS Technologies, Policies, and Solutions SS

Category-Sub: 1. Planning & Development

Cost Center: 2100-3434.000 - Planning & Development

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs											
Years	2009	2010	2011	2012	2013						
Labor	-228	-126	-16	-0.185	0						
Non-Labor	-6	-6	-15	-23	-14						
NSE	0	0	0	0	0						
Total	-234	-131	-31	-23	-14						
FTE	-1.7	-1.1	-0.1	0.0	0.0						

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	FTE	Adj Type	From CCtr	<u>RefID</u>
2009	-130	-2	0	-0.8 C	CTR Transf	To 2100-3675.000	CSCHRAMM2013 1111145243463
	, ,					cle Manager from	
		•		•	rector to NSS		
2100-3675 i	n work group	100008 to	align cos	ts in whe	re function resi	des.	
2009	-98	-4	0	-0.9 C	CTR Transf	To 2200-2229.000	CSCHRAMM2013
							1111160839487
Transfer labo	or FTE and n	on-labor cos	ts assoc	iated with	· Strategic Proj	ect Manager roles	

fransfer labor FTE and non-labor costs associated with Strategic Project Manager roles from SDG&E USS cost center 2100-3434 Planning & Development Director to SoCalGas USS cost center 2200-2229 Business Strategy and Development to align functions where they reside due to re-organization.

2009 Total	-228	-6	0	-1.7			
center 2100 work group	0-3434 Planni 2RD001 SC	ng & Developi	ment Di	RD&D		To 2200-2059.000 DG&E USS cost oter 2200-2059 in the function resides.	CSCHRAMM2013 1111145422993
2010 Transfer lal	-126	-5	0 sts asso		CCTR Transf	To 2200-2229.000	CSCHRAMM2013 1111160929823
					•	rector to SoCalGas	

Transfer labor FTE and non-labor costs associated with Strategic Project Manager roles from SDG&E USS cost center 2100-3434 Planning & Development Director to SoCalGas USS cost center 2200-2229 Business Strategy and Development to align functions where they reside due to reorganization.

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. CS Technologies, Policies, and Solutions SS

Category-Sub: 1. Planning & Development

Cost Center: 2100-3434.000 - Planning & Development

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type	From CCtr	RefID
2010 Total	-126	-6	0	-1.1			
2011	0	-15	0	0.0	CCTR Transf	To 2200-2059.000	CSCHRAMM2013 1111145520303
Transfer r center 210 work grou Reference	1111145520505						
2011	-12	0	0	-0.1	1-Sided Adj	N/A	CSCHRAMM2013
Exclusion	-Non GRC FE	RC 426.5 - R	eference	internal	order: 406300		1111161325340
2011	-4	0	0	0.0	1-Sided Adj	N/A	CSCHRAMM2013
facility ins	-	Pursuant to Cl			elated to the eva 12-12-037, all C	aluation of CST ST activities must	1111161410207
2011 Total	-16	-15	0	-0.1			
2012	0	-23	0	0.0	CCTR Transf	To 2200-2059.000	CSCHRAMM2013
							1111152435053
center 210 work grou	00-3434 Planni	ng & Develop G CS - Techn	ment Dir	ector to	SCG cost cenn	OG&E USS cost ter 2200-2059 in e function resides.	
2012	-0.185	0	0	0.0	1-Sided Adj	N/A	CSCHRAMM2013
facility ins	•	Pursuant to Cl	, ,		elated to the eva 12-12-037, all C	aluation of CST ST activities must	1111161459873
2012 Total	-0.185	-23	0	0.0			
2013	0	-14	0	0.0	CCTR Transf	To 2200-2059.001	CSCHRAMM2014
shared se	rvice cost cent	er 2100-3434	.000 SoC	CalGas o		e Program from 0-2059.001 in work o align costs where	0212112041200

Note: Totals may include rounding differences.

function resides. Reference internal order: 7025532

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. CS Technologies, Policies, and Solutions SS

Category-Sub: 1. Planning & Development

Cost Center: 2100-3434.000 - Planning & Development

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	<u>RefID</u>	
2013 Total	0	-14	0	0.0				

Beginning of Workpaper 2100-3709.000 - Low Emissions Vehicle Program

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. CS Technologies, Policies, and Solutions SS

Category-Sub 2. Low Emissions Vehicle Program

Cost Center: 2100-3709.000 - Low Emissions Vehicle Program

Activity Description:

The Low Emissions Vehicle Program shared service cost center supports the SDG&E Low Emission Vehicle Program; providing Natural Gas Vehicle (NGV) utility account management, customer information, education, and training services to the general public, operators of NGVs, operators of NGV refueling stations, government agencies, and others throughout the service territories of both SoCalGas and SDG&E.

Forecast Explanations:

Labor - Base YR Rec

A base year forecast method was used because 2013 represents the current activity level and is not expected to change. Furthermore, this workgroup has a small number of FTEs whose work is not cyclical in nature and should remain constant for 2014 through TY 2016. Therefore, the base year provides a reasonable starting point for future expenditures.

Non-Labor - Base YR Rec

See explanation above

NSE - Base YR Rec

N/A

Summary of Results:

		In 2013\$ (000) Incurred Costs										
		Adjusted-Recorded Adjusted-Forecast										
Years	2009	2010	2011	2012	2013	2014	2015	2016				
Labor	114	8	76	80	84	84	84	84				
Non-Labor	23	1	9	10	11	14	14	14				
NSE	0	0	0	0	0	0	0	0				
Total	137	9	85	90	95	98	98	98				
FTE	0.8	0.0	1.0	1.0	1.1	1.1	1.1	1.1				

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. CS Technologies, Policies, and Solutions SS

Category-Sub: 2. Low Emissions Vehicle Program

Cost Center: 2100-3709.000 - Low Emissions Vehicle Program

Cost Center Allocations (Incurred Costs):

Directly Retained
Directly Allocated
Subj. To % Alloc.
Total Incurred
% Allocation
Retained
SEU
CORP
Unreq

	2013 Adju	sted-Reco	rded		2014 Adjusted-Forecast						
Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE		
0	0	0	0	0.00	0	0	0	0	0.00		
0	0	0	0	0.00	0	0	0	0	0.00		
84	11	0	95	1.05	84	14	0	98	1.05		
84	11	0	95	1.05	84	14	0	98	1.05		
84.30%	84.30%				88.61%	88.61%					
15.70%	15.70%				11.39%	11.39%					
0.00%	0.00%				0.00%	0.00%					
0.00%	0.00%				0.00%	0.00%			·		

Directly Retained
Directly Allocated
Subj. To % Alloc.
Total Incurred
% Allocation
Retained
SEU
CORP
Unreg

	2015 Adju	sted-Fore	cast		2016 Adjusted-Forecast					
Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE	
0	0	0	0	0.00	0	0	0	0	0.00	
0	0	0	0	0.00	0	0	0	0	0.00	
84	14	0	98	1.05	84	14	0	98	1.05	
84	14	0	98	1.05	84	14	0	98	1.05	
88.61%	88.61%				88.61%	88.61%				
11.39%	11.39%				11.39%	11.39%				
0.00%	0.00%				0.00%	0.00%				
0.00%	0.00%				0.00%	0.00%				

CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Area:

Category: B. CS Technologies, Policies, and Solutions SS

Category-Sub: 2. Low Emissions Vehicle Program

Cost Center: 2100-3709.000 - Low Emissions Vehicle Program

Cost Center Allocation Percentage Drivers/Methodology:

Cost Center Allocation Percentage for 2013

This cost center includes all costs associated with the NGV Program at SoCalGas and SDG&E, which provides customer information, education and training to operators of NGVs and NGV refueling stations.

The shared service allocation is based on NGV meters counts. 6 Mtrs SCG 28 Mtrs SDG&E

Cost Center Allocation Percentage for 2014

This cost center includes all costs associated with the NGV Program at SoCalGas and SDG&E,which provides customer information, education and training to operators of NGVs and NGV refueling stations. The shared service allocation is based on NGV meters counts. 5 Mtrs SCG 32 Mtrs SDG&E

Cost Center Allocation Percentage for 2015

This cost center includes all costs associated with the NGV Program at SoCalGas and SDG&E, which provides customer information, education and training to operators of NGVs and NGV refueling stations. The shared service allocation is based on NGV meters counts. 5 Mtrs SCG 32 Mtrs SDG&E

Cost Center Allocation Percentage for 2016

This cost center includes all costs associated with the NGV Program at SoCalGas and SDG&E, which provides customer information, education and training to operators of NGVs and NGV refueling stations. The shared service allocation is based on NGV meters counts. 5 Mtrs SCG 32 Mtrs SDG&E

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. CS Technologies, Policies, and Solutions SS

Category-Sub: 2. Low Emissions Vehicle Program

Cost Center: 2100-3709.000 - Low Emissions Vehicle Program

Forecast Summary:

	In 2013 \$(000) Incurred Costs									
Forecast Method Base Forecast					Forecast Adjustments Adjusted-Forecast				ast	
Years	s	2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Base YR Rec	84	84	84	0	0	0	84	84	84
Non-Labor	Base YR Rec	11	11	11	3	3	3	14	14	14
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Tota	ıl	95	95	95	3	3	3	98	98	98
FTE	Base YR Rec	1.1	1.1	1.1	0.0	0.0	0.0	1.1	1.1	1.1

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE	Adj Type
2014	0	3	0	3	0.0	1-Sided Adj

Increase in reimbursable expenses due to increased travel.

2014 Total	0	3	0	3	0.0	
2015	0	3	0	3	0.0	1-Sided Adj
Increase in rei	imbursable exp	enses due to	increased tr	avel.		
2015 Total	0	3	0	3	0.0	
2016	0	3	0	3	0.0	1-Sided Adj
Increase in rei	imbursable exp	enses due to	increased tr	avel.		
2016 Total	0	3	0	3	0.0	

San Diego Gas & Electric Company 2016 GRC - APP

Shared Services Workpapers

CS - OPERATIONS, INFORMATION & TECHNOLOGIES Area:

Bradley M. Baugh Witness:

B. CS Technologies, Policies, and Solutions SS Category:

2. Low Emissions Vehicle Program Category-Sub:

2100-3709.000 - Low Emissions Vehicle Program Cost Center:

Determination of Adjusted-Recorded (Incurred Costs):

Determination of Aujusteu-r	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	81	0	64	69	73
Non-Labor	20	0	9	10	11
NSE	0	0	0	0	0
Total	102	0	73	79	84
FTE	0.6	0.0	0.8	0.9	0.9
Adjustments (Nominal \$) **					
Labor	8	7	0	0	0
Non-Labor	1	1	0	0	0
NSE	0	0	0	0	0
Total	9	7	0	0	0
FTE	0.1	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal	\$)				
Labor	90	7	64	69	73
Non-Labor	21	1	9	10	11
NSE	0	0	0	0	0
Total	111	7	73	79	84
FTE	0.7	0.0	0.8	0.9	0.9
/acation & Sick (Nominal \$)					
Labor	14	1	9	10	11
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	14	1	9	10	11
FTE	0.1	0.0	0.1	0.1	0.2
Escalation to 2013\$					
Labor	10	1	3	1	0
Non-Labor	2	0	0	0	0
NSE	0	0	0	0 2	0
Total	12	1	3	2	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constan	t 2013\$)				
Labor	114	8	76	80	84
Non-Labor	23	1	9	10	11
NSE	0	0	0	0	0
Total	137	9	85	90	95
FTE	0.8	0.0	0.9	1.0	1.1

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Category: B. CS Technologies, Policies, and Solutions SS

Category-Sub: 2. Low Emissions Vehicle Program

Cost Center: 2100-3709.000 - Low Emissions Vehicle Program

Summary of Adjustments to Recorded:

	In Nominal \$ (000) Incurred Costs								
Years	2009	2009 2010 2011 2012 2013							
Labor	8	7	0	0	0				
Non-Labor	0.716	0.795	0	0	0				
NSE	0	0	0	0	0				
Total	9	7	0	0	0				
FTE	0.1	0.0	0.0	0.0	0.0				

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	RefID
2009	8	0.716	0	0.1 CC	TR Transf	From 2200-0234.000	EPANAMEN2013
							1108195740530

Transfer labor FTE and non-labor costs associated with Account Executive roles from SoCalGas USS cost center 2200-0234 NGV Program to SDG&E USS cost center 2100-3709 to align functions where they reside and will be forecast.

2009 Total	8	0.716	0	0.1		
2010	7	0.795	0	0.0 CCTR Transf	From 2200-0234.000	EPANAMEN2013
						1108195903987
Tueneferleben	CTC and	-	4	: - t	autius valas fuara	

Transfer labor FTE and non-labor costs associated with Account Executive roles from SoCalGas USS cost center 2200-0234 NGV Program to SDG&E USS cost center 2100-3709 to align functions where they reside and will be forecast.

2010 Total	7	0.795	0	0.0
2011 Total	0	0	0	0.0
2012 Total	0	0	0	0.0
2013 Total	0	0	0	0.0

Supplemental Workpapers for Workpaper 2100-3709.000

RESPONSES TO INFORMAL DATA REQUESTS & DEFICIENCIES¹

ORA INFORMAL-SDG&E/SOCALSGAS-DR-05, SDG&E-ORA-DEF-009-TLG, and SDG&E-ORA-DEF-040-TLG

Supporting the Request of Bradley M. Baugh

Customer Service Operations, Information and Technologies

¹ All documents have been updated to reflect the following changes where applicable: Correction to 2012 Non-Labor Adjusted Recorded in workpaper 100011.000 Customer Programs and Projects resulting in a \$151K reduction, and correction to 2016 Forecast in workpaper 100008.000 Residential Services resulting in a \$33K reduction, and Capital WP 00831N - PT14065 corrections to workpaper name and 2015 forecast change resulting in a \$3,143M reduction.

ORA INFORMAL-SDG&E/SOCALSGAS-DR-05

Question 2 Attachment

Supporting the Request of Bradley M. Baugh

Customer Service Operations, Information and Technologies

ORA Informal Data Request ORA INFORMAL-SDG&E/SoCalGas-DR-05 Question 2 Attachments

		1							1.
Witness Name	Bradley M. Bau	gh							
Constant 2013\$ in Thousands									
		Adjı	usted Recorded	d		Forecast			Workpaper Page
	2009	2010	2011	2012	2013	2014	2015	2016	
SDG&E			i						
Exh No:SDG&E-14-WP	i								
OM Total	61,785	55,267	53,826	57,119	58,154	61,060	64,274	67,584	
NSS	60,213	54,147	52,776	56,022	57,178	60,081	63,295	66,605	
100000.000 - Advan	ced Metering Op								
Labor	4,681	5,070	4,870	7,311	7,556	8,480	8,738	8,090	
NLbr	608	514	552	842	579	500	681	681	
NSE	0	0	0	0	0	0	0	0	
100000.000 Total	5,289	5,584	5,422	8,153	8,135	8,980	9,419	8,771	Page 6 of 209
	!i								
100001.000 - Meter									
Labor	9,050	6,907	4,162	(1)	0	0	0	0	
NLbr	626	150	89	0	0	0	0	0	
NSE	0	0	0	0	0	0	0	0	
100001,000 Total	9,676	7,057	4,251	(1)	0	0	0	0	Page 21 of 209
100002.000 - Billing									
Labor	4,321	4,237	4,037	4,687	4,768	4,828	5,032	5,508	
NLbr	231	374	328	316	305	308	316	331	
NSE	0	0	0	0	0	0	0	0	
100002,000 Total	4,552	4,611	4,365	5,003	5,073	5,136	5,348	5.839	Page 27 of 209
200000000000000000000000000000000000000			-,				-7	.,	
100003.000 - Credit	& Collections					-			-
Labor	2,025	2,066	2,086	2,123	2,227	2,116	2,094	2,256	
	<u> </u>	516	537	447	480	538	564	591	
NLbr	553			0	0	0	0	0	
NSE	0	0	0						D 20 -f 200
100003.000 Total	2,578	2,582	2,623	2,570	2,707	2,654	2,658	2,847	Page 39 of 209
100004.000 - Remitt	r T								
Labor	0	0	0	0	0	0	0	0	
NLbr	1,025	877	886	815	887	882	876	865	
NSE	0	0	0	0	0	3	7	10	
100004.000 Total	1,025	877	886	815	887	885	883	875	Page 52 of 209
100004.001 - Postag	e				<u> </u>				
Labor	0	0	0	0	0	0	0	0	
NLbr	(1)	(1)	0	0	0	0	0	0	
NSE	5,059	5,008	4,979	4,597	4,431	4,624	4,519	4,333	
100004.001 Total	5,058	5,007	4,979	4,597	4,431	4,624	4,519	•	Page 64 of 209
100004.001 0.01	3,050	3,507		,,==.	,,,,,,		,,===	.,	
100005,000 - Branch	Offices								
		1 402	1 /50	1,409	1,503	1,300	1,218	1,218	
Labor	1,430	1,402	1,458	485	516	516	516	516	
NLbr	526	470	520	463	210		i		
NSE						0	0	1 724	D 70 - £200
100005.000 Total	1,956	1,872	1,978	1,894	2,019	1,816	1,734	1,/34	Page 79 of 209
100006.000 - CCC O									
Labor	9,271	8,941	8,590	8,551	8,804	8,348	7,957	8,429	
NLbr	94	322	236	357	384	384	384	384	
NSE	0	0	0	0	0	0	0	0	
100006.000 Total	9,365	9,263	8,826	8,908	9,188	8,732	8,341	8,813	Page 89 of 209
100007.000 - CCC St	ipport								
Labor	1,299	1,153	1,301	1,404	1,312	1,313	1,313	1,313	
NLbr	993	1,251	1,088	903	1,010	1,060	1,224	1,082	
NSE	0	0	0	0	0	0	0	0	
100007.000 Total	2,292	2,404	2,389	2,307	2,322	2,373	2,537		Page 105 of 209
	. 4,434 !	2,404		2,307		2,010	~,557	2,000	

ORA Informal Data Request ORA INFORMAL-SDG&E/SoCalGas-DR-05 Question 2 Attachments

Vitness Name	Bradley M. Bau	gh							
Constant 2013\$ in Thousands									
			j djusted Recorde	.d			Forecast		Workpaper Page
	2009	2010		2012	2013	2014	2015	2016	
100008.000 - Reside			2011		2020	2011	2013	2010	
Labor	1,688	1,421	1,832	2,471	2,579	2,578	2,578	2,903	
NLbr	1,769	1,421	1,616	1,634	2,998	2,560	2,685	3,703	
NSE	0	0	0	0	0	0	0	0,100	
100008.000 Total	3,457	2,842	3,448	4,105	5,577	5,138	5,263		Page 124 of 209
20000000000000	5,13.	2,012	3,1.0	1,203	5,577	5,150	3,203	0,007	1 4 6 12 1 0 1 2 0 3
100009.000 - C&I Se	ervices			-		1			
Labor	4,599	4,563	4,311	4,447	4,418	4,645	4,642	4,827	
NLbr	665	579	894	958	887	887	887	962	
NSE	i					0	0	0	
100009.000 Total	5,264	5,142	5,205	5,405	5,305	5,532	5,529	5,789	Page 136 of 209
	<u> </u>	101							
100010.000 - Comm			2.046	2 404	2 204	2.000	2.700	2.022	
Labor	1,839	1,468	2,046	2,481	2,204	2,668	2,768	3,023	
NLbr	4,737	3,195	3,688	5,764	5,736	7,952	10,397	11,265	
NSE 100010 000 Tabel	0	0	0 F 724	0.045	7,040	10.630	12.165	14 200	Dage 140 -£ 202
100010,000 Total	6,576	4,663	5,734	8,245	7,940	10,620	13,165	14,288	Page 142 of 209
100011,000 - Custo	mer Programs &	Projects							
Labor	905	943	976	1,453	1,419	1,418	1,721	1,920	
NLbr	1,391	852	808	973	1,304	1,303	1,303	1,518	
NSE	0	032	0	0	0	0	5	5	
100011.000 Total	2,296	1,795	1,784	2,425	2,723	2,721	3,029		Page 156 of 209
100011.000 (000)	2,230	1,755	2,704	2,423	2,723	2,721	3,023	3,443	1 age 150 01 205
100012.000 - Other	Office								
Labor	517	400	423	437	588	587	587	587	
NLbr	312	48	463	1,006	283	283	283	283	
NSE	0	0	0	0	0	0	0	0	
100012.000 Total	829	448	886	1,443	871	870	870		Page 116 of 209
2000221000 10141		,,,,		2,110			0.0	5,5	1 080 220 0, 200
USS	1,572	1,120	1,050	1,097	976	979	979	979	
2100-0006.000 - Cus									
Labor	108	105	111	109	113	113	113	113	
NLbr	3	1	8	8	8	8	8	8	
NSE	0	0	0			0	0	0	
2100-0006.000 Total	111	106	119	117	121	121	121	121	Page 169 of 209
2100-3434.000 - Plar	ning & Developr	nent							
Labor	580	388	353	276	259	259	259	259	
NLbr	398	279	248	366	246	246	246	246	
NSE	0	0	0	0	0	0	0	0	
2100-3434.000 Total	978	667	601	642	505	505	505	505	Page 191 of 209
2100-3461.000 - Bus									ļ
Labor	220	212	115	112	122	122	122	122	
NLbr	1	1	2	2	3	3	3	3	
NSE						0	0	0	
2100-3461.000 Total	221	213	117	114	125	125	125	125	Page 176 of 209
		1							
2100-3511.000 - CCC									-
Labor	122	123	124	123	125	125	125	125	
NLbr	3	2	4	11	5	5	5	5	
NSE						0	0	0	D 402 425
2100-3511.000 Total	125	125	128	134	130	130	130	130	Page 183 of 209
2400 2700 000 1	. Fusiasiana V : 1:3:	la December							
2100-3709.000 - Low		-	70				0.4	64	
Labor	23	8	76 9	80	84	84	84	84	
			. 91	10	11	14	14	14	I
NLbr NSE	0	0				0	0	0	

ORA INFORMAL DATA REQUEST ORA INFORMAL-SDG&E/SOCALGAS-DR-05 SDG&E/SOCALGAS 2016 GRC – A.14-11-XXX SDG&E/SOCALGAS RESPONSE DATE RECEIVED: AUGUST 15, 2014 DATE RESPONDED: AUGUST 20, 2014

SDG&E

Question 3
Copies of IT Capital Workpapers
Supporting the Request of Bradley M. Baugh

(CUSTOMER SERVICE OPERATIONS, INFORMATION, and TECHNOLOGIES)

Provided to ORA witness Tamera Godfrey

Application of SAN DIEGO GAS & ELECTRIC)
COMPANY for authority to update its gas and)
electric revenue requirement and base rates)
effective January 1, 2016 (U 902-M))
	_,
•	
Application No. 14-11	
Exhibit No.: (SDG&E-19-CWP)	

CAPITAL WORKPAPERS TO PREPARED DIRECT TESTIMONY OF STEPHEN J. MIKOVITS ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

NOVEMBER 2014



San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Overall Summary For Exhibit No. SDG&E-19-CWP

Area: INFORMATION TECHNOLOGY
Witness: Stephen J. Mikovits

A. CS - Field & SCG Mtr Reading

B. CS - Operations, Information, and Technologies

C. Electric Distribution

D. Facilities

E. Gas Distribution

F. Procurement

G. Information Technology

In 2013 \$ (000)							
Adjusted-Forecast							
2014	2015	2016					
121	0	. 0					
26,743	26,317	15,579					
15,029	5,954	2,372					
0	112	1,288					
0	1,160	0					
2,658	2,438	986					
49,723	26,103	15,163					
94,274	62,084	35,388					

Total

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 1 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Category:

B. CS - Operations, Information, and Technologies

Workpaper:

VARIOUS

Summary for Category: B. CS - Operations, Information, and Technologies

	Adjusted-Recorded		Adjusted-Forecast	
	2013	2014	2015	2016
Labor	0	7,308	9,674	4,938
Non-Labor	0	19,435	16,643	10,641
NSE	0	0	0	
Total	o	26,743	26,317	15,579
FTE	0.0	, 71.5	95.7	48.6
				70.0
00831B PT15009 EBF	P Tech Refresh			
Labor	0	0	272	1,140
Non-Labor	0	0	1,808	2,751
NSE	0	0	0	. 0
Total	0	0	2,080	3,891
FTE	0.0	0.0	2.7	11.2
	nch Office Technical and Sec	urity improvements		
Labor	0	0	0	0
Non-Labor	0	0	824	0
NSE	0	0	0	. 0
Total			824	
FTE	0.0	0.0	0.0	0.0
00833D PT15012 I-Ave	enue Replacement			0.0
Labor	0	0	1,093	90
Non-Labor	0	0	1,855	155
NSE	0	0	0	0
Total	0	0	2,948	245
FTE	0.0	0.0	10.7	0.9
00831A PT15007 SDG	E.com Redesign		,-,,	0.5
Labor	0	0	286	0
Non-Labor	0	0	0	0
NSE	0	0	0	0
Tota!	0	0	286	
FTE	0.0	0.0	2.8	0.0
00831J PT14015 C&I E	Business Portal		2.0	0.0
Labor	0	0	0	1,476
Non-Labor	0	0	0	5,871
NSE	0	0	0	0,571
Total	<u>-</u>	0		7,347
FTE	0.0	0.0	0.0	7,347 14.5
		5.5	0.0	17.5

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 8 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Category:

B. CS - Operations, Information, and Technologies

Workpaper:

VARIOUS

		In 2013	\$ (000)	
	Adjusted-Recorded		Adjusted-Forecast	
	2013	2014	2015	2016
00831L PT14023 IVR				
Labor	0	395	0	. 0
Non-Labor	0	156	0	0
NSE	0	0	0	0
Total	0	551	0	
FTE	0.0	3.9	0.0	0.0
	G My Account Accessibility Ph	nase 3		
Labor	0	7	0	0
Non-Labor	0	106	0	0
NSE	0	0	0	0
Total	0	113	0	0
FTE	0.0	0.1	0.0	0.0
	&E My Account Accessibility			
Labor	0	859	329	0
Non-Labor	0	3,845	1,258	0
NSE	0	0	0	0
Total	0	4,704	1,587	0
FTE	0.0	8.4	3.2	0.0
03849C PT15800 Bill I	Re-Design 2015			
Labor	0	0	1,449	1,094
Non-Labor	0	0	480	300
NSE	0	0	0	0
Total	0	0	1,929	1,394
FTE	0.0	0.0	14.2	10.7
00831M PT14040 Dire	ct Access Service Request (D	ASR) Upgrade		
Labor	0	0	239	0
Non-Labor	0	0	134	0
NSE	0	0	0	0
Total	0	0	373	0
FTE	0.0	0.0	2.3	0.0
	- Community Choice Aggrega	ation		
Labor	0	0	2,950	0
Non-Labor	0	0	. 0	0
NSE	0	0	0	0
Total		0	2,950	
FTE	0.0	0.0	29,9	0.0
03849A PT14039 CEN	Phase 4 - System Enhanceme	ents		
Labor	0	0	291	291
Non-Labor	0	0	164	164
NSE	0	0	0	0
Total	0	0	455	455
FTE	0.0	0.0	2.9	2.9
: Totals may include rou	nding differences.			20

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 9 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Category:

B. CS - Operations, Information, and Technologies

Workpaper:

VARIOUS

<u> </u>	Adjusted Beauted	ln 2013\$ (0		
	Adjusted-Recorded 2013	2011	Adjusted-Forecast	
03851D PT13003 GRC Pt		2014	2015	2016
Labor	0	456	0	
Non-Labor	0	45 0 182	0	0
NSE	0		0	0
Total		0	0	0
FTE	0	638	0	0
	0.0 Peak Pricing Default (CPP	4.5	0.0	0.0
Labor	O O			
Non-Labor	-	1,204	1,021	O
NSE	0	4,027	6,424	0
Total		0	0	0
FTE	0	5,231	7,445	0
	0.0	11.8	10.0	0.0
04843A PT14843 Smart N	=			
Labor	0	392	0	0
Non-Labor	0	525	0	0
NSE	0	0	0	0
Total	0	917		
FTE	0.0	3.8	0.0	0.0
10872A PTSPP Smart Pea	ak Pricing			
Labor	0	698	0	0
Non-Labor	0	1,236	0	0
NSE	0	. 0	0	0
Total		1,934	0	
FTE	0.0	6.8	0.0	0.0
3849A PT13026 Reduce	your Use Opt in		0.0	0.0
Labor	0	306	0	0
Non-Labor	0	692	0	0
NSE	0	0	0	0
Total		998		
FTE	0.0	3,0	0.0	-
0831E PT14005 Off But F	Registering (OBR) Enhance		0.0	0.0
Labor	0	0	554	
Non-Labor	0	0		0
NSE	0		0	0
Total		0	0	0
FTE		0	554	0
0833F PT14013 Centraliz	0.0	0.0	5.4	0.0
Labor		ar		
Labor	0	675	1,053	0
Non-Labor	0	1,396	1,954	0
Non-Labor	-		.,	-
NSE	0	0	0	0
	-			

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 10 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Category:

B. CS - Operations, Information, and Technologies

Workpaper:

VARIOUS

	Adjusted Barried	ln 2013\$ (0		
	Adjusted-Recorded		Adjusted-Forecast	· · · · · · · · · · · · · · · · · · ·
00833G PT14017 Sm	2013 art Energy Advisor 2	2014	2015	2016
Labor	0	4.000	•	_
Non-Labor	0	1,026	0	0
NSE	0	1,698	0	0
Total		0	0	0
FTE	0	2,724	0	0
–	0.0 ART METER OPERATION CENT	10.0	0.0	0.0
Labor			_	
Non-Labor	0	102	0	0
NSE	0 .	212	0	0
Total	0	0	0	0
FTE	0	314	0	0
· · · -	0.0	1.0	0.0	0.0
00833U PT13009 Sma				
Labor	0	256	0	0
Non-Labor	0	857	0	0
NSE	0	0	0	0
Totai	0	1,113		
FTE	0.0	2.5	0.0	0.0
03849B PT13012 Net	Energy Metering			
Labor	0	45	0	0
Non-Labor	0	26	0	0 .
NSE	0	0	0	0
Total		71		
FTE	0.0	0.4	0,0	0.0
03851H PT13031 SMC	C EXCEPTION MANAGEMENT	(SMOC-EM)	0.0	0.0
Labor	0	386	51	0
Non-Labor	0	2,416	457	0
NSE	0	2,710	0	0
Total	0	2,802	508	
	V	2,002	508	0
FTE	0.0	3 8	0.5	
–	0.0 TOMER ANALYTICS SYSTEM :	3.8	0.5	0.0
–	TOMER ANALYTICS SYSTEM 2	2013		
00821A PT13010 CUS Labor	TOMER ANALYTICS SYSTEM 2 0	2 013 501	0	0
00821A PT13010 CUS Labor Non-Labor	TOMER ANALYTICS SYSTEM 2 0 0	2 013 501 2,061	0 0	0
00821A PT13010 CUS Labor Non-Labor NSE	TOMER ANALYTICS SYSTEM 2 0 0 0	2013 501 2,061 0	0 0 0	0
00821A PT13010 CUS Labor Non-Labor NSE Total	TOMER ANALYTICS SYSTEM 2 0 0 0 0	501 501 2,061 0 2,562	0 0 0	0 0 0
00821A PT13010 CUS Labor Non-Labor NSE Total FTE	TOMER ANALYTICS SYSTEM 2 0 0 0	501 2,061 0 2,562 4.9	0 0 0	0 0
00821A PT13010 CUS Labor Non-Labor NSE Total FTE 03853B PT14030 Cust	TOMER ANALYTICS SYSTEM 2 0 0 0 0 0 0 0.0 omer Analytics System - Phase	2013 501 2,061 0 2,562 4.9	0 0 0	0 0 0
00821A PT13010 CUS Labor Non-Labor NSE Total FTE 03853B PT14030 Cust	TOMER ANALYTICS SYSTEM 2 0 0 0 0 0 0.0 comer Analytics System - Phase	2013 501 2,061 0 2,562 4.9 9 II	0 0 0	0 0 0
00821A PT13010 CUS Labor Non-Labor NSE Total FTE 03853B PT14030 Cust Labor Non-Labor	TOMER ANALYTICS SYSTEM 2 0 0 0 0 0 0 0 0 0 0 corner Analytics System - Phase 0 0	2013 501 2,061 0 2,562 4.9	0 0 0 0 0.0	0 0 0 0
00821A PT13010 CUS Labor Non-Labor NSE Total FTE 03853B PT14030 Cust Labor Non-Labor NSE	TOMER ANALYTICS SYSTEM 2 0 0 0 0 0 0.0 corner Analytics System - Phase 0 0	2013 501 2,061 0 2,562 4.9 9 II	0 0 0 0 0.0	0 0 0 0 0 0.0
00821A PT13010 CUS Labor Non-Labor NSE Total FTE 03853B PT14030 Cust Labor Non-Labor	TOMER ANALYTICS SYSTEM 2 0 0 0 0 0 0 0 0 0 0 corner Analytics System - Phase 0 0	2013 501 2,061 0 2,562 4.9 e II	0 0 0 0 0.0 86 1,285	0 0 0 0 0.0

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 11 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Category:

B. CS - Operations, Information, and Technologies

Workpaper:

VARIOUS

	In 2013\$ (000)					
	Adjusted-Recorded		Adjusted-Forecast	******		
	2013	2014	2015	2016		
3853C PT16003 Cus	tomer Analytics System - III					
Labor	0	0	0	733		
Non-Labor	0	0	0	175		
NSE	0	0	0	0		
Total	0	0	0	908		
FTE	0.0	0.0	0.0	7.2		

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 12 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 00831B - PT15009 EBPP Tech Refresh

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 13 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

1. Technical Obsolescence

Workpaper Group:

00831B - PT15009 EBPP Tech Refresh

Summary of Results (Constant 2013 \$ in 000s):

Forecast	Forecast Method Adjusted Recorded			Adjusted Forecast					
Year	rs	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0		0		272	1,140
Non-Labor	Zero-Based	0	0	0	0	0	0	1,808	2,751
NSE	Zero-Based	0	0	0	0	0	0	. 0	0
Tota	al	0		0	0	0		2.080	3,891
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	2.7	11.2

Business Purpose:

The purpose of the Electronic Bill Presentment and Payment "EBPP" Tech Refresh project is to replace the existing back-end technology platform for the online electronic bill payment process ("EBPP") available to customers through SDG&E's My Account website. Upgrading the technology now will enable continued support of the site before the vendor for our current technology stops supporting the existing product in 2018. This is the same vendor supporting the customer-facing My Account portal site which is being replaced as part of the SDG&E My Account Accessibility project (project #12051). Updating the platform will improve stability, dependability and cost to support EBPP for customers. This is important because of the increased needs of the SDG&E customer base as demonstrated by EBPP's ability to handle the increased volume of transactions required by the C&I customers being addressed by the CPP-D project.

Physical Description:

The project will provide improved stability and dependability of EBPP as we continue to promote and drive increased adoption of our online services. Oracle Payments provides the many to many relationship functionality that will serve as the foundation for supporting the business needs of our C&I customers. Recurring Payment adoption rates and cash flow improvements will be realized due to an enhanced Recurring Payment process.

Project Justification:

Updating the user interface enhances the customer experience and allows for the implementation of accessibility requirements in accordance with the MOU ("Memorandum of Understanding") with Disabilities Rights Advocates

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 14 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:	INFORMATION TECHNOLOGY
Witness:	Stephen J. Mikovits
Budget Code:	00831.0
Category:	B. CS - Operations, Information, and Technologies
Category-Sub:	1. Technical Obsolescence
Workpaper Group:	00831B - PT15009 EBPP Tech Refresh
Forecast Methodolo	sed
Estimate based of	n internal labor hours quotations
Non-Labor - Zero	
Estimate based o	n vendor quotations
NSE - Zero-Base	d
N/A	

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 15 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 00831B

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 16 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

1. Technical Obsolescence

Workpaper Group:

00831B - PT15009 EBPP Tech Refresh

Workpaper Detail:

00831B.001 - My Account Portal is being replaced as part of the MAAUI project. This project propose

In-Service Date:

12/31/2016

Description:

Forecast In 2013 \$(000)								
	Years	2014	2015	2016				
Labor		0	272	1,140				
Non-Labor		0	1,808	2,751				
NSE		0	0	0				
	Total	0	2,080	3,891				
FTE		0.0	2.7	11.2				

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 17 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 00832A - PT14006 Branch Office Technical and Security Improvements

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 18 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00832.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

1. Technical Obsolescence

Workpaper Group:

00832A - PT14006 Branch Office Technical and Security Improvements

Summary of Results (Constant 2013 \$ in 000s):

Forecast Method Adjusted Recorded			Adjusted Forecast		ast				
Year	's	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0	0			0	
Non-Labor	Zero-Based	0	0	. 0	0	0	0	824	0
NSE	Zero-Based	0	0	0	0	0	0	0	0
Tota	ai	0	0	0	0			824	0
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Business Purpose:

The purpose of the Branch Office Technical and Security Improvements project is to provide for more secure financial transactions, easier cash and payment reconciliation, improved processing/handling and an overall better customer payment experience. The project will seek to improve upon the existing payment handling and processing in the Branch Offices. This project will also identify improvements to help with payment processing and better ways to track and secure cash that is received from the customers, such as Smart Safes. After identifying improved cash security and payment processing solutions, the project will implement the most cost effective and efficient products wherever possible.

Physical Description:

The scope will be centered on purchasing new equipment for the Branch Offices to replace existing outdated equipment and provide new payment options for customer. Also, the focus will be to strengthen the customer experience at the Branch Offices.

Project Justification:

For example, debit card payments are currently not available to customers who wish to pay over the counter in the Branch Offices, cash and change is given out by hand, and the existing Payment Entry Processing system ("PEP") is not efficient and is not entirely compatible with any of the new software programs or project initiatives for the CCC and Branch Offices. As such, this incompatibility has led to the creation of inefficient and more costly workarounds. There are also issues between the PEP system and some of the newer implementations for the SEAd and CAS projects. In addition, this project will address several known technology issues with SDG&E's ExpressPay kiosks. The existing kiosks are outdated from a technology standpoint and are in need of software upgrades and/or retrofitting and need to be replaced with a newer, more efficient technology.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 19 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00832.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

1. Technical Obsolescence

Workpaper Group:

00832A - PT14006 Branch Office Technical and Security Improvements

Forecast Methodology:

Labor - Zero-Based

Full implementation assumes all new equipment is purchased and up and running.

Non-Labor - Zero-Based

Full implementation assumes all new equipment is purchased and up and running.

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 20 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 00832A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 21 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Агеа:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00832.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

1. Technical Obsolescence

Workpaper Group:

00832A - PT14006 Branch Office Technical and Security Improvements

Workpaper Detail:

00832A.001 - The scope will be centered on purchasing new equipment for the Branch Offices to replac

In-Service Date:

12/31/2015

Description:

Forecast in 2013 \$(000)									
	Years	2014	2015	2016					
Labor		0	0	0					
Non-Labor		0	824	. 0					
NSE		0	0	0					
	Total		824						
FTE		0.0	0.0	0.0					

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 22 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 00833D - PT15012 I-Avenue Replacement

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 23 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

1. Technical Obsolescence

Workpaper Group:

00833D - PT15012 I-Avenue Replacement

Summary of Results (Constant 2013 \$ in 000s):

Forecast Method			Adjusted Recorded				Adjusted Forecast		
Year	's	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0		0	0	1,093	. 90
Non-Labor	Zero-Based	0	0	0	0	0	0	1,855	155
NSE	Zero-Based	0	0	0	0	0	0	. 0	0
Tota	al	0	0	0			0	2,948	245
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	10.7	0.9

Business Purpose:

I-Avenue, also known as Saratoga, is a CRM tool used by Commercial and Industrial services. In short, the system manages and tracks the interaction that takes place between SDG&E and its business customers. An upgrade is needed to bring the system up to current technology, and will require additional changes to master data to meet the customer's desire to have a more real-time, holistic view of each customer's usage profile.

Physical Description:

Configure SAP-CRM out the box functionality to support business requirements using standard CRM functionality: appointments, notes, contact lists, calendars, letters and reporting as well as, client specific views. The system will require additional changes to master data to meet the clients desire to have a 360 degree customer view.

Project Justification:

Move approximately 150 I-Avenue (Saratoga) CRM business users to enterprise CRM (SAP) application. The primary groups being effecting are SDG&E C&I Services, Trade Allies, Fire Prevention and Delinquent Phone List business client groups. SCG gas business using I-Avenue will not be part of the project.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits
Page 24 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

1. Technical Obsolescence

Workpaper Group:

00833D - PT15012 I-Avenue Replacement

Forecast Methodology:

Labor - Zero-Based

Estimate based on internal labor hours quotations

Non-Labor - Zero-Based

Estimate based on vendor quotations

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 25 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 00833D

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 26 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

0.0833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

1. Technical Obsolescence

Workpaper Group:

00833D - PT15012 I-Avenue Replacement

Workpaper Detail:

00833D.001 - Move approximately 150 I-Avenue (Saratoga) CRM business users to enterprise CRM (SAP) a

In-Service Date:

06/30/2016

Description:

Forecast In 2013 \$(000)									
	Years	2014	2015	2016					
Labor	-	0	1,093	90					
Non-Labor		0	1,855	155					
NSE		0	0	0					
	Total	<u>_</u>	2,948	245					
FTE		0.0	10.7	0.9					

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 27 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 00831A - PT15007 SDGE.com Redesign

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 28 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group:

00831A - PT15007 SDGE.com Redesign

Summary of Results (Constant 2013 \$ in 000s):

Forecast Method Years			Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016	
Labor	Zero-Based	0	0		0			286	0	
Non-Labor	Zero-Based	0	0	0	0	0	0	0	0	
NSE	Zero-Based	0.	0	0	0	0	0	0	0	
Tota	al	0	0	0	0	0		286		
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	

Business Purpose:

The purpose of the SDGE.com Redesign project is to redesign the SDG&E's website, SDGE.com. The website has become a prominent and essential communications channel to connect with customers. The redesign is needed because of new customer technologies (e.g. mobile, social media) and increase search engine friendliness. The website redesign will incorporate customer usage trend data and above-mentioned technologies to improve self-service. An enhanced navigation and information architecture will help customers find information easier and faster, a consistent experience with My Account, as well as removing out of date information, adding new features and technologies that were not available when the site was last built, and integration of the latest social media interfaces, image and video galleries, and blogging interfaces. Additionally, a redesign will help with compatibility with the latest browsers and accessibility requirements.

Physical Description:

A redesign will include research and testing, information architecture, and design and development. Advanced analytics will also be included as part of the redesign project. A large part of the first phase of development will be information gathering and planning, leading up to the research. Also needed will be testing and a maintenance strategy as part of a digital roadmap.

Project Justification:

Redesign company website, SDGE.com. Our website has become a prominent and essential communications channel to connect with customers. A redesign is needed to stay on top of best practices. The redesign will help us stay up-to-date with new technologies and increase search engine friendliness. The website redesign will utilize new trends and above-mentioned technologies to improve self-service, thus reducing calls and raising customer satisfaction.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 29 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub: Workpaper Group: 2. Improving Customer Experience 00831A - PT15007 SDGE.com Redesign

Labor - Zero-Based	
Estimate based on internal labor hours quotations	 ·
Non-Labor - Zero-Based	
Estimate based on internal labor hours quotations	
NSE - Zero-Based	
N/A	

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 30 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 00831A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 31 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group:

00831A - PT15007 SDGE.com Redesign

Workpaper Detail:

00831A.001 - Redesign company website, SDGE.com. Our website has become a prominent and essential c

In-Service Date:

12/31/2015

Description:

	Forecast In 2013 \$(000)							
	Years	2014	2015	2016				
Labor		0	286	0				
Non-Labor		0	0	0				
NSE	1	0	0	0				
	Total	0	286					
FTE		0.0	2.8	0.0				

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 32 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 00831J - PT14015 C&I Business Portal

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 33 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group:

00831J - PT14015 C&I Business Portal

Summary of Results (Constant 2013 \$ in 000s):

Forecast	Method	Adjusted Recorded				Adjusted Forecast			
Years		2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0		0	0	0	0	1,476
Non-Labor	Zero-Based	0	0	0	0	0	0	0	5,871
NSE	Zero-Based	0	0	0	0	0	0	0	0
Tota	al	0	0	0	0	0	0	0	7,347
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.5

Business Purpose:

The purpose of the C&I Business Portal is to address the specific needs of the large and medium commercial and industrial (C&I) customers. Currently, My Account provides online self-service for Residential and Small Commercial customers, however does not address the specific needs of the medium and large C&I customers. To satisfy the requests from this segment of customers and to enhance the customer experience for those that utilize our existing and future on-line customer tools, a C&I Business Portal will be developed for Medium and Large C&I customers. This portal will be a centralized location that provides the C&I customer roles the ability to utilize tools that support energy analysis from a cost and consumption level, event management, rate eligibility and enrollment, bill payment, benchmarking and energy efficiency. Across those functions additional capabilities will be developed to allow for role based access and complex analysis such as:

- Business level C&l Customer Registration into My Account allowing access to business-level related functions supporting C&l tools
- Aggregation and disaggregation of accounts, for multi-account customers.
- Management of complex (Many-to-Many) relationships between master users and delegated users for selected business functions
- Customer Managed Contact Management at the user level
 - Subscription/Alerts

Physical Description:

Build out a WebPortal within the Oracle's WebCenter CMS to utilize new advance functions, which may include the ability to Design & Layout the entire look and feel of the front-end and backend separate from functionality. Organize and manage the structure of SDG&E website, content or data. Manage (create,modify,delete) user accounts and their information. Define user roles and setup permissions or use predefined ones. The ability to manage and setup user groups and set customer access permissions. Manage regional settings (language, character sets, date & time format, decimal points, etc.) Automatically manage mailing list and subscriptions and unsubscribes. Customizable administrative interfaces (functionality, access and actions restrictions in sections, and designs.)

Project Justification:

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits
Page 34 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub: Workpaper Group: 2. Improving Customer Experience 00831J - PT14015 C&I Business Portal

Currently, My Account provides online self-service for Residential and Small Commercial customers. However, it does not address the specific needs of the Large and Medium Commercial & Industrial (C&I) customers. This concept document addresses the requirement to enhance the customer experience for those that utilize on-line customer tools by developing a C&I WebPortal solution. The Web Portal will connect people, processes and information with a suite of functions: Web Experience management, content management, and collaboration technologies. Leverage existing investments by offering a complete, open and integrated user experience by providing standards-based support to improve the reuse of SDG&E existing resources and extend the value of existing systems. Features like content management will provide the ability for SDG&E to interact with the customer to manage text, pages, documents, images, data records, links, news, articles, topics, posts, products, catalogs, galleries, forms, polls, security, etc. Improve business productivity by providing social and collaborative services to help build the connections between people, information and applications, provides business activity streams so users can navigate, discover and access content in context, and offers dynamic, personalized role-based content in a collaborative environment.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 35 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:	INFORMATION TECHNOLOGY
Witness:	Stephen J. Mikovits
Budget Code:	00831.0
Category:	B. CS - Operations, Information, and Technologies
Category-Sub:	2. Improving Customer Experience
Workpaper Group:	00831J - PT14015 C&I Business Portal
Forecast Methodolo	~
Estimate based of	n internal labor hours quotations
Non-Labor - Zero	
Estimate based o	n vendor quotations
NSE - Zero-Base	d
N/A	

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 36 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 00831J

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 37 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group:

00831J - PT14015 C&I Business Portal

Workpaper Detail:

00831J.001 - Build out a WebPortal within the Oracle's WebCenter CMS to utilize new advance functio

In-Service Date:

12/31/2016

Description:

Forecast In 2013 \$(000)							
	Years	2014	2015	2016			
Labor	j	0	0	240			
Non-Labor		0	0	757			
NSE		0	0	0			
	Total		0	997			
FTE		0.0	0.0	2.4			

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 38 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Агеа:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

12/31/2016

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group: Workpaper Detail: 00831J - PT14015 C&i Business Portal 00831J.002 - C&i Business Portal

In-Service Date:

Description:

Forecast In 2013 \$(000)								
	Years	2014	2015	2016				
Labor		0	0	160				
Non-Labor		0	0	1,135				
NSE		0	0	0				
	Total	0	0	1,295				
FTE		0.0	0.0	1.6				

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 39 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group: Workpaper Detail: 00831J - PT14015 C&l Business Portal 00831J.003 - C&l Business Portal

In-Service Date:

12/31/2016

Description:

	Forecast in 2013 \$(000)								
	Years	2014	2015	2016					
Labor		0	0	646					
Non-Labor		0	0	1,592					
NSE		0	0	0					
	Total	0	0	2,238					
FTE		0.0	0.0	6.3					

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 40 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience 00831J - PT14015 C&I Business Portal

Workpaper Group: Workpaper Detail:

00831J.004 - C&I Business Portal

In-Service Date:

12/31/2016

Description:

		Forecast in 2013	3 \$(000)	-
	Years	2014	2015	2016
Labor		0	0	430
Non-Labor		0	0	2,387
NSE	1	0	0	0
	Total	0	0	2,817
FTE		0.0	0.0	4.2

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 41 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 00831L - PT14023 IVR Phase 4 SDGE

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 42 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group:

00831L - PT14023 IVR Phase 4 SDGE

Summary of Results (Constant 2013 \$ in 000s):

Forecast Method Years		Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0		0	0	0	395	0	
Non-Labor	Zero-Based	0	0	0	0	o l	156	0	0
NSE	Zero-Based	0	0	0	0	0	0	0	0
Tota	al	0		0	0		551	. 0	
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0

Business Purpose:

The SDG&E IVR manages incoming customer calls to the CCC. The application guides the customer through menus, which either provide functions for the customer to self-serve (e.g. extend the due date on their bill; arrange for a gas appliance service order) or collects information about the caller to route the call to the properly skilled agent. The IVR 2014 project will shorten the call flow from the IVR entry to main menu and sub-menu; eliminate unnecessary caller authentication; minimize steps to complete a gas appliance service order; revise prompt verbiage for improved clarity and succinctness; and add self-service opportunities to start/stop service. The enhancements are intended to improve the experience for the caller and entice callers to use self-service. The benefits of this project are to increase IVR self-service and to reduce calls to the ESS and ESS workforce.

Physical Description:

Main and secondary menu changes; add a 'payment options' menu, identify callers at point of need; change gas appliance and shut-off call flows to increase self service

Move profile lookup call (IV02) into the IVR (from the Genesys strategy)

Implement Payment Arrangements web service (built for My Account)

Create an entry point in the Payment Arrangements leg of the application, to allow the CCC to transfer callers into the IVR to complete bill payment extension

Add IVR modules to improve call routing

Add NAICS code to the IV02 profile

Project Justification:

These changes will improve the overall IVR self service rate by 2.5 – 3%. In addition to increasing the self service rate, changes to the application will also result in better customer experience.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 43 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub: Workpaper Group: 2. Improving Customer Experience 00831L - PT14023 IVR Phase 4 SDGE

Forecast Methodology:

Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

Non-Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits
Page 44 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 00831L

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 45 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience 00831L - PT14023 IVR Phase 4 SDGE

Workpaper Group: Workpaper Detail:

00831L.001 - SDG&E IVR system has been proven working however the results were modest. The IVR self-

In-Service Date:

12/31/2014

Description:

Forecast In 2013 \$(000)								
	Years	2014	2015	2016				
Labor		395	0	0				
Non-Labor		156	0	0				
NSE		0	0	0				
	Total	551	0					
FTE		3.9	0,0	0.0				

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 46 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 00831O - PT11013 SCG My Account Accessibility Phase 3

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 47 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group:

00831O - PT11013 SCG My Account Accessibility Phase 3

Summary of Results (Constant 2013 \$ in 000s):

Forecast	Method		Adjusted Recorded				Adjusted Forecast		
Year	rs	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0			7		
Non-Labor	Zero-Based	0	0	0	0	0	106	0	0
NSE	Zero-Based	0	0	0	0	0	0	0	0
Tota	ai	0	0		0	 0	113		
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

Business Purpose:

The purpose of the MAAUI Phase 3 (PDF Bill remediation) project is to complete the update to My Account and comply with TY 2011 GRC Memorandum of Understanding with the Center for Accessible Technology (C for AT). SoCalGas has long supported website usability and accessibility and has been making steady progress meeting its commitments to website accessibility as outlined in its Section 4.A.2.d of the MOU which states: ".... the third party vendor software used for My Account will be rewritten to utilize accessible web pages that are compliant with Priorities A and AA and produce PDF documents that will be in an accessible format that would allow for a reader to review them using a screen reader". In July of 2013 the My Account system rewrite was completed and Priority AA compliance was confirmed by the C for AT. SoCalGas continues to modify the 25 months of billing history stored as PDF documents and available online to every My Account user in order to be remain compliant with the MOU. More specifically, key requirements for the MAAUI Phase 3 project includes providing an alternative bill format that is readable with "screen readers" and font enlargement software and to provide accessible linkage to the new alternative bill format. SoCalGas' web and My Account teams have collaborated closely with the C for AT and other internal or external website accessibility resources in order to assure that all our customers with special needs can utilize every feature of socalgas.com and My Account. This project will provide Priority AA accessibility compliance to every feature and function in My Account

Physical Description:

Redesign of the web user interface for the My Account applications (no technical upgrades/changes)

Project Justification:

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits
Page 48 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group:

008310 - PT11013 SCG My Account Accessibility Phase 3

The purpose of the MAAUI Phase 3 (PDF Bill remediation) project is to complete the update to My Account and comply with TY 2011 GRC Memorandum of Understanding with the Center for Accessible Technology (C for AT). SoCalGas has long supported website usability and accessibility and has been making steady progress meeting its commitments to website accessibility as outlined in its Section 4.A.2.d of the MOU which states: ".... the third party vendor software used for My Account will be rewritten to utilize accessible web pages that are compliant with Priorities A and AA and produce PDF documents that will be in an accessible format that would allow for a reader to review them using a screen reader". In July of 2013 the My Account system rewrite was completed and Priority AA compliance was confirmed by the C for AT. SoCalGas continues to modify the 25 months of billing history stored as PDF documents and available online to every My Account user in order to be remain compliant with the MOU. More specifically, key requirements for the MAAUI Phase 3 project includes providing an alternative bill format that is readable with "screen readers" and font enlargement software and to provide accessible linkage to the new alternative bill format. SoCalGas' web and My Account teams have collaborated closely with the C for AT and other internal or external website accessibility resources in order to assure that all our customers with special needs can utilize every feature of socalgas.com and My Account. This project will provide Priority AA accessibility compliance to every feature and function in My Account

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 49 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group:

008310 - PT11013 SCG My Account Accessibility Phase 3

Forecast Methodology:

Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

Non-Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 50 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 008310

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 51 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group:

00831O - PT11013 SCG My Account Accessibility Phase 3

Workpaper Detail:

00831O.001 - SCG My Account Accessibility

In-Service Date:

03/31/2014

Description:

Forecast In 2013 \$(000)							
	Years	2014	2015	2016			
Labor		7	0	0			
Non-Labor		106	0	0			
NSE	ĺ	0	0	0			
	Total	113	0	0			
FTE		0.1	0.0	0.0			

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 52 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 00831P - PT12051 SDG&E My Account Accessibility

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 53 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group: . 00831P - PT12051 SDG&E My Account Accessibility

Summary of Results (Constant 2013 \$ in 000s):

Forecast	Method		Adjusted Recorded			Adjı	sted Forec	ast	
Year	s	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0	0	0	859	329	0
Non-Labor	Zero-Based	0	0	0	0	0	3.845	1,258	0
NSE	Zero-Based	0	0	0	0	a	0	0	n
Tota	ai	0			0		4,704	1,587	
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	8.4	3.2	0.0

Business Purpose:

The purpose of the SDG&E My Account Accessibility is to update the customer-facing My Account portal site to comply with TY 2008 GRC Memorandum of Understanding ("MOU") with the Disability Rights Advocates while improving usability and upgrading the portal technology platform. The My Account portal site provides customers with convenient access to online service options. Updating the user interface will enhance customer experience through improved visual layout, additional personalization, and newer technology. The new technology will allow for the implementation Priority A and Priority AA Web Content Accessibility Guidelines 2.0 and requirements per section §4.3 of the 2008 MOU in order to ensure all our customers, including those with special needs, can utilize every My Account feature. Pages will be easier to read and customers who sign up can view their SDG&E bill, schedule online payments, manage service requests, view energy charts, and use analysis tools. New personalization will present at-a-glance balance and bill payment information, and an improved tailored account summary. The implementation of responsive design will create a seamless web experience with the same look-and-feel across mobile devices and other company sites, such as sdge.com. Supporting computer-alternative devices, such as mobile smartphones and tablets, will provide greater access to My Account for customers who may have barriers to technology. Upgrading the portal technology platform now will enable continued support of the site before the vendor for our current WebLogic technology stops supporting the existing product in 2018.

Physical Description:

Redesigned User Interface (My Account "look & feel") with Responsive Design Usability improvements to promote self-service containment (where possible)

100% Accessibility Compliance including Accessible PDF Bill

Content Management & Tailored Treatments with utilization of portal features

Technology Refresh & Portal Migration to WebCenter Platform (HW & SW)

My Account site optimization including technical improvements & maintenance efficiencies

CSR Module - maintain consistency between module and My Account

Project Justification:

Compliance with §4.3 of the 2008 GRC Memorandum of Understanding (MOU) with the Disability Rights Advocates. The MOU was signed June of 2007 and agreed to be completed in 'a reasonable time.' The project needs to move forward in order to show progress on this agreement, show we intend to uphold our commitments and maintain credibility in negotiation with Interveners. Proof of progress will prevent legal action to force compliance and avoid potential lawsuits such as those experienced by Target & Amazon. (In 2008, Target settled a lawsuit agreeing to pay \$6 million to the National Federation of the Blind.)

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 54 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group:

00831P - PT12051 SDG&E My Account Accessibility

Forecast Methodology:

Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

Non-Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 55 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 00831P

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 56 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group: Workpaper Detail:

00831P - PT12051 SDG&E My Account Accessibility

00831P.001 - SDG&E My Account Accessibility

In-Service Date:

12/31/2014

Description:

Forecast in 2013 \$(000)							
	Years	2014	2015	2016			
.abor	ĺ	859	0	0			
Non-Labor	1	3,845	0	0			
NSE		0	0	0			
	Total	4,704	0	0			
-TE		8.4	0.0	0.0			

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 57 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group:

00831P - PT12051 SDG&E My Account Accessibility

Workpaper Detail:

00831P.004 - SDG&E My Account Accessibility

In-Service Date:

05/31/2015

Description:

Forecast In 2013 \$(000)								
	Years	2014	2015	2016				
Labor	1	0	329	0				
Non-Labor		0	1,258	0				
NSE		0	0	0				
	Total	0	1,587	0				
FTE		0.0	3.2	0.0				

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 58 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 03849C - PT15800 Bill Re-Design 2015

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 59 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03849.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group:

03849C - PT15800 Bill Re-Design 2015

Summary of Results (Constant 2013 \$ in 000s):

Forecast	Method		Adjusted Recorded				Adjusted Forecast		
Year	's	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0		0	0		0	1,449	1,094
Non-Labor	Zero-Based	0	0	0	0	0	0	480	300
NSE	Zero-Based	O	0	0	0	0	n	0	000
Tota	al	0		0	0		·	1,929	1,394
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	14.2	10.7

Business Purpose:

The purpose of the Bill Redesign project is to improve SDG&E's customer bill to address changes in the electric utility industry. The existing customer bill was designed in 2008 and implemented in 2010. As the electric industry is changing, our existing bill format lacks the flexibility to meet the expectations or the future needs of our customers. This project will leverage the existing formatting software to redesign our bill, and to enhance the bill presentation and graphics. Customer generation is expanding dramatically and new technologies are constantly providing new options for our customers. Smart Meter data allows us to provide more specific and targeted information that ever before.

Physical Description:

Rate reform, SPP and Demand Response programs will require us to provide timely, valuable and easy to read power usage information, alternative rate options and other important information to our customers to help them to make informed decisions in support of energy use, cost and conservation. While these tools are available now to customers online, over half our customers still receive a paper bill. The objective of this project is to target those customers and provide a paper bill that is easier to understand, incorporates more graphic information and provides a large font option.

Project Justification:

SDG&E also plans to offer customers currently receiving a paper bill the option of a one sheet/two page summary bill in lieu of the current full bill detail.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 60 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03849.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience

Workpaper Group:

03849C - PT15800 Bill Re-Design 2015

Forecast Methodology:

Labor - Zero-Based

Based on historical and vendor estimates

Non-Labor - Zero-Based

Based on historical and vendor estimates

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 61 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 03849C

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 62 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03849.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

2. Improving Customer Experience 03849C - PT15800 Bill Re-Design 2015

Workpaper Group: Workpaper Detail:

03849C.001 - Bill Re-Design 2015

In-Service Date:

12/31/2016

Description:

Forecast in 2013 \$(000)							
	Years	2014	2015	2016			
Labor		. 0	1,449	1,094			
Non-Labor	ĺ	0	480	300			
NSE		0	0	0			
	Total	0	1,929	1,394			
FTE	ļ	0.0	14.2	10.7			

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 63 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 00831M - PT14040 Direct Access Service Request (DASR) Upgrade

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 64 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

Mandated

Workpaper Group:

00831M - PT14040 Direct Access Service Request (DASR) Upgrade

Summary of Results (Constant 2013 \$ in 000s):

Forecast	Method	Adjusted Recorded				Adjusted Forecast			
Year	'S	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0	0			239	
Non-Labor	Zero-Based	0	0	0	0	0	0	134	0
NSE	Zero-Based	0	0	0	0	0	0	0	0
Tota	al	0		0	0			373	
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0

Business Purpose:

The Direct Access Service Request ("DASR") System is a data management system used by SDG&E to exchange electronic and manual data input and output files with the Electronic Data Interchange (EDIX) System, CISCO, and other data management systems. The DASR system allows for the enrollment, termination, and customer account management associated with customers receiving electric or gas commodity services from an Electric Service Provider under the Direct Access ("DA") Program (electric), an Aggregator under the Core Aggregation Transportation Program (gas), or a Community Choice Aggregation Program (electric), collectively known as Energy Service Providers (ESPs). The DASR system upgrade will automate the DASR and related system processes (EDI, Service Order, and Load Migration), streamline processes across multiple applications to reduce existing time-lag, automate all DASR service orders, minimize the necessity for manual processing and verification of DASRs, ensure the accuracy of all DA billing, reduce the cancel and re-bill of customer billing due to data errors, and automate the Load Migration Reporting to the CAISO. These functional and technical enhancements are required to support the current DA business and are foundational to CCA. The current system has reached the end of its useful life and is to be reconfigured or replaced.

Physical Description:

The current system has reached the end of its useful life and is to be reconfigured or replaced. The new or reconfigured DASR System must have the functional capabilities required to support efficient, accurate, and timely processing of service requests and other electronic data exchanges between SDG&E and LSEs, inlouding Community Choice Aggregators, and their agents.

Project Justification:

The new or reconfigured DASR System must have the functional capabilities required to support efficient, accurate, and timely processing of service requests and other electronic data exchanges between SDG&E and Load Serving Entities (LSE), including CCAs, and their agents. While the system changes required for CCA are being proposed under a separate project, implementing these DASR enhancements will mitigate the company's risk of not being fully prepared to develop and deploy the CCA-specific enhancements under regulatory timing constraints.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 65 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

00831M - PT14040 Direct Access Service Request (DASR) Upgrade

Forecast Methodology:

Labor - Zero-Based	
Estimate based on vendor quotations	
Non-Labor - Zero-Based	
Estimate based on vendor quotations	
NSE - Zero-Based	
N/A	

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 66 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 00831M

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 67 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

00831M - PT14040 Direct Access Service Request (DASR) Upgrade

Workpaper Detail:

00831M.001 - The current system has reached the end of its useful life and is to be reconfigured or

In-Service Date:

12/31/2015

Description:

Forecast In 2013 \$(000)							
	Years	2014	2015	2016			
Labor	i	0	239	0			
Non-Labor		0	134	0			
NSE	ļ	0	0	0			
	Total	0	373	0			
FTE		0.0	2,3	0.0			

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 68 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 00831N - PT14065 CCA - Community Choice Aggregation

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 69 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

00831N - PT14065 CCA - Community Choice Aggregation

Summary of Results (Constant 2013 \$ in 000s):

Forecast	Method		Adjusted Recorded				Adjusted Forecast		
Year	rs	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0				2,950	
Non-Labor	Zero-Based	0	0	0	0	0	0	0	0
NSE	Zero-Based	0	0	0	0	o	0	0	0
Tota	al	0	0		0			2,950	<u>_</u>
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	29.9	0.0

Business Purpose:

The purpose of the Community Choice Aggregation ("CCA") capital project is to make the necessary changes to SDG&E's systems to implement CCA. CCA permits cities and counties to provide electric commodity services to customers located within their jurisdiction. Under CCA, SDG&E would be required to provide basic CCA implementation services as well as ongoing support, including, SDG&E consolidated billing for all CCA customers within their boundaries and ongoing DASR communications between the CCA and SDG&E. The existing DASR system requires a technical upgrade and functional enhancements to meet the current Direct Access business needs. The CCA project is dependent on these DASR system modifications as these changes are foundational to the DASR CCA enhancements. The DASR upgrade has been proposed under a separate project due to the risk of timing constraints to complete those changes ahead of the development work required for implementing CCA.

Physical Description:

Systems impacted: Service Orders, Billing, Finance, Revenue, IVR, MyAcct, SDGE.com, Direct Access Service Request, Customer Relationship Management, Aclara & DataWarehouse. The DASR portion of this project has also been proposed as a separate project due to the risk of timing constraints to complete before a CCA is prepared to implement.

Project Justification:

In accordance with SDG&E's CPUC-approved Electric Rule 27, no later than six months after a CCA files an implementation plan with the CPUC, SDG&E must be prepared to provide initial CCA implementation services. These services include a platform to facilitate electronic communication between a CCA and SDG&E, in addition to ongoing support including SDG&E consolidated billing, meter reading, and other customer services. SDG&E recently received a request for data from a city and is aware of another CCA-eligible entity that has set aside funding for a CCA feasibility study. While it is difficult to predict if and when a city or county will ultimately implement CCA, SDG&E must be prepared nonetheless. Based on recent examples of CCAs becoming active in California, it seems entirely possible that a CCA could be implemented within two years after commencing its feasibility study. Thus, SDG&E believes that it is necessary to start the work on the upgrades to its systems now to be ready to serve a CCA within the six-month period discussed above.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits
Page 70 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

00831N - PT14065 CCA - Community Choice Aggregation

Forecast Methodology:

Labor - Zero-Based

Estimate based on internal labor hours quotations

Non-Labor - Zero-Based

Estimate based on vendor quotations

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 71 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 00831N

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 72 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

Category:

00831.0

0-4-----

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

00831N - PT14065 CCA - Community Choice Aggregation

Workpaper Detail:

00831N.001 - Community Choice Aggregation

In-Service Date:

12/31/2015

Description:

Forecast In 2013 \$(000)						
	Years	2014	2015	2016		
Labor		. 0	1,370	0		
Non-Labor		0	0	0		
NSE	1	0	0	. 0		
	Total	0	1,370			
FTE		0.0	13.4	0.0		

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 73 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

00831N - PT14065 CCA - Community Choice Aggregation

Workpaper Detail:

00831N.002 - CCA - Customer Choice Aggregation

In-Service Date:

12/31/2015

Description:

Forecast In 2013 \$(000)						
	Years	2014	2015	2016		
Labor		0	587	0		
Non-Labor		0	0	0		
NSE		0	0	0		
	Total	0	587	0		
FTE		0.0	5.8	0.0		

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 74 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

00831N - PT14065 CCA - Community Choice Aggregation

Workpaper Detail:

00831N.003 - CCA - Customer Choice Aggregation

In-Service Date:

12/31/2015

Description:

Forecast In 2013 \$(000)						
Years		2014	2015	2016		
Labor		0	666	0		
Non-Labor	ĺ	0	0	0		
NSE		. 0	0	0		
	Total	0	666			
FTE		0.0	7.5	0.0		

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 75 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group: Workpaper Detail: 00831N - PT14065 CCA - Community Choice Aggregation

. .

00831N.004 - CCA - Customer Choice Aggregation

In-Service Date:

12/31/2015

Description:

Forecast In 2013 \$(000)						
•	Years	2014	2015	2016		
Labor		0	327	0		
Non-Labor		0	0	0		
NSE		0	0	0		
	Total	0	327	0		
FTE]	0.0	3.2	0.0		

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 76 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 03849A - PT14039 CEN Phase 4 - System Enhancements

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 77 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03849.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

03849A - PT14039 CEN Phase 4 - System Enhancements

Summary of Results (Constant 2013 \$ in 000s):

Forecast Method		Adjusted Recorded				Adjusted Forecast			
Year	'S	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0		0	0	0	291	291
Non-Labor	Zero-Based	0	0	0	0	0	0	164	164
NSE	Zero-Based	0	0	0	0	0	0	0	.0.
Tota	ıl	0	0	0				455	455
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	2.9	2.9

Business Purpose:

The purpose of the Customer Energy Network ("CEN") Phase 4 project is to enhance the current CEN system which provides Smart Meter consumption information to external third parties who provide online presentment and other service offerings. Enhancements are necessary to meet requirements mandated in the decision Authorizing Provision of Customer Energy Data to Third Parties Upon Customer Request (CPUC D.13-09-025). Enhancements include conforming to the Energy Services Platform Interface (ESPI) data standard, third party registration portal, enrollment and other user interface changes in SDG&E's My Account web site. Additionally, CPUC D.13-09-025 mandated changes are also required to CEN's back-office platform to include application programming interfaces (API) and web services, reporting and administration services that manage third party and customer enrollments.

Physical Description:

The Customer Energy Network (CEN) Phase 4 project will enhance the CEN system to include cost data (leveraging the Centralized Calculation Engine), add gas consumption data, allow enrollments directly from the third party and support the new open standards for exchanging consumption information.

Project Justification:

The Customer Energy Network (CEN) system provides SmartMeter consumption information to external third parties who provide online presentment and other services. CEN Phase 4 project will enhance the current CEN system to meet the requirements mandated in the Customer Data Access ruling, provide automation of third party setup and maintenance to reduce future O&M support pressures and support Customer Services business needs.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 78 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03849.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

03849A - PT14039 CEN Phase 4 - System Enhancements

Forecast Methodology:

Labor - Zero-Based

Estimate based on internal labor hours quotations

Non-Labor - Zero-Based

Estimate based on vendor quotations

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 79 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 03849A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 80 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

Category:

03849.0

Category-Sub:

B. CS - Operations, Information, and Technologies

Workpaper Group:

3. Mandated 03849A - PT14039 CEN Phase 4 - System Enhancements

Workpaper Detail:

03849A.001 - The Customer Energy Network (CEN) system provides SmartMeter consumption information to

In-Service Date:

12/31/2015

Description:

	Forecast In 2013 \$(000)								
	Years	2014	2015	2016					
Labor	ļ	0	291	0					
Non-Labor		0	164	0					
NSE		0	0	0					
	Totai	0	455						
FTE		0.0	2.9	0.0					

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 81 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03849.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

03849A - PT14039 CEN Phase 4 - System Enhancements

Workpaper Detail:

03849A.002 - CEN Phase 4 - System Enhancements

In-Service Date:

12/31/2016

Description:

	Forecast In 2013 \$(000)							
	Years	2014	2015	2016				
Labor		0		291				
Non-Labor		0	0	164				
NSE		0	0	0				
	Total	0	0	455				
FTE		0.0	0.0	2.9				

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 82 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 03851D - PT13003 GRC Phase 2

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 83 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03851.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

03851D - PT13003 GRC Phase 2

Summary of Results (Constant 2013 \$ in 000s):

Forecast	Method		Adjusted Recorded				Adjusted Forecast		
Year	rs	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0		0	456	0	
Non-Labor	Zero-Based	0	0	0	0	o	182	0	0
NSE	Zero-Based	0	0	0	0	0	n	0	n
Tota	al	0					638	— .	
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0

Business Purpose:

The GRC Phase II project is being implemented in compliance with CPUC D.14-01-002 in Phase II of SDG&E's 2012 General Rate Case application (A.10-12-005). More specifically, the project includes making changes to SDG&E's Customer Information System to enable the billing of the electric rates adopted by D.14-01-002. In addition, the electric rate changes also need to be made to SDG&E's online Energy Management Tool which provides customers with bill-to-date, bill history and other electric energy pricing information. The rate changes became effective for customers on May 1, 2014.

Physical Description:

#1 Eliminate Minimum Charge and Create a New Customer Charge for Residential (SIR 88895)

#2 Consolidating Tiers 3 and 4 (SIR 88896)

#3 New Medical Consumption Codes and use of DMSM for billing Multi-unit Rates (SIR 88897)

#4 Redesign Critical Peak Prices (CPP) for Events (SIR 88898)

Project Justification:

CISCO and Aclara system changes required to support GRC Phase 2.

For CISCO, 3 additional O&M (SIR) items that are not specific to GRC, which the client has requested be worked along with GRC due to the synergies involved.

CISCO and Aclara system changes required to support the Triennial Cost Allocation Proceeding (TCAP)

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 84 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03851.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group: 03851D - PT13003 GRC Phase 2

Forecast Methodology:

Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

Non-Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 85 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 03851D

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 86 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03851.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group: Workpaper Detail:

03851D - PT13003 GRC Phase 2 03851D.001 - GRC Phase 2

In-Service Date:

Description:

07/31/2014

Forecast in 2013 \$(000)								
	Years	2014	2015	2016				
Labor	İ	456	0					
Non-Labor	ľ	182	0	0				
NSE	ľ	0	0	0				
	Total	638	0					
FTE		4.5	0.0	0.0				

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 87 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 03851F - PT13021 Critical Peak Pricing Default (CPP_D)

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 88 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03851.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

03851F - PT13021 Critical Peak Pricing Default (CPP_D)

Summary of Results (Constant 2013 \$ in 000s):

Forecast	Method		Adjusted Recorded			Adjusted Forecast			
Year	'S	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0		0	0	0	1,204	1,021	
Non-Labor	Zero-Based	0	0	0	0	0	4.027	6,424	Ċ
NSE	Zero-Based	0	0	0	0	0	0	0,.2.	,
Tota	ul	0	0	0	0		5,231	7,445	
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	11.8	10.0	0.0

Business Purpose:

The purpose of the CPP-D (Critical Peak Pricing – Default) Medium project is to support the rollout and ongoing management of the CPP rate for the mid-sized business customers in SDG&E's service territory. Unlike the small business customers, mid-sized customers have more complex electric service and multiple accounts serving their business which drives the need for a more robust tool for SDG&E to use to manage the enrollment, billing, anniversary management, and outreach. Likewise, the customers require more complex functionality to manage being on a critical peak pricing rate compared to their more simplistic time-of-use rate structure.

The CPP-D Medium project includes an online tool for the mid-sized customers to manage and monitor their energy usage and costs with the ability to group their accounts and review them at an aggregate level as well as to monitor the details down to each account and interval. Furthermore, C&I customers who are group billed will have the ability to view and pay their bills online, access historical group bills (including a download/print feature) and will have the option to select paperless billing.

Demand response events, a key component of the CPP rate, will be managed including customer notifications, event day management and post event analytics and metrics for the customers to manage their performance. The tool will also provide this customer group with high level benchmarking for their business type as well as recommendations for energy efficiency programs to consider.

Physical Description:

The scope of the CPP-D Medium project includes the implementation of two online tools for the customers to access and a number of integrations into SDG&E's existing application portfolio. Key integrations included in the project are My Account, Customer Relationship Management (CRM) and Customer Information System. Without this automation project, the implementation of the CPP-D rate for the mid-sized customers would be done with manual processes and providing no tool for the customers to effectively manage their participation on the new time-of-use rate.

Project Justification:

Critical Peak Pricing Rates are required to be rolled out to our customers by the CPUC. Our large commercial and industrial (C&I) customers, ~1,700 customers, were defaulted onto this new rate manually in 2008. The on-going processing remains manually intensive today. Small business customers, ~120,000, will be defaulted thru the Smart Pricing Program (SPP) automation. This leaves ~9,000 medium C&I customers who will not have not been defaulted. These medium customers are more complex than the small businesses as they likely have more meters and more complex operations, but still don't have the internal resources to effectively manage their energy.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 89 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03851.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

03851F - PT13021 Critical Peak Pricing Default (CPP_D)

Forecast Methodology:

Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

Non-Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 90 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 03851F

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 91 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03851.0

Category:

Category-Sub:

B. CS - Operations, Information, and Technologies

Workpaper Group:

3. Mandated

Workpaper Detail:

03851F - PT13021 Critical Peak Pricing Default (CPP_D) 03851F.001 - Critical Peak Pricing Default (CPP_D)

In-Service Date:

12/31/2014

Description:

Forecast In 2013 \$(000)								
	Years	2014	2015	2016				
Labor	ĺ	1,204	0					
Non-Labor		3,365	0	0				
NSE		0	0	0				
	Total	4,569						
FTE		11.8	0.0	0.0				

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 92 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03851.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

03851F - PT13021 Critical Peak Pricing Default (CPP_D)

Workpaper Detail:

03851F.002 - Critical Peak Pricing Default (CPP_D)

In-Service Date:

10/31/2015

Description:

Software Licenses Purchased

Forecast In 2013 \$(000)								
	Years	2014	2015	2016				
Labor		0	0	0				
Non-Labor		662	2,000	0				
NSE		0	0	0				
	Total	662	2,000					
FTE	ĺ	0.0	0.0	0.0				

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 93 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03851.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

03851F - PT13021 Critical Peak Pricing Default (CPP_D)

Workpaper Detail:

03851F.003 - Critical Peak Pricing Default (CPP_D)

In-Service Date:

10/31/2015

Description:

Hardware Purchases

		Forecast in 201	3 \$(000)	
	Years	2014	2015	2016
Labor		0	0	0
Non-Labor		0	365	0
NSE		0	0	0
	Total	0	365	0
FTE		0.0	0.0	0.0

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 94 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03851.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

03851F - PT13021 Critical Peak Pricing Default (CPP_D)

Workpaper Detail:

03851F.004 - Critical Peak Pricing Default (CPP_D)

In-Service Date:

03/31/2015

Description:

Forecast in 2013 \$(000)							
	Years	2014	2015	2016			
Labor		0	1,021	0			
Non-Labor		0	4,059	0			
NSE		0	0	0			
	Total	0	5,080	0			
FTE		0.0	10.0	0.0			

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 95 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group
04843A - PT14843 Smart Meter IT Phase 3 Billing

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 96 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

04843.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

04843A - PT14843 Smart Meter IT Phase 3 Billing

Summary of Results (Constant 2013 \$ in 000s):

Forecast			Adjusted Recorded				Adjusted Forecast		
Year	rs	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	<u>_</u>				392	0	
Non-Labor	Zero-Based	0	0	0	0	n l	525	0	0
NSE	Zero-Based) o	0	0	0	n l	020	0	0
Tota	al	0		0			917		
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0

Business Purpose:

SDG&E installed a Smart Meter system throughout the San Diego and Orange County service areas to improve operational efficiencies, enhance customer service, and enable demand response. Approved by the CPUC on April 12, 2007, the Smart Meter Program has replaced and/or retrofitted approximately 1.4 million electric meters and 865,000 gas meters. The project established a two-way communications infrastructure, provided automated meter reading in place of manual meter reading, integrated customer information and billing systems, measured energy use in fifteen (15) minute or one hour intervals, provided integrated remote disconnect/reconnect capabilities and is in the process of providing a Home Area Network (HAN). SDG&E will implement the final phase of the Smart Meter billing system to support complex commercial/industrial accounts. Standby service, conjunctive billed, clean generation service and complex net meter accounts will be supported with this final phase. The project will allow approximately 600 Smart Meters to be installed for the complex commercial/industrial accounts.

Physical Description:

The system enhancements / processes will allow installation of approximately 600 meters.

Project Justification:

While these capital expenses are recovered through the Advanced Metering Infrastructure Balancing Account, pursuant to CPUC D.07-04-043 and as modified by D.11-03-042, these expenses are included herein for the purpose of determining SDG&E's rate base for its TY 2016 GRC

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 97 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

04843.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

04843A - PT14843 Smart Meter IT Phase 3 Billing

Forecast Methodology:

Labor - Zero-Based

The GRC forecast includes estimated current incremental internal resources assigned 100% to this integration effort and additional contract labor support thru the end of 2014.

Non-Labor - Zero-Based

The GRC forecast includes estimated current incremental internal resources assigned 100% to this integration effort and additional contract labor support thru the end of 2014.

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 98 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 04843A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 99 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

04843.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

04843A - PT14843 Smart Meter IT Phase 3 Billing

Workpaper Detail:

04843A.001 - Smart Meter IT Phase 3 Billing

In-Service Date:

12/31/2014

Description:

Forecast In 2013 \$(000)								
	Years	2014	2015	2016				
Labor		392	0	0				
Non-Labor		525	0	0				
NSE		0	0	0				
	Total	917		0				
FTE		3.8	0.0	0.0				

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 100 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 10872A - PTSPP Smart Peak Pricing

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 101 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

10872.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

10872A - PTSPP Smart Peak Pricing

Summary of Results (Constant 2013 \$ in 000s):

Forecast	Method		Adjusted Recorded				Adju	Adjusted Forecast		
Year	's	2009	2010	2011	2012	2013	2014	2015	2016	
Labor	Zero-Based	0	0				698	0		
Non-Labor	Zero-Based	0	0	0	0	0	1,236	0	0	
NSE	Zero-Based	0	0	0	0	0	0	0	n	
Tota	ai						1,934		<u>_</u>	
FTE ·	Zero-Based	0.0	0.0	0.0	0.0	0.0	6.8	0.0	0.0	

Business Purpose:

The purpose of this phase of the overall SPP is to implement additional customer engagement functionality for NEM customers, enhancements allowing for new customers to enroll in the SPP rates over the phone, a new system for understanding the effectiveness of our outreach and education efforts, enhanced reporting and updates to our customer subscription, and alert architecture. The expected completion date for this phase is Q4 2014, with estimated capital expenses of \$1,934,000 for 2014. While these capital expenses are recovered through the Dynamic Pricing Balancing Account, pursuant to CPUC D.12-12-004, these expenses are included herein for the purpose of determining SDG&E's rate base for its TY 2016 GRC

Physical Description:

The systems impacted include: Service Orders, Billing, My Account, Customer Relationship Management, Aclara & Data Warehouse

Project Justification:

The project was approved in CPUC filing A.10-07-009

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 102 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

10872.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

10872A - PTSPP Smart Peak Pricing

Forecast Methodology:

Labor - Zero-Based

The GRC forecast includes estimated current incremental internal resources assigned to this integration effort and additional contract labor support thru the end of 2014.

Non-Labor - Zero-Based

The GRC forecast includes estimated current incremental internal resources assigned to this integration effort and additional contract labor support thru the end of 2014.

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 103 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 10872A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 104 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

10872.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

10872A - PTSPP Smart Peak Pricing

Workpaper Detail:

10872A.001 - SPP CPUC

In-Service Date:

12/31/2014

Description:

Forecast in 2013 \$(000)						
	Years	2014	2015	2016		
Labor	ľ	698	0	0		
Non-Labor		1,236	0	0		
NSE		0	0	0		
	Total	1,934	0			
FTE	i	6.8	0.0	0.0		

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 105 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 13849A - PT13026 Reduce your Use Opt In

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 106 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

13849.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

13849A - PT13026 Reduce your Use Opt In

Summary of Results (Constant 2013 \$ in 000s):

Forecast Method		Adjusted Recorded					Adjusted Forecast		
Year	'S	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0			306	0	
Non-Labor	Zero-Based	0	0	0	0	0	692	0	
NSE	Zero-Based	0	0	0	0	0	0	0	0
Tota	al	0	0	0	0	0	998		
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0

Business Purpose:

The RYU Opt-In project complied with CPUC D.13-07-003 by converting the Peak Time Rebate ("PTR") program to an opt-in program, including taking customer calls to participate in the program, coding such customers as program participants, and enabling SDG&E to call a PTR program event involving only those customers who have taken the action necessary to opt into the program. This allows only those customers who have opted into the program to receive PTR program event alert notifications and be eligible to receive bill credits for load reductions achieved during PTR program events. Additional activities included modifying the online bill presentment of PTR program results, energy savings and bill credits through the EMT contained within SDG&E's My Account system. The PTR Opt-In project became available to customers on May 1, 2014.

Physical Description:

The RYU Opt-In project will allow SDG&E to:

*Leverage the investment in the Contact & Campaign Management (CCM) framework to manage RYU: subscriptions, customer segmentation, campaign execution, and campaign feedback. This will eliminate the need for Silverpop to manage these functions.

Provide RYU credits only to customers who are RYU-eligible AND have subscribed to RYU alerts.

Project Justification:

RYU alert subscriptions will all be managed in the same way as SPP alerts, outage alerts, and newsletters, both internally and externally, providing a more uniform customer experience. Eliminating the majority of the program's "free-riders" will ensure that credit payments are focused on those customers who are providing statistically significant load reduction

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 107 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

13849.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

13849A - PT13026 Reduce your Use Opt In

Forecast Methodology:

Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

Non-Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 108 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 13849A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 109 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

13849.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

3. Mandated

Workpaper Group:

13849A - PT13026 Reduce your Use Opt in

Workpaper Detail:

13849A.001 - Reduce your Use Opt In

In-Service Date:

07/31/2014

Description:

Forecast In 2013 \$(000)							
	Years	2014	2015	2016			
Labor		306	0	0			
Non-Labor	i	692	0	0			
NSE		0	0	0			
	Total	998	0				
FTE		3.0	0.0	0.0			

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 110 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 00831E - PT14005 Off But Registering (OBR) Enhancement

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 111 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

0.16800

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

00831E - PT14005 Off But Registering (OBR) Enhancement

Summary of Results (Constant 2013 \$ in 000s):

Forecast Method		Adjusted Recorded					Adjusted Forecast		
Year	'S	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0		0				554	
Non-Labor	Zero-Based	0	0	0	0	0	0	00.	0
NSE	Zero-Based	0	0	0	0	0	0	0	0
Tota	ai .	0	0	0	0			554	
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	5.4	0.0

Business Purpose:

The purpose of the OBR Enhancement project is to automate the process of identifying and investigating situations where energy consumption is recorded on a company meter but system records indicate that the premise is inactive or OBR. The existing OBR process involves many manual tasks such as reviewing reports, making phone calls, and initiating field visits to determine the cause for consumption and who is responsible. The project will allow for automated monitoring and identification of these scenarios, will enable automated notifications to be mailed and/or delivered to premises and decision logic to leverage remote disconnect when possible.

Physical Description:

The scope will be centered on automating the existing Off But Registering (OBR) processes including the identification of unbilled energy, the "Give Notice" letter generation and Remote Disconnection, when appropriate.

Project Justification:

Customer Operations (Billing and Meter Revenue Protection) identify and investigate situations where energy consumption is recorded on a company meter but system records indicate that the premise is inactive (Off But Registering)

- Today's processes are manual. Working from reports, manually making phone calls or initiating field visits to try to determine the cause for consumption and who is responsible.
- Customer Billing and Meter Revenue Protection are both receiving information at the meter level, some of which leads to duplication
- The project will allow for automated monitoring and identification of these scenarios, will enable automated notifications to be mailed and/or delivered to premises and decision logic to leverage remote disconnect when possible.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits
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San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Λ	 _	

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

00831E - PT14005 Off But Registering (OBR) Enhancement

Forecast Methodology:

Labor - Zero-Based	
Estimate based on internal labor hours quotations	
Non-Labor - Zero-Based	
N/A	
NSE - Zero-Based	
N/A	

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 113 of 502

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Beginning of Workpaper Sub Details for Workpaper Group 00831E

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 114 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00831.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

00831E - PT14005 Off But Registering (OBR) Enhancement

Workpaper Detail:

00831E.001 - The scope will be centered on automating the existing Off But Registering (OBR) proces

In-Service Date:

07/31/2015

Description:

Forecast In 2013 \$(000)						
	Years	2014	2015	2016		
Labor	i	0	554	0		
Non-Labor		0	0	0		
NSE		_ 0	0	0		
	Total	0	554	0		
FTE	Ì	0.0	5.4	0.0		

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 115 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 00833F - PT14013 Centralized Calcuation Engine

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 116 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

0.8833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

00833F - PT14013 Centralized Calcuation Engine

Summary of Results (Constant 2013 \$ in 000s):

Forecast	Method		Adju	sted Record	ed		Adju	isted Forec	ast
Year	rs	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0	0		675	1,053	
Non-Labor	Zero-Based	0	0	0	0	0	1,396	1,954	-
NSE	Zero-Based	0	0	0	0	0	. 0	0	-
Tota	aí	0	0	0	0		2,071	3.007	
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	6.6	10.3	0.0

Business Purpose:

The purpose of the Centralized Calculation Engine project is to implement a single engine to automate rate and complex billing calculations, utilizing consistent data sets from standard data sources, which can then be presented to internal users at will, in near real time, and at various portals. The development of this tool is anticipated to be foundational for use by other projects including the DRMS Project and Electric Vehicle to Grid Project. The first phase of this project will provide a single calculation engine to drive rate calculation, rate comparisons, modeling, pricing, and testing of rates. Currently there are multiple tools across different business units, both manual and automated, which utilize inconsistent data and methodologies to predict, model, and demonstrate rate scenarios and use cases. The need for this functionality will only increase as rates continually change and become more complex at a rapid pace. This tool will not replace the presentment of these calculations, but may become a data source for these calculations.

Physical Description:

The proposed scope of the project would be the development of a single calculation engine (software solution) which will automate and standardize rate calcluation, complex and exception billing calculations. The goal of the end system is to access calculations that can be presented to users at will, in real time, and at various portals because the underlying data is trusted; while realizing both hard and soft benefits from not having to rely on multiple vendors for various portions of this output.

Project Justification:

A need has been identified to provide a single calculation engine to drive rate calculation, rate comparisons, modeling, pricing and rate analysis. There are multiple tools in many organizations and business units, both manual and automated, which utilize inconsistant data, input and methodologies to predict, model and demonstrate rate scenarios and use cases.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits
Page 117 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

00833F - PT14013 Centralized Calcuation Engine

Forecast Methodology:

Labor - Zero-Based

Estimate based on internal labor hours quotations

Non-Labor - Zero-Based

Estimate based on vendor quotations

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits
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San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 00833F

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 119 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Агеа:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

0.0833.0

Category:

0.0000

Category-Sub:

B. CS - Operations, Information, and Technologies

Workpaper Group:

4. Business Optimization

····

00833F - PT14013 Centralized Calcuation Engine

Workpaper Detail:

00833F.001 - The proposed scope of the project would be the development of a single calculation engi

In-Service Date:

12/31/2014

Description:

Forecast in 2013 \$(000)					
	Years	2014	2015	2016	
Labor		675	0	0	
Non-Labor		979	0	0	
NSE	}	0	0	0	
	Total	1,654	0	0	
FTE		6.6	0.0	0.0	

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 120 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

0.8830

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group: Workpaper Detail: 00833F - PT14013 Centralized Calcuation Engine 00833F.002 - Centralized Calcuation Engine

In-Service Date:

12/31/2014

Description:

		Forecast in 201	3 \$(000)	
	Years	2014	2015	2016
Labor		0	0	0
Non-Labor	1	417	0	0
NSE	ľ	0	0	0
	Total	417	0	
FTE		0.0	0.0	0.0

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits
Page 121 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

00833F - PT14013 Centralized Calcuation Engine

Workpaper Detail:

00833F.003 - Centralized Calcuation Engine

In-Service Date:

12/31/2015

Description:

Forecast In 2013 \$(000)					
	Years	2014	2015	2016	
Labor		0	1,053	0	
Non-Labor	!	0	1,371	0	
NSE		0	0	0	
	Total	0	2,424		
FTE	ŀ	0.0	10.3	0.0	

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 122 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

00833F - PT14013 Centralized Calcuation Engine

Workpaper Detail:

00833F.004 - Centralized Calcuation Engine

In-Service Date:

12/31/2015

Description:

Forecast In 2013 \$(000)					
	Years	2014	2015	2016	
Labor	Ì	0	0	0	
Non-Labor		0	583	0	
NSE		0	0	0	
	Total	0	583		
FTE		0.0	0.0	0.0	

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 123 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 00833G - PT14017 Smart Energy Advisor 2

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 124 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

00833G - PT14017 Smart Energy Advisor 2

Summary of Results (Constant 2013 \$ in 000s):

Forecast	Method		Adju	sted Record	led		Adju	sted Forec	ast
Year	rs	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0		0	1,026	0	0
Non-Labor	Zero-Based	0	0	0	0	0	1,698	0	0
NSE	Zero-Based	0	0	0	0	0	. 0	0	0
Tota	ai	0	0	0	0		2,724	0	
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0

Business Purpose:

The purpose of the Smart Energy Advisor desktop ("SEAd 2") project is to implement credit workflow into the Smart Energy Advisor desktop. The enhancement will streamline credit conversations and allow ESS to process credit orders more efficiently and in less time. The project will also make other functional and user interface improvements to improve the effectiveness of the ESS. The new functionality will allow ESS to process credit orders more efficiently and in less time.

Physical Description:

Further develop the SEAD (smart energy advisor desktop) platform to incorporate and streamline CISCO credit functions. The platform will introduce more customer profile information from the CAS (customer analytics system) project and access other data sources for greater insight into customers, premises, accounts, and energy use.

Project Justification:

ESS are using a green screen view of the customer, with muiltiple applications to get information necessary to perform their jobs, such as On-Line Help, CISCO, CSR Portal into My Account. These multiple applications and screens mean the ESS (Energy Services Specialist) has a fragmented view of the customer and extends handle time while customer is on the call.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 125 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

00833G - PT14017 Smart Energy Advisor 2

Forecast Methodology:

Labor - Zero-Based

Based on efforts performed by SEAD1 and the number current credit screens in CISCO.

Non-Labor - Zero-Based

Based on efforts performed by SEAD1 and the number current credit screens in CISCO.

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 126 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 00833G

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 127 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

00833G - PT14017 Smart Energy Advisor 2

Workpaper Detail:

00833G.001 - ESS are using a green screen view of the customer with mulltiple applications to get i

In-Service Date:

12/31/2014

Description:

Forecast in 2013 \$(000)						
	Years	2014	2015	2016		
Labor	ļ	617	0	0		
Non-Labor		290	0	0		
NSE		0	0	0		
	Total	907				
FTE	ł	6.0	0.0	0.0		

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 128 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

12/31/2014

Category:

0.8830

Category-Sub:

B. CS - Operations, Information, and Technologies

Workpaper Group:

4. Business Optimization

Workpaper Detail:

00833G - PT14017 Smart Energy Advisor 2 00833G.002 - Smart Energy Advisor 2

In-Service Date:

Description:

Forecast in 2013 \$(000)						
	Years	2014	2015	2016		
Labor	ĺ	153	0	0		
Non-Labor		1,162	0	0		
ISE		0	0	0		
	Total	1,315	0			
FTE	1	1.5	0.0	0.0		

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 129 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group: Workpaper Detail: 00833G - PT14017 Smart Energy Advisor 2 00833G.003 - Smart Energy Advisor 2

In-Service Date:

04/30/2014

Description:

Forecast In 2013 \$(000)						
	Years	2014	2015	2016		
Labor		206	0	0		
Non-Labor		49	0	0		
NSE		0	0	0		
	Total	255	0	0		
FTE		2.0	0.0	0.0		

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 130 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00833.0

Category:

0,0000

Category-Sub:

B. CS - Operations, Information, and Technologies

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4. Business Optimization

Workpaper Group: Workpaper Detail: 00833G - PT14017 Smart Energy Advisor 2 00833G.004 - Smart Energy Advisor 2

In-Service Date:

12/31/2014

Description:

Forecast in 2013 \$(000)						
	Years	2014	2015	2016		
Labor		50	0	0		
Non-Labor		197	0	0		
NSE	1	0	0	0		
	Total	247	0			
FTE		0.5	0.0	0.0		

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 131 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 00833R - PT13013 SMART METER OPERATION CENTER NETWORK

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 132 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

00833R - PT13013 SMART METER OPERATION CENTER NETWORK

Summary of Results (Constant 2013 \$ in 000s):

Forecast	Method		Adjus	sted Record	ed		Adju	sted Forec	ast
Year	's	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0		0	102	0	
Non-Labor	Zero-Based	0	0	0	0	0	212	0	0
NSE	Zero-Based	0	0	0	0	0	0	0	C
Tota	al	0	0	0	0		314		0
FTE 	Zero-Based	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0

Business Purpose:

The Smart Meter Operations Center ("SMOC") project is a multi-year, multi-phase project to establish a SMOC. The project will centralize operations and improve operational efficiency by applying visualization packages, advanced data analytics and reporting tools to aid in network monitoring, exception management, work management, asset management to optimize network and data performance. Phase I will deliver network monitoring and visualization by providing Smart Meter Operations Analysts with network monitoring capabilities including search and notification features displayed in a geographic format to improve operational efficiencies.

Physical Description:

- The Smart Meter Management solution shall support protocols such as syslog & SNMPv3 to receive changes to the health statuses of the cell relays & smart meters.
- The Smart Meter Management solution shall provide security capabilities to enable role-based access control & NERC CIP compliance (to be validated with Information Security)
- The Smart Meter Management solution shall be capable of applying advanced analytics to raw Smart Meter Data to provide users with meaningful results.
- The solution must leverage existing software and enterprise platforms where functionally practical
- The Smart Meter Management solution shall be able to optimally manage data and scale based on the following metrics:
- Number of users: 50 concurrent users
- Number of cell relays: ~2,500 cell relays
- Number of data points per cell relay: ~21
- Number of smart meter endpoints: 2.2 M
- Visualization of smart meter endpoints by different levels of exceptions
- Number of data points per smart meter endpoint: ~10 (estimated);
- Data Storage: ~24Tb (primary production) per year (3 year data retention)
- Number of data sources (advanced analytics): ~8
- Number of data element categories (advanced analytics): ~100
- Number of Use Cases for development: ~90
- Ability to send, receive and record "ping" device check signals at 1 minute intervals
- Ability to receive and record prescribed data elements at 5 minute, 15 minute or 3 times per day intervals.

Project Justification:

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 133 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

00833R - PT13013 SMART METER OPERATION CENTER NETWORK

A vast network of approximately 1.4 million Smart Meters and 800 thousand gas modules has been created to improve the revenue

stream through data accuracy and fewer estimated bills. The Smart Meter network has also created new opportunity customer energy

management programs such as Reduce Your Use and eventually, interval billing for lower consumption customers. The Smart Meter

Network is the foundation for Smart Grid technologies; smart meters provide hourly data that makes "Green Button", Smart Pricing and

other energy programs possible. All of these programs and innovations would not be possible without smart meter real-time energy

information.

Smart Meter Operations Center, Initiative #2 will centralize operations, improve operational efficiency and Smart Meter network

reliability by applying a network management system; visualization, reporting tools and data analytics to aid in network monitoring,

exception management and troubleshooting.

Smart Meter Operations Center provide centralized information supporting customer service and establishing the foundation to support

other company initiatives such as Smart Grid.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits
Page 134 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

00833R - PT13013 SMART METER OPERATION CENTER NETWORK

Forecast Methodology:

Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

Non-Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 135 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 00833R

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 136 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

00833R - PT13013 SMART METER OPERATION CENTER NETWORK

Workpaper Detail:

00833R.001 - SMART METER OPERATION CENTER NETWORK

In-Service Date:

05/31/2014

Description:

Forecast in 2013 \$(000)						
	Years	2014	2015	2016		
Labor		102	0	0		
Non-Labor		212	0	0		
NSE		0	0	0		
	Total	314	0	0		
FTE		1.0	0.0	0.0		

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 137 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 00833U - PT13009 Smart Energy Advisor

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 138 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

00833U - PT13009 Smart Energy Advisor

Summary of Results (Constant 2013 \$ in 000s):

Forecast Method		Adjusted Recorded					Adjusted Forecast		
Year	'S	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0	0		256	0	0
Non-Labor	Zero-Based	0	0	0	0	0	857	0	0
NSE	Zero-Based	0	0	0	0	0	0	0	0
Tota	al	0	0				1,113		
FTE 	Zero-Based	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0

Business Purpose:

The purpose of the Smart Energy Advisor desktop ("SEAd") project is to deliver a unified, process centric user interface for the CCC. The desktop establishes functional and technical capabilities including telephony integration, customer search, verification, customer relationship overview, and customer wrap up functions. The unified user interface improves the efficiency and effectiveness of the Energy Services Specialists ("ESS"). Since 1997, the company's front-line ESS staff has been using a mainframe "green screen" to access customer information. This user interface requires multiple key strokes and screen views to address common customer questions and requests. The SEAd interface is a modern browser-based interface that consolidates multiple screens into one display and provides ESS with a single sign-on to various mainframe and web applications. Furthermore, the project also provides for an upgrade to the on-line help system that the ESS use to research information and procedures to assist customers.

Physical Description:

Login authentication

- Computer Telephony Integration (CTI) with Avaya
- Internet Explorer (version 8 or above) or Google Chrome
- System must be SDG&E 'branded' on screens
- Ability to support peak user load (160 connections)
- System response time has not been determined but will be quantified in requirements phase
- Systems integration development, leveraging existing web services (with expected modifications) or other appropriate data exchange techniques.
- Oracle database instance

Project Justification:

This project is intended to improve ESS performance and efficiency with advanced technology and effective tool. The benefits of this project are to control and reduce Average Handle Time. This project will enable individual ESS to handle more calls, and lower ESS cost of service.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 139 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00833.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group: 00833U - PT13009 Smart Energy Advisor

Forecast Methodology:

Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

Non-Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 140 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 00833U

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 141 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00000

Category:

0.88300

Category-Sub:

B. CS - Operations, Information, and Technologies

Workpaper Group:

4. Business Optimization

Workpaper Detail:

00833U - PT13009 Smart Energy Advisor 00833U.001 - Smart Energy Advisor

In-Service Date:

04/30/2014

Description:

		Forecast in 2013	3 \$(000)	
	Years	2014	2015	2016
Labor	ĺ	256	0	0
Non-Labor		857	0	0
NSE		0	0	0
	Total	1,113		
FTE		2.5	0.0	0.0

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 142 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 03849B - PT13012 Net Energy Metering

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 143 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03849.0

Category:

03049.0

O=4==== O...b.

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

03849B - PT13012 Net Energy Metering

Summary of Results (Constant 2013 \$ in 000s):

Forecast Method		Adjusted Recorded					Adjusted Forecast		
Year	rs	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0				45	0	
Non-Labor	Zero-Based	0	0	0	0	0	26	0	,
NSE	Zero-Based	0	0	0	0	0	0	0	
Tota	al	0		0			71		
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0

Business Purpose:

The standards and billing processes for Net Energy Metering ("NEM") are defined under CPUC Code 2827 and SDG&E's NEM tariff, Schedule NEM. NEM is currently the fastest growing program at SDG&E, averaging a 40% increase each year. The purpose of the NEM capital project is to address 30 known NEM billing system deficiencies and enhancements including bill calculation and display improvements, online processing improvements, and customer communication enhancements.

Physical Description:

Net Energy Metering Bill Calculation Improvements currently defined in the System Information Requests (SIRs)
Net Energy Metering Bill Display Improvements currently defined in the System Information Requests (SIRs)
Net Energy Metering On-Line Processing Improvements currently defined in the System Information Requests (SIRs)
Customer Communication Enhancements currently defined in the System Information Requests (SIRs)

Project Justification:

Benefits of this project include reducing the need for hiring additional labor to support continued NEM growth. These enhancements will allow for only needing one incremental FTE in 2014, two incremental FTEs in 2015, and one incremental FTE in 2016. Without these enhancements, the incremental resource requirement would have been another 4.0 FTEs by 2016. Additional NEM project benefits include reduced internal maintenance costs associated with troubleshooting and manually resolving issues, reduced number of customer phone calls and inquiries for the Customer Contact Center, and improved overall customer experience and satisfaction due to effective communication and transparency.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 144 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03849.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

03849B - PT13012 Net Energy Metering

Forecast Methodology:

Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

Non-Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 145 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 03849B

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits
Page 146 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

Category:

03849.0

B. CS - Operations, Information, and Technologies

Category-Sub: Workpaper Group: 4. Business Optimization

Workpaper Detail:

03849B - PT13012 Net Energy Metering

03849B.001 - NEM

In-Service Date:

07/31/2014

Description:

		Forecast In 201:	3 \$(000)	
	Years	2014	2015	2016
Labor	J	45	0	
Non-Labor	j	26	0	0
NSE		0	0	0
	Total	71		0
FTE	1	0.4	0.0	0.0

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 147 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group
03851H - PT13031 SMOC EXCEPTION MANAGEMENT (SMOC-EM)

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 148 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03851.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

4. Business Optimization

Workpaper Group:

03851H - PT13031 SMOC EXCEPTION MANAGEMENT (SMOC-EM)

Summary of Results (Constant 2013 \$ in 000s):

Forecast Method		Adjusted Recorded					Adjusted Forecast		
Year	rs	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0	0		386	51	
Non-Labor	Zero-Based	0	0	0	0	0	2,416	457	0
NSE	Zero-Based	0	0	0	0	0	0	0	n
Tota	al	0	0			0	2,802	508	
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	3.8	0.5	0.0

Business Purpose:

The SMOC - Exception Management ("SMOC-EM") is Phase II of the multi-year project to establish a SMOC. As part of Phase II of the project, SDG&E will deliver Smart Meter Operations' Analysts with results necessary to effectively resolve meter exceptions and network issues by use of event correlation and data analytics. SMOC-EM will deliver an information system integrated with multiple existing data sources to identify specific events or conditions resulting in exceptions or non-reporting meters while eliminating false-positive exceptions and pinpointing true exception meters and non-communicating network devices.

Physical Description:

SMOC-EM will deliver an information system integrated with multiple existing data sources to identify specific events or conditions resulting in exceptions or non-reporting meters while eliminating false-positive exceptions and pinpointing true exception meters and non-communicating network devices

Project Justification:

The SMOC system will combine essential data from multiple applications allowing expedient data analysis and troubleshooting, work order management for accelerated results.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 149 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:	INFORMATION TECHNOLOGY
Witness:	Stephen J. Mikovits
Budget Code:	03851.0
Category:	B. CS - Operations, Information, and Technologies
Category-Sub:	4. Business Optimization

03851H - PT13031 SMOC EXCEPTION MANAGEMENT (SMOC-EM) Workpaper Group:

Forecast Methodology:

Labor - Zero-Based	
Project is currently in progress	
Non-Labor - Zero-Based	
Project is currently in progress	
NSE - Zero-Based	
N/A	

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 150 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 03851H

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 151 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

. . . .

Category:

03851.0

Category-Sub:

B. CS - Operations, Information, and Technologies
4. Business Optimization

Workpaper Group:

03851H - PT13031 SMOC EXCEPTION MANAGEMENT (SMOC-EM)

Workpaper Detail:

03851H.001 - SMOC EXCEPTION MANAGEMENT (SMOC-EM)

In-Service Date:

03/31/2015

Description:

Forecast In 2013 \$(000)								
	Years	2014	2015	2016				
Labor	ĺ	386	51	0				
Non-Labor	1	2,416	457	0				
NSE		0	0	0				
	Total	2,802	508					
FTE	[3.8	0.5	0.0				

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 152 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 00821A - PT13010 CUSTOMER ANALYTICS SYSTEM 2013

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 153 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00821.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

6. Understanding Customers

Workpaper Group:

00821A - PT13010 CUSTOMER ANALYTICS SYSTEM 2013

Summary of Results (Constant 2013 \$ in 000s):

Forecast	Method	Adjusted Recorded				Adju	sted Forec	ast	
Year	rs	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0	0	0	501	0	
Non-Labor	Zero-Based	0	0	0	0	0	2,061	0	0
NSE	Zero-Based	0	0	0	0	0	0	0	0
Tota		0	0	0	0	0	2,562	0	
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0

Business Purpose:

The purpose of the Customer Analytics System ("CAS") Phase 1 establishes an analytical system within Customer Services to store and analyze customer data. The CAS system centralizes data from multiple systems to allow efficient analysis using current technologies. Phase 1 allows the company to target customers with relevant services and programs through the Energy Services Specialists in the CCC. Phase 1 also provides an Enterprise Analytics Roadmap to align analytics projects across SDG&E to achieve efficiencies. Currently, customer data is stored in multiple systems that have been developed historically to satisfy separate project requirements. Consolidating relevant information about customers is difficult and complex, and the company uses multiple methods to access and analyze the information. Additionally, when a customer contacts the company, the ESS do not have the information necessary to present additional services or programs that the customer may be eligible for in an efficient manner. The CAS 2013 project is addressing these issues in two ways

Physical Description:

First, the Enterprise Analytics Roadmap evaluates the analytical systems across the company in support of SDG&E's "Smart Grid Deployment Plan - Integrated and Cost Cutting Systems for Data Management and Analytics". The Roadmap aligns similar types of data, analytical methods, and tools to identify synergies suitable for this project. Second, the project will develop a Next Best Option analytical system using customer data obtained from multiple data sources within the company. Integrating this data and developing the analytics for the purpose of the Next Best Option will be completed for several programs and services. The Next Best Option will evaluate relevant information about customers and compare that to the programs and services that SDG&E offers. Analytics will be used to inform ESS of the most relevant programs and services for a customer who calls the CCC. Company standards on information security and protecting customer privacy will be followed.

Project Justification:

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 154 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00821.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

6. Understanding Customers

Workpaper Group:

00821A - PT13010 CUSTOMER ANALYTICS SYSTEM 2013

Business Problems:

The Energy Service Specialists (ESS) do not have timely or sufficient information about a customer to efficiently answer questions, provide expert advice, and offer personalized recommendations

Customer expectations on customer service are increasing, and affect conversations related to billing and rates The company has many analytics solutions, but there are data silos and inefficiencies in data that affect customers

Solutions:

Create a Customer Services analytics roadmap and an Enterprise analytics roadmap that are aligned Leverage the Enterprise Analytics System (EAS) so that Customer Services can share common customer and business data elements

Provide the ESS with summarized information based on the specific customer call and workflow, and offer recommendations to help customers achieve their desired energy lifestyle.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 155 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00821.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

6. Understanding Customers

Workpaper Group:

00821A - PT13010 CUSTOMER ANALYTICS SYSTEM 2013

Forecast Methodology:

Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

Non-Labor - Zero-Based

Project is currently in - progress. Based on actual timeline of the project to complete.

NSE - Zero-Based

N/Α

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits
Page 156 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 00821A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 157 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00821.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

6. Understanding Customers

Workpaper Group: Workpaper Detail: 00821A - PT13010 CUSTOMER ANALYTICS SYSTEM 2013

. .

00821A.001 - CUSTOMER ANALYTICS SYSTEM 2013

In-Service Date:

09/30/2014

Description:

Forecast in 2013 \$(000)								
	Years	2014	2015	2016				
Labor	1	501	0	0				
Non-Labor		1,921	0	0				
NSE		0	0	0				
	Total	2,422						
FTE		4.9	0.0	0.0				

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 158 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00821.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

6. Understanding Customers

Workpaper Group:

00821A - PT13010 CUSTOMER ANALYTICS SYSTEM 2013

Workpaper Detail:

00821A.002 - CUSTOMER ANALYTICS SYSTEM 2013

In-Service Date:

04/30/2014

Description:

Software Purchase

Forecast In 2013 \$(000)								
	Years	2014	2015	2016				
Labor		0	0	0				
Non-Labor		80	0	0				
NSE	i	0	0	0				
	Total	80						
FTE		0.0	0.0	0.0				

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 159 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

00821.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

6. Understanding Customers

Workpaper Group:

00821A - PT13010 CUSTOMER ANALYTICS SYSTEM 2013

Workpaper Detail:

00821A.003 - CUSTOMER ANALYTICS SYSTEM 2013

In-Service Date:

04/30/2014

Description:

Hardware Purchase

Forecast In 2013 \$(000)									
	Years	2014	2015	2016					
Labor		0	0	0					
Non-Labor	1	60	0	0					
NSE	ſ	0	0	0					
	Total	60							
FTE	1	0.0	0.0	0,0					

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 160 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 03853B - PT14030 Customer Analytics System - Phase II

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 161 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03853.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

6. Understanding Customers

Workpaper Group:

03853B - PT14030 Customer Analytics System - Phase II

Summary of Results (Constant 2013 \$ in 000s):

Forecast	Method	Adjusted Recorded				Adjı	sted Fored	ast	
Year	rs	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0			0	86	114
Non-Labor	Zero-Based	0	0	0	0	0	0	1,285	1,225
NSE	Zero-Based	0	0	0	0	0	0	1,200	1,220
Tota	al	0	0		0			1,371	1,339
FTE 	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.2

Business Purpose:

The purpose of the CAS Phase II project is to gain further understanding of customers using data analytics to achieve efficiencies in customer outreach. CAS Phase II will introduce data governance and data quality processes to improve the accuracy of customer data, maximizing re-use across the company in customer outreach campaigns, new product & service development, and internal reporting. The project will integrate more data sources into the common data model and define definitions for common understanding of customer segments across multiple business groups. The CAS Phase II project will build upon the data integration and data model established in the CAS 2013 project. CAS Phase II will integrate more data sources into the common data model and define definitions for common understanding of customer segments across multiple business groups. The result will be better understanding of customer segments, improved communications that align with customer needs, and a better customer experience.

Physical Description:

Five to seven new data sources will be integrated into EAS to support Customer Analytics. In addition, data quality and governance processes will be developed and deployed to support the data model for Customer Analytics. Self Service capabilities will be delivered to various business functions at SDG&E. Real time data integration (CDC).

Project Justification:

Will allow more targeted marketing campaigns with more efficient budgets. This project will minimize data gathering and data clean-up that most business users are doing today in separate and inconsistent ways. Maximizes the use of customer data to make strategic, tactical, and operational decisions.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits
Page 162 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03853.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

6. Understanding Customers

Workpaper Group:

03853B - PT14030 Customer Analytics System - Phase II

Forecast Methodology:

Labor - Zero-Based	
Estimate based on internal labor hours quotations	
Non-Labor - Zero-Based	
Estimate based on vendor quotations	
NSE - Zero-Based	
N/A	

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 163 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 03853B

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 164 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03853.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

6. Understanding Customers

Workpaper Group:

03853B - PT14030 Customer Analytics System - Phase II

Workpaper Detail:

03853B.001 - Five to seven new data sources will be integrated into EAS to support Customer Analytic

In-Service Date:

12/31/2015

Description:

Forecast In 2013 \$(000)								
	Years	2014	2015	2016				
Labor		0	73	0				
Non-Labor		0	321	0				
NSE	ĺ	0	0	. 0				
	Total	0	394					
FTE	1	0.0	0.7	0.0				

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 165 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03853.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

6. Understanding Customers

Workpaper Group: Workpaper Detail: 03853B - PT14030 Customer Analytics System - Phase II

03853B.002 - Customer Analytics System - Phase II

In-Service Date:

12/31/2015

Description:

Forecast In 2013 \$(000)								
	Years	2014	2015	2016				
Labor		0	13	0				
Non-Labor		0	964	0				
NSE	i	0	0	0				
	Total	0	977					
FTE		0.0	0.1	0.0				

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 166 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03853.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

6. Understanding Customers

Workpaper Group:

03853B - PT14030 Customer Analytics System - Phase II

Workpaper Detail:

03853B.003 - Customer Analytics System - Phase II

In-Service Date:

12/31/2016

Description:

Forecast in 2013 \$(000)									
	Years	2014	2015	2016					
Labor		0		97					
Non-Labor	[0	0	306					
NSE	1	0	0 .	0					
	Total	0	0	403					
FTE		0.0	0.0	1.0					

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 167 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03853.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

6. Understanding Customers

Workpaper Group:

03853B - PT14030 Customer Analytics System - Phase II

Workpaper Detail:

03853B.004 - Customer Analytics System - Phase II

In-Service Date:

12/31/2016

Description:

Forecast In 2013 \$(000)								
	Years	2014	2015	2016				
Labor		0	0	17				
Non-Labor		0	0	919				
NSE		0	0	0				
	Total	0	0	936				
FTE		0.0	0.0	0.2				

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 168 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Group 03853C - PT16003 Customer Analytics System - III

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 169 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03853.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

6. Understanding Customers

Workpaper Group:

03853C - PT16003 Customer Analytics System - III

Summary of Results (Constant 2013 \$ in 000s):

Forecast	Method	Adjusted Recorded					Adjusted Forecast		
Year	s	2009	2010	2011	2012	2013	2014	2015	2016
Labor	Zero-Based	0	0	0		0			733
Non-Labor	Zero-Based	o	0	0	0	0	n	0	175
NSE	Zero-Based	l 0	0	0	0	a	0	0	175
Tota	al								
FTE	Zero-Based	0.0	0.0	0.0	-	- 1	U	U	908
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2

Business Purpose:

The purpose of the CAS Phase III project is to provide business users with information and analytic tools to optimize channel usage by customers and Customer Programs effectiveness. This will involve integrating further data sources from web, Branch Office, and IVR channels into the Enterprise Analytics System for channel optimization. It will also include integrating further data sources from other databases and some 3rd parties for monitoring energy efficiency and demand response program effectiveness.

Physical Description:

Five to seven new data sources will be integrated into Enterprise Analytics System to support Customer Analytics. Data quality and governance processes will expanded. Channel optimization analytics tools will be evaluated and deployed. Program effectiveness analytics tools will be evaluated and deployed.

Project Justification:

Will allow Customer Services groups to optimize channel effectiveness by customer, minimizing the cost to serve customers through these channels. More effective Program analysis will minimize customer acquisition costs and provide greater clarity on program participation by customers, which will also allow SDG&E to affect better Program design with the CPUC through better data.

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits
Page 170 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03853.0

Category:

B. CS - Operations, Information, and Technologies

Category-Sub:

6. Understanding Customers

Workpaper Group:

03853C - PT16003 Customer Analytics System - III

Forecast Methodology:

Labor - Zero-Based

Estimate based on internal labor hours quotations

Non-Labor - Zero-Based

Estimate based on vendor quotations

NSE - Zero-Based

N/A

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 171 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Beginning of Workpaper Sub Details for Workpaper Group 03853C

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 172 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03853.0

Category:

Category-Sub:

B. CS - Operations, Information, and Technologies

Workpaper Group:

6. Understanding Customers

Workpaper Detail:

03853C - PT16003 Customer Analytics System - III 03853C.001 - Customer Analytics System - III

In-Service Date:

12/31/2016

Description:

		Forecast in 201	3 \$(000)	
	Years	2014	2015	2016
Labor	Í	0	0	623
Non-Labor		0	0	44
NSE	}	0	0	0
	Total	0	0	667
FTE		0.0	0.0	6.1

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 173 of 502

San Diego Gas & Electric Company 2016 GRC - APP Capital Workpapers

Area:

INFORMATION TECHNOLOGY

Witness:

Stephen J. Mikovits

Budget Code:

03853.0

Category:

J3603.U

Category-Sub:

B. CS - Operations, Information, and Technologies

Workpaper Group:

6. Understanding Customers

Workpaper Detail:

03853C - PT16003 Customer Analytics System - III 03853C.002 - Customer Analytics System - III

In-Service Date:

12/31/2016

Description:

		Forecast In 201	3 \$(000)	
	Years	2014	2015	2016
Labor		0	0	110
Non-Labor		0	0	131
NSE		0	0	0
	Total	0	0	241
FTE		0.0	0.0	1.1

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-19-CWP/Witness: S. Mikovits Page 174 of 502

SDG&E-ORA-DEF-009-TLG

Questions A.1 and B.1 Attachments

Supporting the Request of Bradley M. Baugh
Customer Service Operations, Information and Technologies

Exh No:SDG&E-14-IT Capital Projects			_							
Witness Name	Bradley M. Baugh	Baugh	-							
Constant 2013\$ in Thousands										
				1	0 0					
Capital Project Name	W/D#	Project #	2000	ľ	200				힏	
Branch Office Technical and Security Improvements	AC5000	14006	200		TOZ	7107	2013	2014		2016
EBPP Tech Refresh	008318	1,5000							\$824	
-Avenue Replacement	CESSOO	15003							\$2,080	\$3,891
Sub-Total Technical Obsolescence	Ciccon	71001	5	4	1				4	\$245
SCG MyAccount Accessibility	008310	11013	2	3	S (05	S	0\$	\$5,852	\$4,136
SDG&E MyAccount Accessibility	008316	12051			Oct.	\$2,027	\$745	\$113	_	
C&I Business Portal	008311	14015				٨	2/0/54	\$4,704	\$1,587	
IVR Phase 4 SDG&E	008311	14023						, I		\$7,347
SDG&E.com Redesign	00831A	15007			\$1.742	\$22		TCC+	coco	
Bill Re-Design	03849C	15800	\$1,233	\$1,044	\$6	\$			\$1 930	¢1 204
Sub-Total Improving Customer Experience			\$1,233	\$1,044	\$1.798	\$2.056	\$3.817	\$5.368	\$3.802	CO 741
Smart Peak Pricing (separate recovery mechanism outside of GRC ¹)	10872A	10872		\$1,191	\$11.503	\$13.568	\$11 896	\$1 037	300/ox	1
GRC Phase 2	03851D	13003				\$231	\$736	\$635		
Critical Peak Pricing Default (CPP-D)	03851F	13021					\$375	\$5.731	\$7.445	
Reduce Your Use Opt-In	13849A	13026					\$538	\$998 \$998	2	
CEN Phase 4 - System Enhancement	03849A	14039					2	2	CAEE	ÇAEE
Direct Access Service Request (DASR)	00831M	14040							55.55 57.55	400
CCA - Community Choice Aggregation	00831N	14065							\$ 050	
Smart Meter IT Phase 3 Billing (separate recovery mechanism outside of GRC ²)	04843A	14843	\$75 753	\$16,000	\$44 03E	000	0 20 0	1,00	74,330	
Sub-Total Mandated			\$25,753	\$17.200	\$26.339	\$23,619	\$20,219	\$917 ¢\$	¢41 333	6467
Smart Energy Advisor	008330	13009					\$1,002	61115	711,663	2400
Net Energy Metering Enhancement	03849B	13012					\$4,333	51,115		
	00833R	13013					\$1.722	\$314		
Smart Meter Operations Center Exceptions Management (SMOC-EM)	03851H	13031						\$2,802	\$508	
Office the segretaring (OBR) Enhancement	00831E	14005							\$554	
Cmart Engage Calculation Engine	00833F	14013						\$2,071	\$3,007	
iliai cileigy Advisor 2	0833G	14017						\$2.724		
Sub-Total Business Optimization			\$0	Ş	\$	\$	\$4.177	\$9.095	\$4.069	Ş
Customer Analytics System 2013	00821A	13010				\$606	(\$42)	\$2.562	200	3
Customer Analytics System - Phase II	03853B	14030							\$1 271	\$1 220
Customer Analytics System - III	038530	16003							4 17 14 14	0000
Sub-Total Business Understanding Customers		İ	\$0	Ş	ŞO	\$606	(\$42)	\$2 552	¢4 374	2000
Other Customer Service projects in IT Capital History			(\$2.687)	\$2.639	\$8.089	\$13 791	\$0.707	42,302	1/6/16	35,247
GRAND TOTAL ALL			\$24,298	\$20,883	1	+	+	\$26.743	\$76 317	¢15 570
GRAND TOTAL (without Smart Meter and Smart Pricing - separate recovery outside of GRC)	of GRC)		(\$1,455)	\$3,683	-		-11	\$73.897	\$76.317	\$15 570
					-	+		-	1000	440000

2 of 2

San Diego Gas & Electric Company 2016 GRC - APP Shared Services Workpapers

Witness Name Constant 2013\$ in Thousands Year to Year Explanations	Witness Name Constant 2013\$ in Thousands Constant 2013\$ in Thousands Year to Year Explanations Including the Smart Meter and Smart Pricing Programs (which have separate recovery mechanism outside of GRC), SDG&E Customer Services Office Operations and Information spent at a higher than normal randitial layer for 2013.
	saugh tside of GRC), SDG&E Customer Services Office Operations and Information spent at a higher
	itside of GRC), SDG&E Customer Services Office Operations and Information spent at a higher
lanations	itside of GRC), SDG&E Customer Services Office Operations and Information spent at a higher
lanations	itside of GRC), SDG&E Customer Services Office Operations and Information spent at a higher
lanations	tside of GRC), SDG&E Customer Services Office Operations and Information spent at a higher
	tside of GRC), SDG&E Customer Services Office Operations and Information spent at a higher
Including the Smart Meter and Smart Pricing Programs (which have separate recovery mechanism outs than normal capital level for 2009 - 2013. Removing Smart Meter and Smart Pricing capital, the primar focus on making the My Account website more accessible to customers and improving the overall cust website. These projects included the Contact and Campaign Managment project (2010 - 2013), the My (2013).	focus on making the My Account website more accessible to customers and improving capital, the primary driver for the increases in capital spending for 2010 – 2013 are attributable to the increased focus on making the My Account website. These projects included the Contact and Campaign Managment project (2010 - 2013), the My Account Accessability project (2011 - 2015), and the improved Customer Experience project (2013).

SDG&E-ORA-DEF-009-TLG-Question A1

Other year to year changes of capital spending can be attributed to the annual IT Capital Prioritization Process. As stated by Witness Stephen Mikovits, "Rankings are determined based on various The large change from 2013 to 2014 was a result of both the Smart Meter and Smart Pricing Programs reducing spending as those programs neared completion. While 2014 and 2015 forecasts are higher than historical capital spending levels, this is primarily driven by new projects focused on maximizing the value of interval data now available post the Smart Meter Program. The reduction factors including, but not limited to, regulatory requirements, critical service maintenance needs and/or cost benefit analyses". A complete explanation of the IT Capital Prioritization Process can from 2015 to 2016 was primarily driven by the inclusion of projects with a 2016 in service date. be found in Witness Stephen Mikovits, Ex. SDG&E-19 section IV.B.

Recovered through SDG&E's Dynamic Pricing Balancing Account pursuant to CPUC D. 12-12-004	Recovered through SDG&E's Advanced Metering Infrastructure Balancing Account pursuant to CPUC D.07-04-043 and as modified by D.11-03-042

	ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1	cy Data F	Rednest	SDG&E-	ORA-DE	F-009-TLG	3 Question	ו B.1		
Exh No:SDG&E-14-WP										
Witness Name	Bradley M. Baugh	hgh								
Constant 2013\$ in Thousands										
	1	Adjusted Recorded	Recorde	9			Variance	Variances by Year		Workpaper Page
	2009	2010	2011	2012	2013		2010-11	2009-10 2010-11 2011-12	2012-13	L
100000.000 - Advanced Metering Ops										
Labor	4,681	5,070	4,870	7,311	7,556	389	(200)	2,441	245	
NLbr	809	514	552		579	(94)	38		(263)	
NSE	0	0	0	0	0	0	0	0	0	
100000.000 Total	5,289	5,584	5,422	8,153	8,135	295	(162)	2,731	(18)	(18) Page 6 of 209
									,	
Variance Explanation	cplanation						Variance	Variance Amount		
2009-10										
Labor										
Labor increased with the addition of four positio	four positions (project manager, dispatcher, sr. system	ager, di	spatcher	, sr. syst	tem					
analyst and business advisor)						198				
Labor increased due to three management positions and associated activities transferred from	ions and associ	ated acti	vities tra	ansferre	d from					
Meter Reading to Advanced Metering Operation	Ig Operations due to the closure of the Meter Reading	sure of 1	he Mete	er Readi	ng					
Department						146				
Increased field overtime						45				
						389				
NLbr										
Decrease in computer hardware expenses						(70)				
Decrease in misc. field tool expenses						(24)				
						(94)				
						295				

SDG&E/CS - INFORMATION & OFFICE OPERATIONS /Exh No:SDG&E-14-WP/Witness: B. Baugh Page 384 of 472

ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1

Exh No:SDG&E-14-WP	:									
Witness Name	Bradley M. Baugh	hgh								
Constant 2013\$ in Thousands										
	đ	Adjusted Recorded	Recorde	9			Variance	Variances by Year		Workpaper Page
	2009	2010	2011	2012	2013	2009-10	2010-11 2011-12	2011-12	2012-13	
100000.000 - Advanced Metering Ops										
Labor	4,681	5,070	4,870	7,311	7,556	389	(200)	2,441	245	
NLbr	809	514	552	842	579	(94)	38	290	(263)	
NSE	0	0	0	0	0	0	0	0	0	
100000.000 Total	5,289	5,584	5,422	8,153	8,135	295	(162)	2,731	(18)	Page 6 of 209
Variance Ex	ince Explanation					İ	Variance Amount	Amount		
2010-11										
Labor										
Decrease in field labor positions due to Smart Meter deployment efforts	leter deploymer	nt efforts								
							(166)			
Decrease due to two employees on leave							(34)			
							(200)			
NLbr										
Increase in misc. field equipment							17			
Increase in computer hardware expenses							21			
							38			
							(162)			

ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1

EXI NO.3DG&C-14-WP									,	
Witness Name	Bradley M. Baugh	lgh								
Constant 2013\$ in Thousands										
	A	Adjusted Recorded	ecorde	ъ			Variance	Variances by Year		Workpaper Page
	2009	2010	2011	2012	2013	2009-10		2011-12	2010-11 2011-12 2012-13	i
100000.000 - Advanced Metering Ops										
Labor	4,681	5,070	4,870	7,311	7,556	389	(200)	2,441	245	
NLbr	809	514	552	842	579	(94)	38	290	(263)	
NSE	0	0	0	0	0	0	0	0	0	
100000.000 Total	5,289	5,584	5,422	8,153	8,135	295	(162)	2,731	(18)	Page 6 of 209
							_ :			
Variance Explanation	xplanation						Variance	Variance Amount		
2011-12										
Labor						!				
increase in labor is primarily due to the transition of activities from the Smart Meter program	on of activities fro	om the Sr	nart Me	eter pro	gram					
to Advanced Metering Operations in the following areas: Smart Meter Data Operations,	ing areas: Smart	Meter Da	ata Ope	rations,				_		
System Network, Single Phase Technicians/Meter Installers	er Installers							2,310		
Increase in field overtime								131		
								2,441		
NLbr										
Temporary increase in agency labor to fill positic	position in Smart Meter Data Operations	er Data O	peratio	Su						
							_	144		
Increase in misc. field equipment								73		
Increase in misc. office expenses								26		
Increase in employee-related expenses								47		
	-							290		
		_	_		_			727		

Page 4 of 64

Note: Totals may include rounding differences.

Exh No:SDG&E-14-WP										
Witness Name	Bradley M. Baugh	ygr Har								
Constant 2013\$ in Thousands										
	A	Adjusted Recorded	Recorde	D.			Variance	Variances by Year		Workpaper Page
	2009	2010	2011	2012	2013		2009-10 2010-11	2011-12	2011-12 2012-13	
100000.000 - Advanced Metering Ops										
Labor	4,681	5,070	4,870	7,311	7,556	389	(200)	2,441	245	
NLbr	809	514	552	842	579	(94)	38	290	(263)	
NSE	0	0	0	0	0	0	0	0	0	
100000.000 Total	5,289	5,584	5,422	8,153	8,135	295	(162)	2,731	(18)	Page 6 of 209
Variance Explanation	planation						Variance	Variance Amount		
2012-13										
Labor										
Labor costs increased due to the resumption of field work (deferred during Smart Meter	ield work (defe	rred duri	ng Sma	rt Mete	<u>. </u>					
deployment) and Advanced Metering Operations	rations absorbing manual meter reading (due to the	nual met	er readi	ng (due	to the					
closure of the Meter Reading Department). Increased costs were offset by employees retiring	eased costs wer	e offset	by emp	loyees r	etiring					
or moving to other areas of the company.					l				378	
Decrease in field overtime									(133)	
									242	
NLbr										
Decrease in temporary agency labor in Smart Me	art Meter Data Operations	tions							(144)	
Decrease in misc. field equipment				i					(40)	
Decrease in employee-related expenses									(26)	
									(210)	
									35	

ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1

				Morkey	workpaper rage	-13		0 0	0	0	0 Page 21 of 209	-									
DEF-009-TLG Question B.1	,			Variances by Year	1000 10 2010 11 2011 12 2212	2002-10 2010-11 2011-12 2012-13	(2 143) (2 745) (4 153)	(5,7,40)	8) (10)		(2,619) (2,806) (4,251)		Variance Amount		(2,143)	(2,143)		(323)	(153)	(476)	
ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1		Bradley M. Baugh		Adjusted Recorded	2009 2010 2011 2012 2013		9,050 6,907 4,162 0 0		3 0	1010	9,6/6 /,05/ 4,251 0 0	Variance Evaluation	Explanation	there was a reduction in mater readers.	anced Metering Operations.			rare expenses on meter reading handheld devices	Decises in ineter reager non-labor expenses due to the implementation of Smart Meter		
	Exh No:SDG&E-14-WP	Witness Name	Constant 2013\$ in Thousands			100001.000 - Meter Reading	Labor	NLbr	NSE	100001.000 Total		conciseV	2000 10	Due to Smart Meter deployment there was		NFbr	Roduction in hardman	Decreases in mater and software expens	Deciease III Illeter reader non-labor expense		-

	ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1	ocy Data	Request	SDG&E	-ORA-	DEF-009-	TLG Ques	tion B.1		
h No:SDG&E-14-WP										
itness Name	Bradley M. Baugh									
nstant 2013\$ in Thousands										
	Adjus	Adjusted Recorded	orded				Variances by Year	s by Year		Worknaper Page
	2009	2010	2011	2012	2013	2009-10	2013 2009-10 2010-11 2011-12 2012-13	2011-12	2012-13	on Indiad
100001.000 - Meter Reading							11 0101	77.77	2017	
Labor	9,050	6,907	4,162	0	0	(2,143)	(2,745)	(4.162)	C	
NLbr	626	150	68	0	0	(476)	(61)	(88)	0	
NSE	0	0	0	0	0	0	0	0	0	
100001.000 Total	9,676	7,057	4,251	0	0	(2,619)	(2,806)	(4,251)		Page 21 of 209
		-								
Varian	Variance Explanation				┢		Variance Amount	Amount		
2010-11				-	\vdash					
bor										
e to Smart Meter deployment there wa	t there was a reduction in meter readers	er reader			1		(2.745)			
				ļ						
							(2,745)			
br										
crease in meter reader non-labor expenses due to the implementation of Smart Meter	nses due to the imple	mentatio	n of Sm	art Met	ja Ja		(61)			
				-			(61)			
					_	_	(2,806)			

100001.0
Labor
NLbr
Due to Smart Meti

4
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₽
7
age
Δ.

Note: Totals may include rounding differences.

	ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1	cy Data	Request	SDG&I	E-ORA	DEF-009	TLG Ques	tion B.1			
Exh No:SDG&E-14-WP											٢
Witness Name	Bradley M. Baugh										
Constant 2013\$ in Thousands											
											$\overline{}$
	Adjus	15	orded				Variance	Variances by Year		Workpaper Page	$\overline{}$
100001 000 - Meter Beach	2009	2010	2011	2012	2013	2009-10	2010-11	2009-10 2010-11 2011-12	2012-13	205	Т
Shor											T-
Labor.	9,050	6,907	4,162	0	0	(2,143)	(2,745)	(4,162)	0		<u> </u>
NLDF	979	150	89	0	0	(476)	(61)	(88)	0		$\overline{\top}$
INSE	0	0	0	0	0	0	0		c		1
100001.000 Total	9,676	7,057	4,251	0	0	(2,619)	(2,806)	(4,251)	0	Page 21 of 209	1
Varianc	Variance Explanation										
2011-12					1		Variance	Variance Amount			
Labor									ŀ		
Smart Meter deployment there	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-			1						
	was a reduction in meter readers	reader	,,					(4,162)			_
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NLbr						l		(4,162)			
Decrease in meter roador and Jahan		_		_	!						1
Designation of Smart Meter	ses due to the implen	nentatio	n of Sm	art Met	jā J			(88)			1 1
					\dagger			1007			- 1
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				\dagger				(4.25.4)			
2012-13				\mid	\dagger			(4,431)			_
Labor											_
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SDG&E/CS - INFORMATION & OFFICE OPERATIONS /Exh No:SDG&E-14-WP/Witness: B. Baugh Page 390 of 472

Workpaper Page Page 27 of 209 2012-13 (11)2 0 81 2011-12 (12) 650 0 638 Variance Amount Variances by Year ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1 2010-11 (200) (246)0 (84) 2009-10 0 59 (84)(84)2 2 4 59 143 23 2013 4,768 305 5,073 0 ncrease due to timing of purchasing bill stock for special handled bills and other misc. Decrease in labor primarily due to positions that were unfilled and employee leave 2012 316 4,687 5,003 Consulting fees for Smart Meter departmental organization optimization Adjusted Recorded 2011 4,037 328 0 4,365 2010 4,237 374 4,611 0 Variance Explanation which was offset by an increase in overtime expenses Bradley M. Baugh Agency labor to cover temporary employee leave 2009 4,552 4,321 231 increase in hardware expenses Constant 2013\$ in Thousands 100002.000 - Billing 100002.000 Total Exh No:SDG&E-14-WP 2009-10 Labor NLbr Witness Name NSE Labor NLbr

1,1				(Par	2042 42	27-77	650 81				2		unt													
9-TLG Question E				Variances by Year	2010-11 201	┸	(200)		(2)				variance Amount			(200)	(222)	(200)	(22)	(30)	(20)	(15)	(8)	m	(46)	(246)
ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1					2009-10	27 2027	(84)	143	C	59								-								
					2013		4,768	305	0	5,073						Meter						acion				
				Pi	2012		4,687	316	0	5,003						port Smart					1000	opulliza				
				Adjusted Recorded	2011		4,037	328	0	4,365						ving to sup					Stationary	OI Bailleath				
ORA Del		hgr		Adjust	2010		4,237	374	0	4,611		anation				loyees mov	loyees mo				artmental	מורוופוופו				
		Bradley M. Baugh			2009		4,321	231	0	4,552		Variance Explanation				rily due to empl					nart Mater den	25		enses		
ORA Deficiency	Exh No:SDG&E-14-WP	Witness Name	Constant 2013\$ in Thousands			100002.000 - Billing	Labor	NLbr	NSE	100002.000 Total			2009-10	2010-11	Labor	Temporary labor decrease primarily due to employees moving to support Smart Meter	deployment.		NLbr	Decrease in hardware purchases	Decrease in consulting fees for Smart Meter denartmental consulting fees for Smart Meter denartmental	Decrease in mice office automated	Deci ease ill lillsc. Office expenses	Increase in employee-related expenses		

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ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1		Bradley M. Baugh	SK	Adjusted Recorded Variances hy Vear	2009 2010 2011 2012 2013 2013 2013 2013 2013		4,321 4,237 4,037 4,687 4,768 (84) (2001) GEO 01	305 143 (46) (12)	(21) (64) 6:2	5,073 59 (746) 638 70	000	Variance Explanation	Variance Amount			ON ONDER STORY OF THE SECOND STORY OF THE SECO	Smart Meter program to Billing Department and increasing the lavel of hilling positions.	to billing activities due to the deployment of Smart Meters	099		Increase in employee training related to implementation of Smart Mater	Reduction in temporary appared labor with the return of contract wherein	cy labor with the return of employee resources (29)	expenses 19	nses (21)	(27)	(71)
ORA Deficie		idley M. Baugh		Adjusted	L		4,237			4,611		riance Explanation				s boteinose bas seevola	ipio) ces and associated at	activities due to the deplo			to implementation of Sm	of the country of the color of	michi che recurni di empio	es			
	-14-WP		Constant 2013\$ in Thousands			100002.000 - Billing	Labor	NLbr	NSE	100002.000 Total		N	2009-10	2011-12	Labor	Increase in Jabor primarily due to em	Smart Meter program to Billing Depa	to account for more complex billing		NLbr	Increase in employee training related	Reduction in temporary agency labor	Increase in employee related overcase	Derroare in mire office	Deci case III IIIIsc. Office expenses		

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					Workpaper Page						2000	rage 27 of 209															11000	
						2012-13		81	(11)	Ì		\neg							81		81		37	(00)	(87)	(20)	(11)	70
tion B.1					Variances by Year	2011-12		650	(12)		003	020		Variance Amount														
ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1					Variance	2010-11		(200)	(46)	6	(3/6)	(242)		Variance					_									
3A-DEF-00						2009-10		(84)	143	c	5 6	3							•									[
SDG&E-O						2013		4,768	305	o	5.073	2/2/2						1	inplex									
ta Request				-	- 1	2012		4,687	316	0	5,003					-												
ficiency Da				Legan Double	בת עברתו מנ	2011		4,037	328	0	4,365							4010006	accoulit i	-						-		
ORA Dei		Hgr		151.10	Adjust	2010		4,237	374	0	4,611		- doite	aliation				ocitions #	Meters	ואוכוכו			employee					
		Bradley M. Baugh			0000	5007		4,321	231	0	4,552		Variance Explanation	ימוימוימי ביאליו				veling hilling	ment of Smart	in in in in in in in in in in in in in i			for a retired employee		enses			
	Exh No:SDG&E-14-WP	Π	Constant 2013\$ in Thousands			100002 000 - Billing	9,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Labor	NLbr	NSE	100002.000 Total			2009-10	2012_12		Labor	Additional labor increase due to leveling hilling positions to account for more	billing activities due to the deployment of Smart Meters			14	 Agency labor to temporary backfill for	Decrease in misc. office expenses	Decrease in employee-related expens			

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ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1		Bradley M. Baugh		Adjusted Recorded Variances by Year	7	TT-0407 01 0001	2,025 2,066 2,086 2,123 2,227 41 20 37 104	480 (37) 21 (60)	C (0C) 17 (C) 0 0 0		\perp	Variance Explanation	TIDOUS COLORES			tillelit for an employee nired mid-2009	41		sed collection volumes	eter Revenue Protection Spacialists		11	(5)	(37)	
ORA Deficiency Dat	-	ey M. Baugh		Adjuste			2,066			7 507	2,002	lanation				employee nired mi			n volumes	Je Protection Speci					_
	Exh No:SDG&E-14-WP	Witness Name Bradie	Constant 2013\$ in Thousands			100003.000 - Credit & Collections		NLbr	NSE	100003.000 Total			2009-10	Labor	Labor increase due to a full year admistrach team and team of an original team.	ייני כייני מכך מכך ולייני אבשו שתומארווופוור וסן שנויין		NLbr	Decrease in agency fees due to decreased collection	Increase in equipment (gas locks) for Meter Revenu	Increase in employee-related exnenses	Doctor in min office	Decrease III IIIsc. Office expenses		

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Exh No:SDG&E-14-WP										
Witness Name	Bradley M. Baugh	Baugh								
\$ in Thousands										
		Adjus	Adjusted Recorded	ded			Variances by Year	by Year		Workpaper Page
	2009	2010	2011	2012	2013	2009-10	2010-11	2011-12	2012-13	305
100003.000 - Credit & Collections										
Labor	2,025	2,066	2,086	2,123	2,227	41	20	37	104	
NLbr	553	516	537	447	480	(37)	21	(06)	33	
NSE	0	0	0	0	0	0	C		3 0	
100003.000 Total	2,578	2,582	2,623	2,570	2,707	4	41	(53)		Page 39 of 209
Variance	Co Evaluation	_			1					
2010	LApianaci	<u></u> -	-				Variance Amount	Amount		
							-			
Labor			<u> </u>							
case misses printainy due to minis an open position offset by employee leave	position of	Tset by en	iployee le: 	ave			20			
IN							20			
							_			
Decrease in equipment for one-time purchase of gas locks for Meter Revenue Protection Specialists	of gas lock	s for Mete	er Revenu	e Protectic	<u></u>	_	(13)			
Increase in agency fees due to increased colle	lection volumes	es					27			
Decrease due to annual timing of vendor invoices which fluctuate throughout the year	ices which f	luctuate th	roughout	the year			(64)			
Increase in safety equipment for Meter Revenue Protection Specialists	ue Protection	on Speciali	sts				5			
Paper stock for notices required to be mailed to give residential customers information about	to give resic	dential cus	tomers inf	formation	about		46			
the upcoming transition to Smart Meter disconnection that would be effective July 1, 2012	nnection th	at would b	e effective	e July 1, 20	112	_	2			
Decrease in employee-related expenses										
cocindo popular de la companya de la							(15)			
							21			
				_			41			

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Exh No:SDG&E-14-WP										
Witness Name	Bradley M. Baugh	Baugh								
Constant 2013\$ in Thousands										
		Adju	Adjusted Recorded	ded			Variances by Year	hy Vear		0.0000000000000000000000000000000000000
	2009	2010	2011	2012	2013	2009-10	2010-11	2009-10 2010-11 2011 12	26.000	workpaper Page
100003.000 - Credit & Collections						2007	77-070-	77-77	2017-13	
Labor	2,025	2,066	2,086	2,123	2.227	41	20	37	10,	
NLbr	553	516	537	447	480	(37)	21	(00)	704	
NSE	0	0	0	0	0	C	C	()	3	
100003.000 Total	2,578	2,582	2,623	2,570	2,707	4	41	(53)	137	Page 39 of 209
Varianc	Variance Explanation				-					
2011 13							Variance Amount	Amount		
Labor Labor increase primarily due to Meter Revenue Protection employee and associated activities transitioning from the Smart Meter program offset by a decrease due to unfilled position	ue Protectio offset by a c	n employ lecrease d	ee and ass due to unfi	ociated act	ivities			37		
1114								37		
NLDr										
Reduction for the prior purchase of safety equipment for Meter Revenue Protection Specialists	uipment for	Meter Re	venue Pro	tection Spe	ecialists			(5)		
Increase in agency fees due to increased collection volumes	ection volum	es						36		
Reduction for prior purchase of paper stock for notices required to be mailed to give residential customers information about the upcoming transition to Smart Meter disconnection	or notices re ransition to	quired to Smart Me	be mailed ter discon	to give res	idential			(33)		
Decrease due to annual timing of vendor invoices which fluctuates throughout the year	oices which f	luctuates	throughou	ıt the vear				(77)		
Decrease in employee-related expenses)					9		
Decrease due to half of licensing fees paid due to implementation of new collection systems	e to implem	entation	of new coll	ection syst	ems			(31)		
								(06)		
								(53)		

Exh No:SDG&E-14-WP										
Witness Name	Bradley M.	Baugh								
Constant 2013\$ in Thousands		D								
		Adjus	Adjusted Recorded	Jed			Variances by Year	hv Year		Worknapper Barry
	2009	2010	2011	2012	2013	2009-10	2010-11	2011.12	2012 12	workpaper rage
100003.000 - Credit & Collections						07 000				
Labor	2,025	2,066	2,086	2,123	2,227	41	20	37	101	
NLbr	553	516	537	447	480	(37)	27	(90)	704	
NSE	0	0	0	0	0	C	1	(05)	3	
100003.000 Total	2,578	2,582	2,623	2,570	2,707	4	41	(53)	137	Page 39 of 209
										201 10 20 20 30
Variance	e Explanation	u.					Variance Amount	mount		
2012-13							an iairce	AIIIO AIIIC		
Labor										
Labor increase primarily due to open positions being filled offset by a reduction due to	is being fille	d offset by	- reductive	- رو دونو						
employee leave	0	, , , , , , , , , , , , , , , , , , ,		ממפ נס	_	-			104	
									104	
NLbr									104	
 Increase due to annual timing of wandor invisi	- 40;4m, 000	_ 1	-	 •						
Vendor implementation for for now collections which fluctuates throughout the year	ces wnich fi	uctuates ti	ıroughout	the year	1				30	
Danar chark ownering for Control Hew Collection	on systems								89	
I aper stock expenses for Smart Meter disconnection letters incurred in prior year	nection lette	ers incurre	d in prior	year					(19)	
Decides in employee-related expenses									(8)	
Decrease in collection fees due to new collection systems	ion systems								(88)	
increase in licensing fees due to new collection systems	n systems								99	
Increase due to temporary agency labor incurred in 2013 but not in 2012	red in 2013	but not in	2012						3 0	
Decrease in other misc. office expenses		ŀ							(12)	
Decrease due to invoice timing for past due no	otices								(27)	
		-					İ		(77)	
									33	
		+	-	+						
				-					137	

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		ORA	eficiency	ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1	st SDG&E-	ORA-DEF-0	39-TLG Que	estion B.1		
Exh No:SDG&E-14-WP										
Witness Name	Bradley M. Baugh	augh								
Constant 2013\$ in Thousands										
		Adjus	Adjusted Recorded	pap			Variance	Variances by Year		Worknaper Pag
	2009	2010	2011	2012	2013	2009-10	2010-11	2011-12	2012.12	5
100004.000 - Remittance Processing	ice Processing						-0-0	77 7707	CT_7707	
Labor	0	0	0	0	0	0	0	C	C	
NLbr	1,025	877	988	815	887	(148)	6	(71)	77	
NSE	0	0	0	0	0	0	C	C	1 0	
100004.000 Total	1,025	877	886	815	887	(148)	6	(71)	77	Daga 52 of 200
							,	17.	7/	1 age 27 01 203
	Variance Explanation	lanation					Varions	A		
2009-10		-					אמומונע	Valiance Amount		
Labor										
			ļ							
						-				
NEDL										
Decrease due to forms and envelopes changed to larger sizes due to bill redesign -	lopes changed	to larger	sizes due	to bill redes	ign -	(189)				
partly purchased in 2009 for 2010 usage	10 usage)					
Increase due to fees paid to vendor for e-bills delivery services	dor for e-bills	delivery se	rvices			85				
Decrease in software expenses i	for electronic bills and electronic nayments	ills and el	ectronic n	avmente		(17)				
						(/1)				
		-		-		(148)				
		_		_		(170)	_			

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Witness Name Bradley M. Baugh Constant 2013\$ in Thousands Adjusted Recorded 2009 2010 2011 Labor 0 0 0 NLbr 1,025 877 886 NSE 0 0 0 100004.000 Total 1,025 877 886 Variance Explanation 2010-11 Aariance Explanation						_	
2009 2009 2009 2009 2000 2000 2000 2000							
2009 20 nittance Processing 0 1,025 8 1,025 8 Variance Explanat							
2009 2 nittance Processing 0 1,025 8 1,025 8 Variance Explana							
2009 2010 nittance Processing 0 0 0 1,025 877 0 0 0 1,025 877 Variance Explanation	rded			Variance	Variances by Year		Worknaper Page
nittance Processing 0 0 1,025 877 0 0 1,025 877 Variance Explanation	2012	2013	2009-10	2010-11	2011-12	2012-13	Sp. Fodody
1,025 877 0 0 0 1,025 877 1,025 877 Variance Explanation						2017	
1,025 877 0 0 0 1,025 877 Variance Explanation	0	0	0	0	C	c	
1,025 877 Variance Explanation	815	887	(148)	6	(17)	7	
1,025 877 Variance Explanation	0	0	0	0		1 0	
Var	815	887	(148)	6	(71)	1/2	Page 52 of 209
Var					1	1/	207 10 70 202 1
				Variance	Variance Amount		
				Adilaila	TINOMIK		
ncrease due to forms and envelopes used in 2010 were partly paid in 2011	id in 2011			3			
ecrease due to vendor fees for electronic bill delivery services				(3)			
ncrease in software expenses for electronic bills and electronic payments	ayments			6			
				6			
				6			

		ORA	Deficiency	ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1	st SDG&E-	ORA-DEF-0	09-TLG Que	estion B.1		
Exh No:SDG&E-14-WP										
Witness Name	Bradley M. Baugh	Baugh								
Constant 2013\$ in Thousands										
		Adjus	Adjusted Recorded	ded			Variance	Variances by Year		Workpaper Pa
	5005	2010	2011	2012	2013	2009-10	2010-11	2011-12	2012-13	
100004.000 - Remittan	nce Processing	20				22	2010 11	1	2017-73	
Labor	0	0	0	0	0	0	0	C	0	
NLbr	1,025	877	988	815	887	(148)	6	(71)	77	
NSE	0	0	0	0	0	0	0	Û	c	
100004.000 Total	1,025	877	988	815	887	(148)	6	(71)	1	Page 52 of 209
								1		22.0.20.1
	Variance Explanation	planation					Variance	Variance Amount		
2011-12							Variatice	Amoniic		
Labor							ĺ			
							ĺ			
			ļ							
NLbr								,		
Decrease due to forms and enve	relopes used in 2012 were narrly paid in 2011	2012 were	o nartk na	id in 2011				(00)		
7			24 65 50 6	7707 5				(00)		
Declease due to vendor tees for electronic bill delivery services	electronic bi	Il delivery s	ervices					00		
Increase in software expenses for electronic bills and electronic payments	or electronic	bills and ele	ectronic pa	yments				н		
								(71)		
		1								
			_					(74)		

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Exh No:SDG&E-14-WP				-							٢
Witness Name	Bradley M	ey M. Baugh									1
Constant 2013\$ in Thousands											_
											1
		Adju	Adjusted Recorded	eq			Variances by Year	s by Year		Morkpaper Bage	\neg
	2009	2010	2011	2012	2013	2000-10	2010 11	2017 12	0.000	ייסיי הקפקה רפקה	Т
100004.000 - Remittance Processing	ce Processi	lg.				7-6007 7003-T0	77-0707	71-1707	7017-13		-1
Labor	0	0	0	0	c		-	0	6		
NLbr	1,025	877	886	815	887	(1/8)		0 2	۶ ۲		_
NSE	0	0	0	-		(2)	0 0	(1)	7/		$\overline{}$
100004.000 Total	1,025	877	886	815	887	(1/8)		711)			_
					3	(011)	0	(1/)	7/	Page 52 of 209	_
	7/0-12-1										
	Variance Explanation	xplanation		j			Variance Amount	Amount			Γ
2012-13											Ţ
Labor											j
											_
									-		
											T
											Т
											- -
NLbr											T
Increase due to forms and envelopes including supplies used in Nov and Dec 2012 hint	ppes includi	ng supplies	used in Nov	and Dec 20	11.2 h.rt				1		_
paid for in 2013					775 Dat		-	•	27		
Decrease due to vendor fees for electronic hill delivery services	electronich	ill delivery	parvices								j
Increase in software expenses	oj menanojo a	1	55.						20		
חו פסורשמו ב בעליבווספין	- בובכונסחוכ	ronic bills and electronic payments	ectronic pay	ments					25		1
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									72		_
											
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ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1

Exh No:SDG&F-14-WP			phan pan (a	ביי מייניין איניין יניין איין א	20 12 12	בים ממו	T'a liones			
Witness Name	Bradley M. Baugh	ugh								
Constant 2013\$ in Thousands										
		Adjusi	Adjusted Recorded				Variance	Variances by Year		Workpaper Page
	2009	2010	2011	2012	2013	2009-10	2010-11	2011-12	2012-13	
100004.001 - Postage										
Labor	0	0	0	0	0	0	0	0	0	
NLbr	(1)	(1)	0	0	0	0	1	0	0	
NSE	5,059	5,008	4,979	4,597	4,431	(51)	(29)	(382)	(166)	
100004.001 Total	5,058	5,007	4,979	4,597	4,431	(51)	(28)	(382)	(166)	(166) Page 64 of 209
	Variance	Variance Explanation					Variance	Variance Amount		
2009-10										
NSE										
Volume of paper bills and notices were lower		by 227,370 x effective rate \$0.3921905	ctive rate \$0.	3921905		(68)			-	
Difference due to higher effective rate (2010)		volume 12 673 112 x rate differential \$0 0020175	2 v rate diffe	rential ¢0 003	01751	200				
		76.06.	יב אי מני מוופ	ביונומו ליטיסס	(6/10)	00				
						(51)				
						(51)				
2010-11						(40)				
NSE										
Volume of paper bills and notices were lower	s were lower b	by 124,816 x effective rate \$0.3952081	ctive rate \$0.	3952081			(49)			
Difference due to higher effective rate (2011 volume 12,548,296 x rate differential \$0.0015578)	ve rate (2011 vo	lume 12,548,29	6 x rate differ	rential \$0.001	5578)					
							20			
							(29)			
							(29)			

ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1					Adjusted Recorded Worknaper Page	2012 13	71.1107 11.0107 01.007 0101		0 0	4.431 (51) (79) (382) (15	4,597 4,431 (51) (28) (382)	planation Variance Amount			Volume of paper bills and notices were lower by 479,262 x effective rate \$0.3967869	0.0158652)		(382)	(382)			Volume of paper bills and notices were lower by 599,365 x effective rate \$0.3809007	3 volume 11,469,669 x rate differential \$0.0054470)	(321)	(166)
)09-TLG Q≀						3 2009-10	7																		
RA-DEF-0				!		201		0		4.431	4,431					586521	(2000)						54470)		
st SDG&E-O						2012		0	0	4,597	4,597				967869	ntial -\$0.01	 - -				•	809007	ential \$0.00		
/ Data Reque					d Recorded	2011		0	0	4,979	4,979				ive rate \$0.3	rate differe						ve rate \$0.3	x rate differe		
ORA Deficiency					Adjusted	2010		0	(1)	5,008	5,007	planation			79,262 x effect	ne 12,069,034 x						99,365 x effecti	ne 11,469,669		
		Bradley M. Baugh				2009		0	(1)	5,059	5,058	Variance Explanation			were lower by 4	rate (2012 volum						were lower by 59	rate (2013 volur		
	Exh No:SDG&E-14-WP	Witness Name	Constant 2013\$ in Thousands				100004.001 - Postage	Labor	NLbr	NSE	100004.001 Total		2011-12	NSE	Volume of paper bills and notices	Difference due to lower effective rate (2012				2012-13	NSE	Volume of paper bills and notices	Difference due to higher effective rate (201.		

SDG&E/CS - INFORMATION & OFFICE OPERATIONS /Exh No:SDG&E-14-WP/Witness: B. Baugh Page 404 of 472

			ORA De	ORA Deficiency Data Request	nest					
Exh No:SDG&E-14-WP			8008	SDG&F ORA DEF 009 TLG	٩					
Witness Name	Bradley M. Bau	ngh		Question B.1						
Constant 2013\$ in Thousands										
			Adjusted Recorded	pa			Variances by Year	by Year		Workpaper Bago
	2009	2010	2011	2012	2013	2009-10	2009-10 2010 11 2011 12	2011 12	2017	מפטיום בשלאות ב
100005.000 - Branch Offices	Offices					2007	77-070	77-1107	Z017-13	
Labor	1,430	1,402	1.458	1.409	1 503	(80)	20	(00)	5	
NLbr	526	470	520	485	4,303	(07)	S E	(49)	74	
NSE			240	Cot	OTC	(00)	200	(35)	31	
100005.000 Total	1,956	1,872	1.978	1 894	2 010		0 0	0 8		
				1000	2,013	(+0)	TOO	(84)	777	Page /9 of 209
	Variar	nce Explanation								
2009-10							Variance Amount	Amount		
Labor										
Labor decrease primarily due to employee on accident	ra do obvolume	Line Contract								
	de ilo appoidit a	Jecial assignmer	1			(28)				
						(78)				
NLbr						727				
Increase in software maintenance /leases expenses due to purchase of additional Express Pay kiosks	ce /leases exper	ises due to purc	hase of additic	inal Express Pay ki	osks	54				
Reduction in costs due to prior purchase of turn	Contract of the second		. :							
ייים איים איים איים איים איים איים איים	ממוכוומאב חו נאס		sks in 2009			(73)	_			
Decrease due to prior customer communication	communication	regarding reloc	ation of Ocean	regarding relocation of Oceanside Branch Office	<i>a</i>	(23)				
Decrease due to annual timing of vendor invoices which fluctuate throughout the year	ot vendor invoice	es which fluctua	te throughout	the year		(38)				
merease age to other misc. Office expenses	e expenses					23				
						(57)				
						(82)				

SDG&E/CS - INFORMATION & OFFICE OPERATIONS /Exh No:SDG&E-14-WP/Witness: B. Baugh Page 405 of 472

			ORA De	ORA Deficiency Data Request	uest					
Exh No:SDG&E-14-WP			SDG8	SDG&F ORA DEF 009 TLG	٩					
Witness Name	Bradley M. Bau	hgh		Question B.1						
Constant 2013\$ in Thousands										
		Adj	Adjusted Recorded	Pi			Variances by Year	hy Year		Workpaper Baco
	2009	2010	2011	2012	2013	2000 10	2010	201 42	.,	ייטו אףמטרו דממת
100005.000 - Branch Offices	ffices					2003-TO	2003-10 2010-11 2011-12 2012-13	71-1707	2017-13	
Labor	1,430	1,402	1.458	1 409	1 503	(20)	25	(07)	Š	
NLbr	526	470	520	485	516	(56)	3 5	(36)	70	
NSE					2	02	3	(00)	77	
100005.000 Total	1,956	1.872	1 978	1 894	2010	(60)	2 6	2 5	2 5	
			2:2/=	1,00,4	2,013	(40)	POT	(84)	175	Page /9 of 209
	Varia	Variance Evaluation								
2010-11	5	ייכר באטומוומנוסוו					Variance Amount	Amount		
Labor										
Labor increase due to employee returning from		special assignment	ent				47			
Increase due to employee overtime							0			
N 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							26			
INLDI				-						
Increase due to agency labor filling temporary assignments	ng temporary as	signments					2			
Increase due to postage for customer notifications about fraud issues	omer notificatio	ns about fraud i	ssues				7			
Decrease in misc. office expenses					<u> </u>		3 9			
Increase due to annual timing of vandor invoices which fluctures the second sec	vendor invoices	which flucture	4	14	!_		2			
Decrease in employed and all the decrease in the decrease of t	אכוומסו ווואסורפז	willer Hactaale	es unrougnout	tne year	•		54			
Decrease iii eiiipioyee-leiated expenses	henses	_	-	-	1		(23)			
							49			
							105			

SDG&E/CS - INFORMATION & OFFICE OPERATIONS /Exh No:SDG&E-14-WP/Witness: B. Baugh Page 406 of 472

			ORA De	ORA Deficiency Data Request	equest						
Exh No:SDG&E-14-WP			8968	5DG&F-ORA-DEF-009-TLG	H-6			.			
Witness Name	Bradley M. Baugh	ugh		Question-B.1				1			
Constant 2013\$ in Thousands											_
		Ad	Adjusted Recorded	p							
	2009	201	2011	2012	2042		variances by Year	y rear		Workpaper Page	
100005.000 - Branch Offices			1	7707	2013	2009-10	2009-10 2010-11 2011-12 2012-13	011-12 2	2012-13		Τ
Labor	1.430	1 402	7 470					ļ			_
NLbr	200/-	404,4	1,438	1,409	1,503	(28)	26	(49)	94		_
NSF	720	4/0	520	485	516	(26)	20	(35)	31		_
100005 000 Tatal	4					0	0	0	c		_
בספספספספספספספספספספספספספספספספספספספ	1,956	1,872	1,978	1,894	2,019	(84)	106	(84)	-	Page 79 of 200	
									\top	207 O C 202	_
	Varia	Variance Explanation									_
2011-12							Variance Amount	nount			_
Labor									_		
Labor increase primarily due to employee on leave	employee on lea	ive and change i	n labor mix (sh	and change in labor mix (shifting from part-time to full-	t-time to full-			(08)			
time)			•	<u>.</u>)	-	_	(49)	_		
									_		_
											, -
NLbr								(49)			-
Decrease due to temporary agency labor no longer	cy labor no long	yer needed									
Decrease due to prior postage expenses	penses							(9)			
Decrease due to employee-related exercise	Sound Pa							(18)			
Demonstrate and the state	an expenses							3			
Decided and to misc. office expenses	enses										
				-				E			
								(32)			
						_					
								(84)			

Exh No.SDG&E-14-WP Bradley M. Baugh Question B.1 Question B.1 Adjusted Recorded Variances by Year WO Constant 2013\$ in Thousands Adjusted Recorded 2010 2011 2011-12 2012-13 Wo 100005.000 - Branch Offices 1,430 1,402 1,409 1,503 (28) 56 (49) 94 1 Labor 526 470 520 485 516 (56) 50 0						2			_	_	
Bradley M. Baugh	th No:SDG&E-14-WP				Ouestion B.1			-		-	
Adjusted Recorded 2009 2009 2000 2010 2011 2012 2013 2009-10 2011-12 2013-12 2013 2009-10 2011-12 2013-13 2013 2013-13 2013-13 2013 2013-	itness Name	Bradley M. Baug	gh				1		-	-	
Adjusted Recorded 2013 2005-10 2010-11 2011-12 2012-13 2010 2010 2010-11 2011-12 2012-13 2010 2010 2010-11 2011-12 2012-13 2010 2010 2010-11 2011-12 2012-13 2010 2010 2010 2010 2010 2010 2010 20	onstant 2013\$ in Thousands									-	
Adjusted Recorded 2010 2011 2011-12 2012-13 2010 1,503 2009-10 2010-11 2011-12 2012-13 1,402 1,458 1,409 1,503 (28) 56 (49) 94 470 520 485 516 (56) 50 (35) 31 470 520 485 516 (84) 106 (84) 125 F 1,872 1,978 1,894 2,019 (84) 106 (84) 125 F Explanation Explanation Cutuate through the year Lightner through the year				-			>	ariances	v Year		Workpaper Page
2010 2011 2012 2013 2009-10 2011-12 2012-13 1,402			Ad	ijusted Recorde			^	2010110		-1-	
1,402 1,409 1,503 (28) 56 (49) 94 470 520 485 516 (56) 50 (35) 31 470 520 485 516 (56) 50 0 0 1,872 1,978 1,894 2,019 (84) 106 (84) 125 Explanation Variance Amount Ig from leave Ig from leave Indicate through the year Indicate through the year		2009	2010		2012	2013	2009-10 2	010-11 2	011-12 20	12-13	
1,402 1,458 1,409 1,503 (28) 56 (49) 54 470 520 485 516 (56) 50 0 0 1,872 1,978 1,894 2,019 (84) 106 (84) 125 Variance Amount Skplanation g from leave Intrough the year Actuate through the year Actuate through the year	100005.000 - Branch O	ffices					1	1	(0)	5	
470 520 485 516 (56) 50 (35) 51 1,872	- Code		1,402	1,458	1,409	1,503	(28)	95	(49)	7 6	
1,872 1,978 1,894 2,019 (84) 106 (84) 125	NIbr	526	470	520	485	516	(29)	20	(35)	37	
1,872 1,978 1,894 2,019 (84) 106 (84) 125	L						0	0	ס	\neg	
Explanation Ig from leave Ictuate through the year	NOT.	710,7	1 977	1 978	1.894	2,019	(84)	106	(84)	\neg	Page 79 of 209
g from leave Strong the year	100005.000 Total	1,900	1,0/2	010/1							
g from leave								Jariance /	Amount		
g from leave		Varia	nce Explanation	u.							
g from leave ctuate through the year	2012-13										
Ig from leave	abor									94	
actuate through the year	abor increase primarily due to	employees retu	rning from leav	/e							
ase due to timing of vendor invoices which fluctuate through the year ase due to misc. office expenses										6	
ase due to timing of vendor invoices which fluctuate through the year ase due to employee-related expenses ase due to misc. office expenses									+	7	
ase due to timing of vendor invoices which fluctuate through the year ase due to employee-related expenses ase due to misc. office expenses	hr				.	,		1		1	
	ice.	or invoices which	fluctuate thro	ough the year						- -	
	telearenderen	ted expenses								1 ;	
	ncrease due to emproyections	nenses								14	
31	ווכן בפצב ממב נס וווופר: סוווכר כא										
										31	
125										125	

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ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1

Bradley M. Baugh Adjusted Recorded	Exh No:SDG&F-14-WP			.		ליים ולחופארוסון P.T. במסים ביות לתפארוסון P.T.	I LG QUEST	10fi 5.1			
Acjusted Recorded 2009 2010 2010 2011 2012 2013 2009-10 2011-12 2012-12 2013 2009-10 2011-12 2012-12 2013 2009-10 2011-12 2012-12 2013 2009-10 2011-12 2013-12 20	Witness Name	Bradlov M									
Adjusted Recorded 2009	Constant 2013\$ in Thousands	pradiey IVI. B	augn								
Section											
2009 2010 2011 2012 2013 2009-10 2010-11 2011-12 2012-13 9,211 8,941 8,590 8,551 8,804 238 239 235 9,24 322 236 8,928 9,188 (102) (437) 82 220 9,365 9,263 8,826 8,908 9,188 (102) (437) 82 220 2009			1	Adjusted Record	ded			Varianced	- hy Voor		
10 10 10 10 10 10 10 10		200	9 201	201:			0,000	" L	- 1-		workpaper Page
9,271 8,941 8,590 8,551 8,804 (330) (351) <th< td=""><td>100006.000 - CCC Ope</td><td></td><td></td><td></td><td></td><td> </td><td>7003-IO</td><td></td><td>_ ,</td><td>2012-13</td><td></td></th<>	100006.000 - CCC Ope						7003-IO		_ ,	2012-13	
94 322 236 357 364 (35) (35) (35) (35) (35) (35) (35) (35)	Labor	9,271				8 804	(330)	(351)	(06)	5	
10 0 0 0 0 0 0 0 0 0	NLbr	94				100,0	0000	(TCC)	(80)	527	
19,365 9,263 8,826 8,908 9,188 (102) (437) 82 280 2009	NSE	0	0			1000	077	(98)	171	/7	
Labor Cost Drivers 2009 2010 2011 2012 2013 2038 2,353,875 2,242,137 2,127,497 2,066,645 238,732 2,389,541 2,965,014 2,965,01	100006.000 Total	9,365				9.188	(102)	(437)	2 6	_	000 30 00 000
2009 2010 2011 2012 2013 205.338 2.328.375 2.242,137 2.127,497 2.066,645 2033 205.341 2.965,014 2.869,113 2.840,446 2.559 2.73 2.74 2.74 2.869,113 2.840,446 2.559 2.73 2.74 2.74 2.265,014 2.869,113 2.840,446 2.559 2.73 2.74 2.74 2.265,014 2.869,113 2.840,446 2.26 2.24 2.24 2.24 2.24 2.24 2.24 2							7	, , ,	3		age 69 01 209
2012 2013 2013 2016 2014 2.262,137 2,127,497 2,066,645 283,732 3,095,541 2,965,014 2,869,113 2,840,446 228 70.97% 71.86% 64.96% 68.86% 22% 70.97% 77.01% 71.63% 75.04% 22% 70.97% 77.01% 71.63% 75.04% 22% 70.97% 77.01% 71.63% 75.04% 22% 70.97% 152 147 155 22% 147 17 19 19 19 Variance Explanation Lie labor cost, we cannot itemize the labor variance by individual labor (330) 22		E E	Dor Cost Driver								
83,732	FSS-answered calls with Virtual	2007	100								
258 259 273 274 2,869,113 2,840,446 228 259 273 274 228 259 273 274 228 259 273 274 228 259 273 274 228 259 273 274 274 276 228 259 273 274 274 276 275 276 277 270 28886 28.86% 64.96% 68.86% 150 147 17 19 19 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 2	אורוו אוורמו	7 082 727	2,353,875	2,242,137	2,127,497	2,066,645					
32% 70.97% 71.86% 64.96% 68.86% 12% 76.38% 77.01% 71.63% 75.04% 163 152 147 155 17 17 19 19 Variance Explanation The labor cost, we cannot itemize the labor variance by individual labor (330) Intermed the labor variance by individual labor (330) Eament Tor (staff assistant) Tor (staff assistant) 16 20		273	250	2,365,014	2,869,113	2,840,446					
12% 76.38% 77.01% 71.63% 75.04% 163 152 147 155 17 17 17 19 19 19 Variance Explanation he labor cost, we cannot itemize the labor variance by individual labor (330) ement or (staff assistant) 104 16 18 18 18 18 18 18 18 18 18 18 18 18 18		72.32%	20 97%	71 000/	2/3	27.4					
163 152 147 155 155 147 155 155 147 155 155 147 155 155 147 155 155 165	ESS & IVR LOS	76.12%	76.38%	77 01%		68.85%					
Variance Explanation Variance Explanation The labor cost, we cannot itemize the labor variance by individual labor (330) al expenses Sement For (staff assistant) To (staff assistant)	ESS/FTE	171	163	157	2%	/5.04%					
Variance Explanation the labor cost, we cannot itemize the labor variance by individual labor (330) al expenses cement for (staff assistant)	Non-ESS/FTE	17	17	17	10	155					
he labor cost, we cannot itemize the labor variance by individual labor (330) al expenses cement or (staff assistant) 104 20 20 20 20 20 20 20 20 20 20 20 20 20					-	13					
the labor cost, we cannot itemize the labor variance by individual labor (330) al expenses cement or (staff assistant) (330) (104) 104 105 20 20 20 20 20 20 20 20 20		Vari	Speco Evaluate								
the labor cost, we cannot itemize the labor variance by individual labor all expenses sement for (staff assistant)	2009-10	100	מווכב באלומוומוו	5				Variance /	Amount		
the labor cost, we cannot itemize the labor variance by individual labor all expenses sement for (staff assistant)											
al expenses ement or (staff assistant)	Due to numerous factors that af	fect the labor c	ost, we cannot	itemize the lab	or variance by it	المنافية بالمرا	10000				
al expenses cement ior (staff assistant)	cost drivers.				בי ביומונים כל זי	idividual labor	(086)				
al expenses cement oor (staff assistant)							(330)		-		
al expenses sement for (staff assistant)	NLDr									†	
al expenses sement for (staff assistant)	Increase due to hardware costs						104				
or (staff assistant)	Increase due to miscellaneous m	aterial expense	Se							+	
or (staff assistant)	Increase due to office furniture r	eplacement					3 1	1			
	Increase due to temporary agenc	y labor (staff a	ssistant)				7,				
	Increase due to misc. office expe						2 2				
	All other cost elements						07				
(102)							6			1	
(102)							877				
							(102)			+	

Note: Totals may include rounding differences.

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ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1

Fxh No.SDG&E-14-14/P			.							
Witness Name										
Constant 20126 : Hi	bradiey IVI. Ba	Baugh								
Constant 20135 in Thousands										
		4	Adinsted Recorded	- 0						
	2009	100	2014				Variances by Year	by Year		Workpaper Page
100006.000 - CCC Operations	1			7077	2013	2009-10 2010-11 2011-12 2012-13	010-11	2011-12	2012-13	
Labor	9.771	8 941	001 0	0 557	200	10 00				
NLbr	76	327	360		8,804	(330)	(351)	(33)	253	
NSE		225	730	S	384	228	(86)	121	27	
100006.000 Total	9,365	9,26	8.826	0 806 8	9 188	(102)	0 (707)	0 8	-+	0000
						(707)	(42/)	78	787	Page 89 of 209
	Lat	Labor Cost Drivers					ļ			
	2009	2010	2011	2012	2013					
ESS-answered calls with Virtual	2,436,338	2,353,875	2,242,137	2,127,49	2.066.64					
transactions	2,983,732	5,541	2,965,014	2,869,113	2,840,446					
	273	258	259	273	274					
ESS LOS	72.32%	70.97%	71.86%	64.96%	68.86%					
ESS & IVR LOS	76.12%	76.38%	77.01%	71.63%	75.04%					
	171	163	152	147	155					
Non-ESS/FTE	17	17	17	19	19					
					3					
	Varie	ariance Explanation							1	
2010-11						Š	variance Amount	Amount		
Labor										
Due to numerous factors that affect the labor cost, we cannot itemize the labor variance by individual labor	fect the labor co	st, we cannot i	temize the labo	or variance by i	ndividual labor		(351)			
NLbr							(321)			
Decrease due to hardware expenses	ıses						107			
Decrease due to miscellaneous material expenses	naterial expense	26					(184)			
Decrease due to office furniture replacement	renlacement	1					(17)			
ביי ביים מפר גם סוובר ומו וווימו בי	באומרעווענוור						(42)			
increase in consulting services							13			
Increase due to temporary agency labor (staff assistant)	y labor (staff as	sistant)			•		21			
Increase in telecom equipment expenses	xpenses						114		-	
All other cost elements							9	-		
							(98)		-	
							(437)			

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ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1

Witness Name Bradley Mr. Baugh Adjusted Recorded 2016 2011 2012 2011 Constant 2013S in Thousands 2009 2010 2011 2012 2011 JODO06.000 - CCC Operations Labor 94 322 236 357 38 NLDr 94 322 236 8,508 9,188 NLDr 94 322 236 8,508 9,188 NSE 0									
200 perations perations 9,27 200 31 2,436,338 2,983,732 273 72.32% 76.12% 171 17 17 17 17 17 17 17 17 17 17 17 17	Bradley M.								
200 perations 9,27 2,983,732 2,983,732 2,983,732 2,983,732 2,983,732 2,983,732 2,983,732 2,083,732 2,083,732 2,083,732 2,083,732 2,083,732 171 17 17 17 17 17 17 17 17									
200 perations 9,27 9,36 2,983,732 273 273 273 273 72.32% 76.12% 171 17 17 17 17 17 17 17 17 17 18 Red expenses e expenses									
200 perations 9,27 9,36 1,436,338 2,983,732 273 72.32% 76.12% 171 17 17 17 17 17 17 17 17		Adjusted Recor	pap.			Variances by Year	by Year		Worknaper Page
9.27 9.36 9.36 9.36 9.36 2.983,732 2.73 72.32% 76.12% 171 17 17 17 17 17 17 17 17 17 18 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19			1 2012	2013		2010-11	1	2012-13	305
9,27 9,36 9,36 1,2436,338 2,983,732 273 72,32% 76,12% 171 17 17 17 17 17 17 17 17 17 18 18 18 18 19,26 19,26 19,36									
9,36 2,436,338 2,983,732 2,983,732 2,983,732 2,983,732 17.1 17 17 17 17 17 17 17 17 17 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18			0 8,551	8,804	(330)	(351)	(33)	253	
9,36 1	94		5 357	384	228	(86)	121	77	
9,36 1			0	0	0	0	c	c	
2,436,338 2,983,732 273 72.32% 76.12% 171	9,365		8,908	9,188	(102)	(437)	82	_	Page 89 of 209
2,436,338 2,983,732 273 72.32% 76.12% 171 17 17 17 ted expenses e								1	
200 2,436,338 2,983,732 273 72.32% 76.12% 171 17 17 17 17 17 17 17 17 17 17 17 17	Labor Cost D	rivers							
2,983,732 273 72.32% 76.12% 171 17 17 17 17 17 17 17 17 17 17 17 17	20		1 2012	2013					
2,983,732 273 273 72.32% 76.12% 171 17 17 ed expenses ted expenses e expenses erial expenses es	2,436,338	2,242,13	2,127,49	2,066,64					
273 72.32% 76.12% 171 17 17 ed expenses e expenses	3,732		2,869,113	2.840.446					
72.32% 76.12% 171 17 17 17 effect the labor ted expenses e expenses e expenses erial expenses es		259	273	274					
76.12% 171 17 17 affect the labor ted expenses e expenses e expenses erial expenses es		71.86%	64.96%	68.86%					
Va IT Va Affect the labor ted expenses e expenses e expenses e expenses e expenses e expenses e expenses e expenses e expenses e expenses e expenses e expenses e expenses e expenses e expenses e expenses e expenses e expenses e expenses e expenses		77.01%	71.63%	75.04%					
Va Affect the labor ted expenses e expenses e expenses erial expenses es		152	147	155				+	
Va affect the labor ted expenses ted expenses e expenses e expenses e expenses e expenses		17	13	19					
red expenses ted expenses e expenses e expenses e expenses e expenses e expenses es es				1					
affect the labor ted expenses ted expenses e expenses e expenses erial expenses es	Variance Expl	nation				1			
affect the labor ted expenses ted expenses e expenses e expenses erial expenses es						variance Amount	Amount		
affect the labor ted expenses ted expenses e expenses e expenses erial expenses es									
ncrease due to employee-related expenses Decrease in telecom equipment expenses ncrease in computer hardware expenses ncrease in miscellaneous material expenses ncrease in misc. office expenses ncrease in consulting services All other cost elements		not itemize the lak	oor variance by i	ndividual labor			(39)		
NLbr Increase due to employee-related expenses Decrease in telecom equipment expenses Increase in computer hardware expenses Increase in miscellaneous material expenses Increase in misc. office expenses Increase in consulting services Ill other cost elements							3	-	
ncrease due to employee-related expenses Decrease in telecom equipment expenses ncrease in computer hardware expenses ncrease in miscellaneous material expenses ncrease in misc. office expenses ncrease in consulting services All other cost elements							(88)	1	
Decrease in telecom equipment expenses Increase in computer hardware expenses Increase in miscellaneous material expenses Increase in misc. office expenses Increase in consulting services Ill other cost elements	related expenses						00		
ncrease in computer hardware expenses ncrease in miscellaneous material expenses ncrease in misc. office expenses ncrease in consulting services All other cost elements	ment expenses						(110)		
ncrease in miscellaneous material expenses ncrease in misc. office expenses ncrease in consulting services All other cost elements	ware expenses						107	+	
Increase in misc. office expenses Increase in consulting services All other cost elements	material expenses						104 104		
All other cost elements	enses						77	-	
All other cost elements	ices						07		
							3		
							(2)		
							121		
					-		82		

SDGE-ORA-DEF-009-TLG-B1-OM-SDGE-14 App Update.xlsx - CCC-Ops

ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1

		_								
Witness Name	Bradley M. Ba	Baugh								
Constant 2013\$ in Thousands										
		Ā	Adjusted Recorded	led			Variances by Year	hy Vear		Working and
	2009	201	2011	2012	2013	2000-10	2010.11	2011 12	12	voi spapei rage
100006.000 - CCC Operations	rations					7002-T0	77-0707	ZOTO-TT ZOTT-TZ ZOTZ-T3	2012-13	
Labor	9,271	8,941	8,590	8,551	8.804	(330)	(351)	(30)	253	
NLbr	94	322	236			228	(98)	121	27	
NSE	0	0	0	0	0	0	0	0	C	
100006.000 Total	9,365	9,263	8,826	8,90	9,18	(102)	(437)	82	1	Page 89 of 209
	Lat	Labor Cost Drivers						-		
	2009	2010	2011	2012	2013					
ESS-answered calls with Virtual	2,436,338	2,353,875	2,242,137	2,127,49	2,066,64					
Total transactions	2,983,732	5,541	2,965,014	2,869,113	2,840,446					
АНТ	273		259	273	274					
ESS LOS	72.32%	70.97%	71.86%	64.96%	68.86%					
ESS & IVR LOS	76.12%	76.38%	77.01%	71.63%	75.04%					
ESS/FTE	171	163	152	147	155					
Non-ESS/FTE	17	17	17	19	19					
	Varia	riance Explanation	Ē				Variance Amount	Amount		
2012-13										
Labor										
Due to numerous factors that affect the labor		cost, we cannot itemize the labor variance by individual labor	temize the labor	or variance by i	ndividual labor				253	
cost di iveis.										
NLbr									523	
Decrease due to employee-related expenses	ed expenses								(11)	
Decrease in computer hardware expenses	expenses						1		(77)	
Decrease in miscellaneous material expenses	rial expenses							+	(54)	
Increase in office furniture replacement expenses	cement expense	Se							(77)	
Increase in consulting services									97	
Increase in temporary agency Jabor (staff assistant)	oor (staff assista	int)							77	
All other cost elements		,				-			£ (
									(7)	
									72	
									780	

Page 29 of 64

		ORA Deficie	RA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1	st SDG&E-ORA-D	EF-009-TLG C	uestion B.1				
Exh No:SDG&E-14-WP						-	-	-	-	
Witness Name	Bradley M. Baugh	ıugh								
Constant 2013\$ in Thousands							+			
		A	Adjusted Recorded	-						
	2009	201	2011	1000	0,000	>	variances by year	y rear		Workpaper Page
100007.000 - CCC Support				7107	70T3	2009-10 2010-11 2011-12 2012-13	210-11 20)11-12 20	012-13	
Labor	1,299	1.153	1 301	1 104	1 212	(7,47)	(,			
NLbr	993		1,088	4,404	1,512	710)	148	103	(92)	
NSE	С			3	7,010	807	(163)	(185)	107	
100007,000 Total	2 202		000		O	0	0	0	0	
	76777	2,404	2,389	2,307	2,322	112	(15)	(82)	15 P	Page 105 of 209
	Vari	Variance Explanation	uc			*	riones An		+	
2009-10						<u>ا</u> ا	variance Amount	non		
Labor							·			
Labor decrease due to employees on leave	es on leave									
						(146)				
7 12						(146)		-		
IN EDI				_						
Increase in maintenance & telco costs after contract maintenance fees	costs after cor		negotiations for software and hardware license and	and hardware lic	sense and				_	
Increase in contracted services	2000					227				
The contraction and the costs for usage of language line services	ses ioi usage o	r language line	services			10				
Increase in miscellaneous office supplies, employee-related expenses, and temporary agency services	supplies, emplo	yee-related ex	penses, and tem	porary agency se	ervices	21				
							-			
						258		-		
									-	
						112			+	
						1				

SDG&E/CS - INFORMATION & OFFICE OPERATIONS /Exh No:SDG&E-14-WP/Witness: B. Baugh Page 413 of 472

ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1		Bradley M. Baugh			Adjusted R	2009 2010 2011 2012 2013 2009-10 2010-11 2011-12 12	77-1107 11-0107 01 0007	1,299 1,153 1,301 1,404 1,312 (1,46) 1,48	1,088 903 1 010 258 (123) (195)	OT (COT) (COT) OC OTO (COT)	2,292 2.404 7.389 7.307 7.327 4.3 (2.1)	200/2			emplowed rotation from Land	Tiproyees retuin nonneave	148		Decrease in telco costs due to contract negotiations and separating contract with SoCal Gas	guage line services	Decrease in miscellaneous office supplies, employee-related costs, and temporary agency services	(163)	
	Exh No:SDG&E-14-WP	Witness Name	Constant 2013\$ in Thousands				100007.000 - CCC Support	Labor	NLbr	NSE	100007.000 Total		2010-11	Labor	Increase due to employees rotus from land	חבו כפסלפולונים כן החבר הכיים	N 1 1 1	NLbr	Decrease in telco costs due to co	Decrease in contracted service c	Decrease in miscellaneous office		

SDG&E/CS - INFORMATION & OFFICE OPERATIONS /Exh No:SDG&E-14-WP/Witness: B. Baugh Page 414 of 472

		ORA Deficien	ıcy Data Reque	ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1	EF-009-TLG (Question B	Li.			
Exh No:SDG&E-14-WP										
Witness Name	Bradley M. Ba	ngh								
Constant 2013\$ in Thousands										
		Ad	Adjusted Recorded	pe			Variances by Year	hy Vear		Morkey Dags
	2009	201	2011	2012	2013	2000 10 2010 11	2010	2017 12	2000	workpaper rage
100007.000 - CCC Support	oort				2707		77-0707	71-1707	2012-13	;
Labor	1,299	1,153	1.301	1.404	1 312	(146)	1/10	102	(10)	
NLbr	993	1,251	1,088	903	1.010	758	(163)	(185)	102	
NSE	0	0	0	0	C			(201)		
100007.000 Total	2,292	2,404	2,389	2,307	2.322	112	(15)	(82)		Daga 105 of 200
								/12)		4 45C ±03 01 203
	Varis	Variance Explanation								
2011-12							Variance Amount	Amount		
Labor										
ישיייין ביייין דור בייין ביייף טיינטייטיםן										
increase due to additional staffing (Level of Service Associate Supervisor & Business Advisor) to support the Customer Contact Center data analysis transactions and average handle time	ng (Level of Ser ata analysis tran	vice Associate St sactions and ave	upervisor & Bu erage handle ti	siness Advisor) to me	support					
								103		
								103		
NLbr										
المصرية المرابعة الم	U CUSES IOF SOTTY	vare, nardware,	maintenance †	ees due to contra	act					
ing Criations								(182)		
Decrease in contracted service costs for usage of language line services	costs for usage c	of language line	services					(X		
Increase in miscellaneous office supplies and er	supplies and er	nplovee-related costs	costs					2 -		
		200000000000000000000000000000000000000						٢		
								(185)		
						3				
								(82)		

SDG&E/CS - INFORMATION & OFFICE OPERATIONS /Exh No:SDG&E-14-WP/Witness: B. Baugh Page 415 of 472

Workpaper Page Page 105 of 209 2012-13 (92)0 15 (95)(95)107 (2) 21 88 15 107 2009-10 2010-11 2011-12 (185)(82) 103 Variance Amount Variances by Year 0 148 (163)(15)0 ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1 (146)258 0 112 2013 1,312 1,010 2,322 0 2012 1,404 903 0 2,307 Adjusted Recorded 2011 1,301 1,088 0 2,389 increase in contracted service costs for usage of language line services Decrease in miscellaneous office supplies and employee-related costs increase due to software and hardware upgrades to telco equipment Variance Explanation 2010 1,153 1,251 2,404 0 Bradley M. Baugh 2009 1,299 993 0 2,292 increase due to employees return from leave 100007.000 - CCC Support Constant 2013\$ in Thousands 100007.000 Total Exh No:SDG&E-14-WP 2012-13 Labor Witness Name NLbr NSE Labor NLbr

SDG&E/CS - INFORMATION & OFFICE OPERATIONS /Exh No:SDG&E-14-WP/Witness: B. Baugh
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ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1

)	OF THE CHARGE NET WEST STORMS - ORA-DEF-009-1 LG Question B.1	ויבאמביו אספ	ดี ตี-บหล-บฤ	:1-009-1L	Question	B.1		
Withess Name										
Constant 20135 in Thousands	bi adiey ivi. baugn	ngn								
			Adjusted Recorded				Variances hy Year	hy Vear		Morken
	2009	2010	2011	2012	2013		2009-10 2010-11	2011 12	., .,	workpaper rage
100008.000 - Residential Customer Services	tial Customer Se	ervices					2010-11	71-1707	2012-13	
Labor	1,688	1,421	1.832	2 471	2 570	(757)	777	5	0,0	
NLbr	1,769	1,421	1.616	1 634	2,000	(2/0)	111	250	108	
NSE	0	0	0	- C	2,230	(0+0)	CET C	× C	1,364	
100008.000 Total	3,457	2,842	3,448	4,105	5.577	(615)	0 909	0 2	1 472	000000000000000000000000000000000000000
							3	3	-	rage 124 01 209
	Variano	Variance Explanation					1			
2009-10							variance Amount	Amount		
Labor										
Labor decrease due to the initial development and act in a fate.	development	At 30 cm to both								
and Public Safety Outreach process in 2009	ess in 2009	יות אפר-עף טו נוונ	s crinergency P	reparedness !	rogram	(205)		_	_	
Labor decrease due to employee leave	ayeal a									
1 2 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	יוכפאם					(43)		-		
cabor decrease due to salary fluctuations based on the level of experience of a workforce, the type of work required, and market reference range	ctuations based ference range	on the level of	experience of	a workforce, 1	the type	(19)				
J. P.						(267)				
Increase due to more NGAT (Natural		T - 2// (** T		- :						
to more homes receiving weatherization services under the Energy Savings Assistance Program	erization service	ous Appliance Test/Lou-Testing performed by contractors due ion services under the Energy Savings Assistance Program	esting perform ifgy Savings As	led by contrac ssistance Prog	tors due					
						71				<u> </u>
increase due to printing of application	cation forms for	1 forms for customer assistance programs	tance program	SI		m				
Decrease due to printing fewer customer brochures (welcome kits, safety, level-pay, etc)	customer broch	ires (welcome k	its, safety, lev	el-pay, etc)		(38)				
Decrease due to the initial development and set-up of the Emergency Preparedness Program and	lopment and set	t-up of the Emer	rgency Prepare	edness Progra	m and					
Fublic Safety Outreach process in 2009 related to printing of brochures, database enhancements	n 2009 related t	o printing of bro	ochures, datab	ase enhancen	nents					
during program development and imp	d implementation	nc			_	(384)				-
						(348)				
									-	
						(615)				
									-	_

San Diego Gas & Electric Company 2016 GRC - APP Shared Services Workpapers

				Worknaper Pag	D Deba					Page 124 of 209																				
					2012-13		108	1,364	0	1,472																-		_		
1 B.1				Variances by Year	2009-10 2010-11 2011-12	77-7707	639	18	0	657		Variance Amount																		
Guestion				Variance	2010-11	77 0707	411	195	0	909		Variance			036	200	42	411		(101)	10	(145)		×				429	195	909
F-009-TLG							(267)	(348)	0	(615)							-									-				
E-ORA-DE					2013		2,579	2,998	0	5,577				1/26-1-1-1	- venicie				ctors rogram			-	2	14.	with	icing	data,			_
ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1					2012		2,471	1,634	0	4,105				المراح ما باس					ned by contra s Assistance F		S	el-pay, etc)	/ Preparednes	1	in compliance el related to	mers in the Pr	ket research refresh.			
iciency Data I				Adjusted Recorded	2011		1,832	1,616	0	3,448				+ popularion +	י באף פון מבת				esting perforn Energy Saving		ance program	s, safety, leve	or Emergency	or control of or in	ncle program ncluding trave	nrolling custo	isorships, mai , and website			
ORA Def		٦		Adjust	2010	ices	1,421	1,421	0	2,842	Variance Evaluation	- Indiana		gere to suppo					ice Test)/Co-Te		istomer assista	s (welcome ki	eral material f	he Flectric Vet	am expenses i	act labor for e	tions and spor : sponsorships			
		Bradley M. Baugh			2009	al Customer Serv	1,688	1,769	0	3,457	Variance			of 3 Program Managers to support events of state of the Florida Anna Control of State of the Sta	-07-029	eturn from leave	בימיו וויסוו ושיי		Natural Gas Appliance TestJ/Co-Testing performed by contractors weatherization services under the Energy Savings Assistance Progra		ation forms for cu	istomer brochure	ig of program collateral material for Emergency Preparedness	stablishment of t	e establishment of the credult Verlicle program in compilan lectric Vehicle program expenses including travel related to	readcount, contr	Industry associa community event			
	Exh No:SDG&E-14-WP	Witness Name	Constant 2013\$ in Thousands			100008.000 - Residential Customer Services	Labor	NLbr	NSE	100008.000 Total		2010-11	Labor	Labor increase due to addition of		Labor increase due to employee return from leave	200000000000000000000000000000000000000	NI he	Decrease due to fewer NGAT (Natural Gas Appliance Test)/Co-Testing performed by contractors due to more homes receiving weatherization services under the Energy Savings Assistance Program		Increase due to printing of application forms for customer assistance programs	Decrease due to printing fewer customer brochures (welcome kits, safety, level-pay, etc)	Increase for printing and mailing c Program	Increase in expenses due to the establishment of the Fleatric Mehicle	CPUC D.11-07-029 and other Elect	regulatory activity and increased headcount, contract labor for enrolling customers in the Pricing	recuironegy study, membership in industry associations and sponsorships, market research data, collateral, education & outreach, community event sponsorships, and website refresh.			

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Exh No:SDG&E-14-WP Witness Name Constant 2013\$ in Thousands	Bradley M. Baugh		ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1 Adjusted Recorded Variances hv	Request SDG	&E-ORA-DE	F-009-TLG	Question B.1	B.1		Workston
100008.000 - Residentia	2009 tial Customer Services		2011	2012	2013	2009-10	2010-11	2011-12	2012-13	Workpaper Page
Labor	1,688	1,421	1,832	2,471	2,579	(267)	411	639	108	
NSE 100008 000 Total	0	0	0,010	1,034	2,338	(348)	195	0	1,364	
	3,457	2,842	3,448	4,105	5,577	(615)	909	657	1,472	Page 124 of 209
2011-12	Variance	Variance Explanation					Variance Amount	Amount		
Labor										
Labor increase due to the establishment of the Customer Experience / Residential Services Marketing / Outreach Group. Added 2.5 Energy Solution Advisors and a Customer Outreach Manager	ishment of the Customer Experience / Residential Services dded 2.5 Energy Solution Advisors and a Customer Outreac	ustomer Experi Solution Adviso	ience / Residen	tial Services ner Outreaci	ے					
Labor increase due to addition of 2 Program Managers to support expanded work in Electric Vehicle	2 Program Man	nagers to suppo	nt expanded w	ork in Electri	c Vehicle			359		
Labor increase due to additional Program Manag Customer retention in Medical Baseling Brossian	Program Manager to support increased program participation, and	er to support ir	creased progre	am participat	tion, and			203		
	Schille Flogram							7		
NLbr								639		
Increase due to more NGAT (Natural Gas Appliance Test)/Co-Testing performed by contractors due to more homes receiving weatherization services under the Energy Savings Assistance Program	ıral Gas Applian ization services	ce Test}/Co-Tes under the Ener	sting performec	d by contract istance Progr	ors due					
Increase due to printing of application forms for curts	tion forms for a							80		
Increase for residential outreach e	events, collateral printing and graphics and compositions.	ustomer assist	ance programs					3		
expenses in support of enhancing the overall customer experience for customers by providing integrated messaging and solutions	the overall cust	omer experien	ce for custome	ripioyee rela rs by providii	red ng			Ţ		
Increase for printing and mailing of program collateral material for Emergency Preparedness Program	of program colla	teral material f	or Emergency	Preparednes	ν ₂			4		
Decrease due to timing of invoicing for consulting services, software license agreements for	g for consulting	services, softw	rare license agn	eements for				16		
ברפיויכיוים ויות אפוואת וו מכול חמום	[a							(128)		
								18		
	-					+				
					_			657		

SDGE-ORA-DEF-009-TLG-B1-OM-SDGE-14 App Update.xlsx - ResSvc

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Exh No:SDG&E-14-WP										
Witness Name	Bradley M Baugh	lah								
Constant 2013\$ in Thousands										
				-						
		Adjus	Adjusted Recorded				Variances by Year	s by Year		Workpaper Dage
	2009	2010	2011	2012	2013	2000 10	701011	2000 10 2010 11 2011 12	2000	workpaper rage
100008.000 - Residential	ial Customer Services	rvices				7003-TO	77-0707	71-17	2012-13	
Labor	1,688	1,421	1,832	2.471	2,579	(757)	111	063	100	
NLbr	1,769	1,421	1,616	1.634	2,998	(348)	195	100	1 264	
NSE	0	0	0	2	5	(0)	133	ol c	1,364	
100008.000 Total	3,457	2,842	3,448	4,105	5,577	(615)	909	657	1,472	Page 124 of 209
									-	
2012-13	Variance	Variance Explanation					Variance Amount	Amount		
l ahor										
labor cost increases due to addition										
במבסו בספר חובו במפב מתב וכן מחתונו	oil of a Custom	or a customer experience Manager	lanager					-	108	
N. I. I.			-						108	
וארחו										
Decrease due to fewer NGAT (Natural Gas Appliance Test)/Co-Testing performed by contractors due	itural Gas Appli	ance Test)/Co-T	esting perform	led by contract	tors due					
to less homes receiving weatherization services under the Energy Savings Assistance Program	zation services	under the Energ	zy Savings Assis	stance Progra	٤		_			
Increase due to printing of annie.	to found to the					i			(45)	
services for database enhancements for MBL application processing	ents for MBL ap	custonner assist olication proces	rance programs sing	s and consulti	9 -				32	
Increase primarily due to consulting	ing services for	services for customer segmentation study and customer	entation childy	and custome					2	
analytical support			circation starty	מוות כתאוסוווה	_				122	
Increase due to printing customer br	r brochures (we	ochures (welcome kits, safety, level-pay, etc)	ty, level-pay, e	tc)					27 5	
Decrease for printing and mailing of	s of program col	program collateral material for Emergency Preparedness	for Emergenc	y Preparedne	SS				3	
Program									(8)	
increase due to software license agr	agreements for	eements for segmentation and sensus track data	ind sensus trac	k data					000	
Increase due to third party development of Manage Act Save Program, consulting services, and software licensing and maintanance fact.	opment of Mana	ige Act Save Pro	ogram, consulti	ing services, a	pue				3	
יייייייייייייייייייייייייייייייייייייי	וכפובפי								938	
increase due to outreach and community events and partnerships with community based organizations to educate and inform customers about rates	nmunity events and partne orm customers about rates	and partnership bout rates	os with commu	nity based			_			
Decrease in Electric Vehicle Program	am costs relate	costs related primarily to repeachiating contracts and adjusting	onegotiating co	ntracte and a	411.00				782	
level of sponsorships and research projects	h projects				gunsnín				(154)	
	-								1,104,	
									1,364	
									1.472	

		ORA Deficie	ncy Data Re	ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1	-ORA-DEF-	009-TLG Q	uestion B	ਜੁ		
Exh No:SDG&E-14-WP										
Witness Name	Bradley M. Baugh	augh								
Constant 2013\$ in Thousands										-
		Adju	Adjusted Recorded	Jed			Variance	Variances by Year		10/02/2007
	2009	2010	2011	2012	2013		2010 11	2008-10 2010 11 2011 13	204.2	vvoi kpaper Page
100009.000 - C&I Services							77-0707	71-17	2012-13	
Labor	4,599	4,563	4,311	4,447	4.418	(36)	(252)	136	(00)	
NLbr	665	579	894	958	887	(86)	315	200	(23)	
NSE							3	5	(1,1)	
100009,000 Total	5 264	142	7			0	0	0	0	
	107/0	2,142	5,205	5,405	5,305	(122)	63	200	(100)	Page 136 of 209
	Variance Explanation	Janation		j			Variance America	Amount		
2009-10							אסוומוורב	Amount		
Labor										
Labor decrease is due to employee leave officet by	aye offeet hy									
	במגב סווסבו טא	deverance b	ay			(36)	_	_		
-			-			(36)				
NLbr										
Decrease in consulting services related to Gas Open Season and benchmarking study	ed to Gas Oper	Season and	benchmar	king etudy		(10)				
Decrease in employee-related expens	ses			S Stady		(or				
Decrease in misc. office expenses						(53)				
Demonstration of the second						(22)				
Deciease III employee training						(20)				
						(98)				
		_	_	_		(477)			İ	

Pag

Note: Totals may include rounding differences.

			-	Workpaper Page	4_					(100) Page 136 of 209	200																
					2012-15	77.7	(29)	(71)		(100																	
Ħ.				Variances by Year	2011-12		136	64	0	200		Variance Amount			,	136			136		64	,		7.5	40	200	
uestion B				Variance	2010-11	200	(252)	315	0	63		Variance															
09-TLG Q					2009-10 2010-11 2011-12 2012-13	2	(36)	(88)	0	(122)																	
:-ORA-DEF-C					2013		4,418	887		5,305					(6,5)	alls (ille		,			employee-	•					
ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1				eq	2012		4,447	928		5,405					0:4:000	open posicio +)	7				increase in						
cy Data Rec				Adjusted Recorded	2011		4,311	894		5,205					and filling,	and minig	ירכ אהברומווא				strategy and		!				
RA Deficien		ıgh		Adjus	2010		4,563	579	_	5,142		anation			or positions	or positions	יכוווכו זכו או				n Business :						
0		Bradley M. Baugh			2009		4,599	999		5,264		Variance Explanation			v market advis	dinator and customer service specialist)					ıall and Mediur			i			
	Exh No:SDG&E-14-WP	Witness Name	Constant 2013\$ in Thousands			100009.000 - C&I Services	Labor	NLbr	NSE	100009.000 Total			2011-12	Labor	Increase in labor is due to leveling hay market advisor nocitions and filling ones had activitied.	preparedness manager, project coord	1000 300 (0.00)			 10-01	Iller ease III consulting services for small and Medium Business strategy and increase in employee-	related expenses					

SDG&E/CS - INFORMATION & OFFICE OPERATIONS /Exh No:SDG&E-14-WP/Witness: B. Baugh Page 423 of 472

		JKA Deficier	ıcy Data Ke	ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1	-ORA-DEF-(09-TLG Q	uestion B.	~!		
Exh No:SDG&E-14-WP						-				
Witness Name	Bradley M. Baugh	ngh								
Constant 2013\$ in Thousands										
		Adjus	Adjusted Recorded	led			Variances by Year	s by Year		Workhaper Page
	2009	2010	2011	2012	2013	2009-10	2009-10 2010-11 2011-12	2011-12	2012-13	305
100009.000 - C&I Services						2001	11 0101	77 177	CT_2T02	
Labor	4,599	4,563	4,311	4,447	4,418	(36)	(252)	136	(29)	
NLbr	665	579	894	958	887	(98)	315	64	(71)	
NSE						0	0	C	Ì	
100009.000 Total	5,264	5,142	5,205	5,405	5,305	(122)	63	200	(1001)	(100) Page 136 of 209
									/221	201 10 000 000
	Variance Explanation	lanation					Variance America	Amount		
2012-13							40100			
Labor										
Labor decrease due to employee retirem	irement								(00)	
0.000									(52)	
							-		•	
									(29)	
NLbr	-									
Decrease due to professional dues/memb	nembership								(35)	
Decrease in employee training expenses	Ises									
									(36)	
									(71)	
			ŀ							
									(100)	
								l		,

Exh No:SDG&E-14-WP Witness Name Constant 2013\$ in Thousands			ĺ							
\$ in Thousands										
Constant 2013\$ in Thousands	Bradley M. Baugh	hgr							İ	
		Adj	Adjusted Recorded	p			Variance	Variances by Year		Workpaper Page
	2009	2010	2011	2012	2013		2010-11	2009-10 2010-11 2011-12 2012-13	2012-13	000
100010.000 - Communications Research & Web	ations Resear	ch & Web					-010	71_1707	Z017-T3	
Labor	1,839	1,468	2,046	2,481	2,204	(371)	578	435	(777)	
NLbr	4,737	3,195	3,688	5,764	5,736	(1.542)	493	2.076	(28)	
NSE	0	0	0		0	0	0	0	(C.2)	
100010.000 Total	6,576	4,663	5,734	8,245	7,940	(1,913)	1,071	2,511	(302)	Page 142 of 209
	Varian	nce Explanation					Variance	Variance Amount		
2009-10										
Labor										
Labor decrease is due to reduction of administrative assistant, a web manager and a research analyst.	of administra	ative assistant, a	web manage	r and a researc	th analyst.	(371)				
						(371)				
NLbr						(i				
Decrease in customer communications — overall decrease in fire communications, winter and summer seasonal efforts, bill newsletters printing quantities and reductions in number of smaller projects	ions – overall rinting quanti	decrease in fire ties and reduction	e communicati ons in number	ons, winter an of smaller pro	d summer Jects	(1,604)				
Increase in e-services for development of Digital	nent of Digital	roadmap, initial work on sdae com revision mobile and	I work on sday	a com revision	mobile and	77.6				
development and social media strategy, and addi consulting	stegy, and ado	ditional projects using digital agency for development and	using digital a	gency for deve	elopment and	3/5				
Decrease due to one-time expenditures in 2009 n services and one-time studies conducted in 2009	tures in 2009 ducted in 2009	not repeated in 2010 for various research subscriptions 9 only	2010 for varic	ous research su	ubscriptions	-310				
						(1,542)				
						(1,913)				

SDG&E/CS - INFORMATION & OFFICE OPERATIONS /Exh No:SDG&E-14-WP/Witness: B. Baugh Page 425 of 472

		ORA Deficien	ıcy Data Reque	ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1	-DEF-009-TLG	Question	B.1			
Exh No:SDG&E-14-WP										
Witness Name	Bradley M. Baugh	Har								
Constant 2013\$ in Thousands										
		Adj	Adjusted Recorded	g			Variances by Year	by Year		Worknaper Dage
	2009	2010	2011	2012	2013	2000-10	2008-10 2010 11 2011 12		7017	יייטוייטשטמו רממת
100010.000 - Communications Research	ications Resear	ch & Web				7003-T0	77-0707		2012-13	
Labor	1,839	1,468	2,046	2,481	2.204	(371)	578	125	1777)	
NLbr	4,737	3,195	3,688	5,764	5,736	(1.542)	493	2 076	(20)	
NSE	0	0	0		0	C	c	0 0	(20)	
100010.000 Total	6,576	4,663	5,734	8,245	7,940	(1,913)	1,071	2.511	_	Page 142 of 209
										707 10 717 205 1
	Varia	Variance Explanation					7			
2010-11							Valiance Amount	Amount		
Labor										
Increase in labor due to added actitions in labor	The state of the contract of t									
and herame a non-shared Gar Co	ositionis includir	ig Uirector (pre	vious director	Ulrector (previous director had been a shared service	red service		278			
Communications advisor research analyst and social modica advisor.	J position in 20.	دن), administrat امانا سورانا	ive assistant, v	veb manager,				·	-	
	والعربية العالمة والمراقعة	ocial inedia adv	visor.			- <u>-</u>				
							C F		ĺ	
NLbr							9/0			
Increased customer communications due to ads about 9-8-11 blackout increase in Fire area ade/Airant	tions due to ads	about 9-8-11 b	lackout incres	see in Fire prep	ade /diroct		č			
mail and increase in overall media levels	a levels				מחש/ מוו בכר		381			- a
Transition of major study to new vendor resulting	Vendor resultin	# in increased +	n increased transition cotton			1				
Decrease in online/web need as	110001 100101	פיון וווכן במסכת ר	ים ואורוטוו רטארא				336			
solde.com development work	web projects c	ompleted in 202	10 without digi	ital road map a			(224)			
							707			
							3			
							1 071			
						-	1,2/1	-		

Fxh No.SDG&E-14-WD		ORA Deficien	cy Data Reque	ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1	-DEF-009-TLG	Question	B.1			
Witness Name	Bradley M Ban	- E								
Constant 2013\$ in Thousands	ממוכא ואוי סמ	1.97								
			Adjusted Recorded	g			Variance	Variances by Year		Workpaper Page
	2009	2010	2011	2012	2013		2010-11	2009-10 2010-11 2011-12 2012-13	2012-13	200
100010.000 - Communications Research & Web	ications Resear	ch & Web				_	2010	77-1707	77777	
Labor	1,839	1,468	2,046	2,481	2,204	(371)	578	435	(277)	
NLbr	4,737	3,195	3,688	5,764	5,736	(1,542)	493	2.076	(78)	
NSE	0	0	0		0	0	0	0	0	
100010.000 Total	6,576	4,663	5,734	8,245	7,940	(1,913)	1,071	2,511	(305)	(305) Page 142 of 209
	Varia	Variance Explanation					Variance Amount	Amount		
2011-12										
Labor										
Labor increase due to adding a developer, two pi	developer, two p	project manage	s and FTE in Te	roject managers and FTE in Technology area				435		
						-				
								435		
NLbr										
Increase in mass communications due to increase in summer communications, winter communications, ethnic targeted mass and production of some communications, videos and other materials late in 2012 to be used in 2013	is due to increas ction of some co	se in summer co ommunications,	ommunications videos and otl	, winter commi her materials la	unications, te in 2012			2,103		
Decrease due to transition to new yender offeet	tooffeet offeet	in a contract that								
study, increased JD Power costs and additional year-end reports for third party research, and other	and additional y	ear-end report	ue to expanded s for third part	by increases due to expanded customer connections ear-end reports for third party research, and other	nections			(110)		.
survey costs increases due to vendor cost increas	ndor cost increa	ises.								
Increase in Technology area development of new	elopment of nev	w features for mobile app	nobile app					83		
								2,076		
								2,511		

SDG&E/CS - INFORMATION & OFFICE OPERATIONS /Exh No:SDG&E-14-WP/Witness: B. Baugh Page 427 of 472

San Diego Gas & Electric Company 2016 GRC - APP **Shared Services Workpapers**

ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1

			יא המום יובלתני	circlicy Data Nequest 3Dd&E-OKA-DEF-009-1LG Question B.1	-051-002-150	Question	3.1			
Exh No:SDG&E-14-WP										
Witness Name	Bradley M. Baugh	lgh								
Constant 2013\$ in Thousands										
		Adju	Adjusted Recorded	g			Variances by Year	hy Year		Morkagas Dags
	2009	20.	2011	2012	2013	2000	2010	2044 42	0,00	workpaper rage
100010.000 - Communications Research	ications Researc	& Wel			0707	0T-6007	2010-11 2011-12 2012-13	71-1107	2012-13	
Labor	1,839	1,468	2,046	2.481	2 204	(371)	570	435	(440)	
NLbr	4,737	3,195	3.688	5.764	5 736	(1 542)	0,0	455	(7/7)	
NSE	0	0	0	10.16	00,'0	(747)	64 C	4,0/9	(87)	
100010.000 Total	6,576	4,663	5,734	8,245	7,940	(1,913)	1,071	2,511		Page 142 of 209
			•							
2012 42	Varian	Variance explanation					Variance Amount	Amount		
							_			
Labor										
Decrease of 3 FTEs (1 in e-services, 1 in Research leaving the company or taking new inhe in the	es, 1 in Research	n and 1 in customer communications) due to people	ner communic	cations) due to	people				(277)	
0.	To all the sport to	inpair)								
NLbr									(277)	
Decrease in mass communications due to production done in 2012 and documents.	ns due to produc	tion doop as 20	17 200 40000							
preparedness efforts, eliminate special targeted ethnic communications, and eliminate one bill newsletter	special targeted	ethnic commun	Lz and decrea ications, and e	ise in summer a eliminate one b	and winter				(206)	
Increase in e-services due to translation of site, updating digital roadmap and personas, a one-time social media effort, web site accessibility review and improvements, reporting and evaluation, and increase in web consulting	nslation of site, u	ipdating digital i	oadmap and porting and ev	personas, a one valuation, and	e-time social increase in				375	
Increase in research etudion with a daileire	11.30 00111000	i								
Customer Opinion Survey, Re-establish on-line par and other cost changes within surveys.	i addition of the tablish on-line pa irveys.		ea and busine ansion of cust	Ign Risk Fire Area and business modules added to lel, further expansion of customer connections survey,	ded to ons survey,				303	
								1		
								-	(0)	
				-					(67)	
									(302)	
						 - 				

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SDGE-ORA-DEF-009-TLG-B1-OM-SDGE-14 App Update.xlsx - CR&W Note: Totals may include rounding differences.

						Workpaper Page	365						Page 156 of 209																
Question B.1				į			2012 12	2012-13	(72)	15.65	331	0	297																
						by Year	2011 12	71-1107	777	, , , ,	165	5	642		Amount				_							_			_
						Variances by Year	2010-11	77-077	33		1	0	(11)		Variance Amount	2010										_			
							2009-10 2010-11 2011-12	2007	38	(650)	(600)		(501)						38		38		(704)	(+67)	140	(242)		(539)	(501)
EF-009-TLG							2013		1.419	1 304	1	2,723	7,723					=	g Koll-out				ne year in	- 1 c y c a .	1	narket			
ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1						į	2012		1,453	973		2 2 2	2,426					ıcaı Peak Pricin _l				10 Paid only o		a reiderord	polisoisilps, II				
	-					Adjusted Recorded	2011		926	808	C	1 707	1,704						6 al 113 (5.8.011.				oth 2009 & 20	0 to 0 to 0 to 0 to 0 to 0 to 0 to 0 to	o consulting	رة المالية المارية			
		Ч				Adjus	2010	Projects	943	852	0	1,795		iance Explanation			od for OS.M pro					ce in 2009 for b	2007 101 7	firm publication					
		Bradley M. Baugh					2009	Programs & Pro	905	1,391	0	2,296	2001	Varianc				zimoort rodding	support requir				nt of maintenan		sts for research				
	Exh No:SDG&E-14-WP		Constant 2013\$ in Thousands					100011.000 - Customer Programs &	Labor	NLbr	NSE	100011.000 Total				2009-10	Labor	Increase in O&M due to increased support required for O&M programs (2.2.5.1.2.1.2.1.2.1.2.1.2.1.2.1.2.1.2.1.	(CPP-D))			NLDr	Reduced non-labor due to payment of maintenance in 2009 for both 2009 & 2010 Paid only one sear in	2010.	Reduced for software licensing costs for research firm, publications, consulting, consulting, and the second secon	research and other			

SDG&E/CS - INFORMATION & OFFICE OPERATIONS /Exh No:SDG&E-14-WP/Witness: B. Baugh

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	-	ORA Deficier	ıcy Data Reque	ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1	-DEF-009-TLG	Question	8.1			
Exh No:SDG&E-14-WP										
Witness Name	Bradley M. Ba	Baugh								
Constant 2013\$ in Thousands										
			Adjusted Recorded	P			Variances by Year	by Year		Workpaper Page
	2009	2010	2011	2012	2013	2009-10	2010.11	2010-11 2011-12 2012 12	2012 12	Sp. Danakina
100011.000 - Customer Programs & Projects	er Programs & P	rojects				2002	77-070	71-17	CT-7707	
Labor	902	943	976	1,453	1.419	38	33	477	(34)	
NLbr	1,391	852	808	973	1.304	(539)	(44)	165	221	
NSE	0	0	0	С	0	C	` c	3	3	
100011.000 Total	2,296	1,795	1,784	2.426	2773	(501)	11,	. 643		Baga 156 of 100
				2: /	22./2	(100)	71	747		rage 100 01 209
	Varia	riance Evaluation								
2010-11		ווכר דיילופוופנוסו					Variance Amount	Amount		
77 0707										
Increase due to new SDG&E Director position of Customer Programs (this positions was previously a SCG employee)	ector position o	f Customer Prog	grams (this pos	itions was prev	iously a SCG		47			
Incremental project management team added due to establishment of program management office	nt team added	due to establish	ment of progra	am managemen	t office		29			
Operation of thousand because of	-	-		•						
Deci eased support for Oom programs and increased support for refundable programs	ograms and Incr	eased support t	or refundable _I	programs			(81)			
1114							33			
INFDL										
Increase in sponsorships, memberships and	erships and em	employee travel expenses	penses				18			
Reduced costs to support O&M programs (CPP-D roll out), software maintenance and temporary staffing	programs (CPP-	D roll out), soft	vare maintena	nce and tempo	rary staffing		(62)			
								-		
							(44)			
				-			(11)			

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Note: Totals may include rounding differences.

Exh No:SDG&E-14-WP			aban and f	T.9 Constitution B.1-609-1-10 Question B.1	OE1-003-110	Question	P.T			
Witness Name	Bradley M. Baugi	hgh								
Constant 2013\$ in Thousands										
			Adjusted Recorded	pa			Variance	Variances by Vear		100
_	2009	20	2011	2012	1,00		variance variance			Workpaper Page
100011.000 - Customer Programs & Proj	r Programs & P	ects			Z013	2009-10 2010-11	2010-11	2011-12 2012-13	2012-13	
Labor	905	943	976	1 452	7,70	6	1			
NLbr	1,391	852	808	673	1 204	88	33	477	(34)	
NSE	0	C			1,304	(855)	(44)	165	331	
100011.000 Total	2,296	1.795	1 784	2000	0 525	0 (50,	0	0	0	
				2,420	2,723	(10c)	(11)	642	297	Page 156 of 209
	Varia	Variance Explanation								
2011-12							Variance Amount	Amount		
Labor										
Increase labor due additional support for O&M pro	pport for O&M	 - Orograms	 	_ - - - -						
Temporary backfill while manager on special assignment	er on special as	ignment	C) I Commission of the Commiss	A Odley				78		
ncrease in labor due to transitio	n of Home Are	Notice L.						53		
ncrease in support for the Technology.	יין פו ויפווע אוני	INECWORK LEAR	Trom Smart N	Neter project				259		
in support for the rectinglogy strategy team	nology strategy	team						46		
increase in Support for new Customer Privacy team	tomer Privacy te	am						2		
								1		
								477		
NLDr										
Increase in consulting costs, sponsorships, market employee expenses	nsorships, mark	et research and	testing equip	research and testing equipment for the HAN team and	V team and			165		
								165		
								3		
								5/12		
						_		047		

Exh No:SDG&E-14-WP										
Witness Name	Bradley M. Baugh	gh								
Constant 2013\$ in Thousands										
		Adju	Adjusted Recorded				Variances by Very	hy Voar		746
	2009	2010	2011		2000		valialice:	חל ובפו		workpaper Page
100011.000 - Customer Programs & Proi	Programs & Pro	pric	1707	7107	2013		2009-10 2010-11 2011-12	2011-12	2012-13	
- cher	LOG	2								
Labor	905	943	976	1,453	1,419	38	33	477	(34)	
NLbr	1,391	852	808	973	1,304	(539)	(44)	165	331	
NSE	0	0	0	0	0	0	0	0	c	
100011.000 Total	2,296	1,795	1,784	2,426	2,723	(501)	(11)	642	297	Page 156 of 209
	Varian	Variance Explanation					Variongo			
2012-13							variance Amount	Amount		
Labor										
Increase in support for Customer Privacy team	r Privacy team								,	
Reduction due to employees shifting from HAN dealowment along in the second sec	Hing from HAN o	مدام +موسیناموا	a contract of the contract of						136	
deployment activities and shifting of employees from MDT maintenance activities and shifting of	g of employees	reprovincent plan from MDT main	IIIIIII activities Fenance activiti	to retundable i	HAIN				(170)	
deployment activities.			יכוימויכר פרוו אור	ובי נס בש'חומו וא	<u> </u>					
					•					
N 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									(34)	
MLDF				-						
Increase in audit costs, to support Customer Privacy	rt Customer Priva	acy							276	
increase in consulting costs for technology strategy team	echnology strate	gy team							55	
									331	
									297	

Note: Totals may include rounding differences.

		ORA Deficien	cy Data Request	ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B 1	F-009-TLG	Ouestion I	. 1		
Exh No:SDG&E-14-WP									
Witness Name	Bradley M. Baugh	gh						-	
Constant 2013\$ in Thousands									
								-	
		Adju	Adjusted Recorded				Variances by Vear	Vear	Morley Control
	5002	2010	2011	2012	2013	2000	2040 44 204	i cai	workpaper Page
100012.000 - Other Office	ice				CTOZ	01-6007	2003-10 2010-11 2011-12 2012-13	1-12 2012-	6
Labor	517	400	423	437	885	(417)	33	\downarrow	
NLbr	312	48	463	1 006	9	777		1	
NSE	0		2	7,000	707	(704)		543 (723)	3)
100012 000 Total			0	D	0	0	0	0	0
100037:000	878	448	886	1,443	871	(381)	438	557 (57	(572) Page 116 of 209
	Varian	Variance Explanation					out of sourcine)		
2009-10							variance Amount	unt	
Labor		+							
Decrease primarily due to salary differentials for employee har fill	differentials for	doed eevolume							
	lo cipación de la cip	cilipioyee Dack				(117)			
			-					 -	
						1177			
NLbr									
Decrease primarily due to vendor invoice payment	r invoice paymen		timing and reduction in executive expenses	utive exnenses		(1) (1)		+	
				Sociation and		(404)			
			_			(264)			
			-	-		1007			
						(381)		_	

4		ORA Deficien	cy Data Reques	ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1	EF-009-TLG	Question	3.1			
Exh No:SDG&E-14-WP										
Witness Name	Bradley M. Baugh	hgh								
Constant 2013\$ in Thousands										
		Adj	Adjusted Recorded				Variances by Year	hy Year		Morkey Dage
	2009	2010	2011	2012	2013	2000		-	2000	wolvpapel rage
100012.000 - Other Office	fice				CTO	2003-TO	71-0707	71-1707	2012-13	
Labor	517	400	423	757	288	(117)	22	7	7	
NLbr	312		463	1 006	200	(1/77)	3 5	#1 S	151	
NSE			2	T,000	707	(204)	4T2	543	(723)	
100012 000 Total	000			0	0	0	0	0	0	
1000 10181	670	448	988	1,443	871	(381)	438	557	(572)	(572) Page 116 of 209
	Varie	Variance Explanation					Variance America	V WOUND		
2010-11							אם ופווכנ	HINOUIL		
Labor										
Variance is immaterial and primarily concents	arily ropropositi									
שונה בי בייבי בייבי בייבי בייבי בייבי בייבי	alliy represents	base salary increases	eases			_	23			
							1		İ	
NLbr							57			
Increase due to vendor invoice payment timing	paimit timing	- Caro		-						
research study	מאוויבוור רווווווופ	and a one-ume market strategies and segmentation	market strategi	es and segmenta	ation	-	415			
							415			
							438			

Exh No:SDG&E-14-WP				דים (לתפצווטון T. COO-1-1-00-1-00-1-00-1-00-1-00-1-00-1-00	7-1-000-1-0	duestion b.	, ,			
Witness Name	Bradley M. Baugh									
Constant 2013\$ in Thousands										
		Adj	Adjusted Recorded	Р		_ >	Variances by Year	hv Year		Morkpaper Dage
	2009	2010	2011	2012	2013	7000 101 2	70404	\vdash	0,000	ייסו האסורים ממת
100012.000 - Other Office	Jice					7 07-6007	77-070	71-117	2012-13	
Labor	517	400	423	437	588	(117)	23	7	757	
NLbr	312	48	463	1.006	283	(264)	715	577	151	
NSE	0	0	C		3) c	7	2	(57)	
100012.000 Total	829	448	988	1 443	077	0 0	2 6	2	O (
			8	1,440	1/0	(381)	438	557	(572)	(572) Page 116 of 209
	Variance	e Explanation				^	Variance Amount	mount		
2011-12								allouin.		
Labor							+			
Variance is immaterial and primarily represents base salary increases	rily represents ba	se salary incre	20000					;		
		1						14		
								1,0		
NLbr								\$		
Variance is primarily due to increased consulting	ased consulting in	customer ex	perience and r	n customer experience and marketing studios				1		
	,			יימו ויכרווים פרחמובי	2			543		
							-	543		
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		_						557		

SDG&E/CS - INFORMATION & OFFICE OPERATIONS /Exh No:SDG&E-14-WP/Witness: B. Baugh Page 435 of 472

ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1		radley M. Baugh		Adjusted Recorded Worknaper P	2009 2010 2011 2012 2013 2009-10 2010	71-1107 11-0107 01-0007	517 400 423 437 588 (117) 23 14 151	(264) 415 543 (0 0 0	871 (381) 438 557 (57	Variance Explanation			Variance primarily due to the transfer in of one FTE to work on special projects and one FTE for a partial			727	404	Variance is primarily due to reduced spending related to consulting for customer experience and	(677)		(723)	
ORA Deficiency Data R		Bradley M. Baugh		Adjusted Re	2009 2010			48		448	Variance Explanation			nsfer in of one FTE to work on special pr	bū				sed spending related to consulting for c				_
	Exh No:SDG&E-14-WP	Witness Name	Constant 2013\$ in Thousands			100012.000 - Other Office	Labor	NLbr	NSE	100012.000 Total		2012-13	Labor	Variance primarily due to the trar	year to support business planning			NLbr	Variance is primarily due to reduc	marketing studies			_

Exh No:SDG&E-14-WP		-								
Witness Name	Bradley M. Baugh									
Constant 2013\$ in Thousands										
		Adj	Adjusted Recorded				Variance	Variances by Year		Workpaper Dags
-	2009	2010	2011	2012	2013	2000	44 040	- 1-	3,0	workpaper rage
2100-0006.000 - Customer Service Strategies	mer Service Strateg	ies		1 .	201	01-6007	77-0707	77-1107	2012-13	
Labor	108	105	111	109	113	(6)	,	5		
NLbr		,-	0	2		2 3	٥	(7)	4	
NSE		1 0	0 0	0	×	(7)	/	0	0	
2100-0006.000 Total	111	706	0 770	77		0 [0	0	0	
	1	2	STT	/11/	121	(2)	13	(2)	4	Page 169 of 209
	Variance	Variance Explanation								
2009-10							Variance Amount	Amount		
Labor										
Decrease due to variation in O&M project current	M project canal									
80	יייי איסופרר אחלוטון ו					(3)				
						(3)				
NEDT				•						
Decrease due to employee-related expenses	ed expenses					(2)			-	
						(2)				
7,000						(2)				
11-0102			-							
Labor										
increase due to variation in O&M project support	A project support						9			
				-						
							9			
NLDr										
Increase due to employee-related expenses	d expenses						7			
							7			
							13			
Note: Totals may include rounding differences.	g differences.		Pag	Page 54 of 64	טטט	ORA-DEE	211 OOO	70 140 10	- 7	SDGE-ORA-DEE-OOG TI & BA OM SDC 744
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Note: Totals may include rounding differences.

Workpaper Page Page 169 of 209 2012-13 4 0 4 4 4 4 2010-11 2011-12 000 (2)Variances by Year Variance Amount 2 (2) 13 0 7 6 ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1 2009-10 0 (2) (3) 3 2013 113 ∞ 121 2012 109 ∞ 117 Adjusted Recorded 2011 119 ∞ 0 111 Variance Explanation 2010 105 106 0 2100-0006.000 - Customer Service Strategies Bradley M. Baugh Decrease due to variation in O&M project support Increase due to variation in O&M project support 108 0 111 ო Constant 2013\$ in Thousands 2100-0006.000 Total Exh No:SDG&E-14-WP 2011-12 2012-13 Labor Witness Name NLbr NSE Labor Labor NLbr NLbr

SDG&E/CS - INFORMATION & OFFICE OPERATIONS /Exh No:SDG&E-14-WP/Witness: B. Baugh Page 438 of 472

(119)

(311)

Workpaper Page (137) Page 191 of 209 (17) (120) 2009-10 2010-11 2011-12 2012-13 (77) 118 Variances by Year 41 Variance Amount ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1 (32) (31) (99) 0 (192)(119)(311)(192)0 (192)(119)2013 259 505 0 Timing of billing and payment of outside services around year-end and year-to-year variation in 2012 276 366 0 642 Adjusted Recorded 2011 353 248 601 0 spend on outside expert support based on project phasing and schedule. 2010 Variance Explanation 388 279 0 667 2100-3434.000 - Planning & Development Bradley M. Baugh 2009 580 398 978 0 Decrease of two project managers Constant 2013\$ in Thousands 2100-3434.000 Total Exh No:SDG&E-14-WP 2009-10 Labor NLbr Witness Name NSE

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NLbr

Labor

Adjuste 2009 2010 & Development 580 388	Adii istad Recorded	-						
	Recorded							
3 5	Perorded							
	nd Recorded							
					Variance	Variances by Year		Worknaper Page
	2011	2012	2013	2009-10	2010-11	2009-10 2010-11 2011-12	2012-12	505
					77 070	77.77	2016-13	
	353	276	259	(192)	(32)	(77)	(17)	
270	248	366	246	(119)	(31)	118	(120)	
0	0	0	0	0	0	C	C	
299 876	601	642	505	(311)	(99)	41	1-	Page 191 of 209
				-		!	/ - /	007 10 107 108 1
Variance Explanation					Variance Amount	Amount		
					401101	1 Incluir		
					(32)			
					(25)			
					(22)			
services around year en	d and year-to-v	ear variation	ë		(31)			
n project phasing and so	chedule.				(10)			
					(31)			
					(99)			
Nubr Timing of billing and payment of outside services around year end and ye spend on outside expert support based on project phasing and schedule.		nd year-to-y	nd year-to-year variatior	NLbr Timing of billing and payment of outside services around year end and year-to-year variation in spend on outside expert support based on project phasing and schedule.	nd year-to-year variation in dule.	ear-to-year variation in	ear-to-year variation in	ear-to-year variation in

Note: Totals may include rounding differences.

Exh No.5068.E-14-1MD		5	circicity pa	Out of the least of the last o	G&E-UKA-D	EF-009-TL	G Questio	n B.1		
Witness Name	Bradlev M. Baugh	ء								
Constant 2013\$ in Thousands	,									
		Adju	Adjusted Recorded	P			Variance	Variances by Year		Worknaper Page
		2010	2011	2012	2013		2009-10 2010-11 2011-12	2011-12	2012 12	ייים ייף שלים יים שלים
2100-3434.000 - Planning	ing & Development	#					77-0707	77-7707		
Labor	280	388	353	276	259	(192)	(32)	(77)	(17)	
NLbr	398	279	248	366	246	(119)	(31)	118	(120)	
NSE	0	0	0	0	0	0	ĵ c		077	
2100-3434.000 Total	978	299	601	642	505	(311)	(99)	41	$\overline{}$	Page 191 of 209
	Variance	Variance Explanation								
2011-12		-					Variance Amount	Amount		
Labor										
Decreased staff										
בינו נפונים פופו								(77)		
14		-						(77)		
ייייייייייייייייייייייייייייייייייייייי										
liming of billing and payment of outside services around year end and year-to-year variation in spend on outside expert support based on project phasing and schedule.	outside services a t based on project	round year phasing and	end and year schedule.	-to-year varia	tion in			118		
	-		ļ					118		
2012-13		+						41		
Labor										
Decrease due to staff rotation									17	
									(1/)	
									(77)	
NLbr .									77	
Consulting services		i							1001)	
							-		(177)	
									(120)	
									(137)	

ORA Deficiency Data Request SDG&F-ORA-DEF-009-TI GOLGG

SDGE-ORA-DEF-009-TLG-B1-OM-SDGE-14 App Update.xlsx - -3461 Workpaper Page Page 176 of 209 2012-13 10 0 11 2010-11 2011-12 (3) 00 (3) Variance Amount Variances by Year ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1 (26) (96)0 (16)(97) (96)2009-10 **®**|0|0 8 8 8 8 2013 122 125 Page 59 of 64 Due to a Business Planning & Budgets employee and associated activities transferring to a 2012 112 114 7 Adjusted Recorded 2100-3461.000 - Business Planning & Budgets Customer Service 2011 115 7 117 2010 212 Variance Explanation 213 Bradley M. Baugh Decrease due to recorded vacation and sick time. 2009 220 221 Note: Totals may include rounding differences. Increase due to employee-related expenses Constant 2013\$ in Thousands 2100-3461.000 Total Exh No:SDG&E-14-WP different department 2009-10 2010-11 Labor NLbr Witness Name NSE Labor Labor NLbr NLbr

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Totals

Witness Name Bradley M. Baugh Constant 2013\$ in Thousands Adj 2100-3461.000 - Business Planning & Budgets Cu 2010 Labor 220 212 NSE 1 1 2100-3461.000 Total 221 213 Labor Variance Explanation 2011-12 Labor Decrease due to recorded vacation and sick time										-
1 2013\$ in Thousands 2009 2100-3461.000 - Business Planning & Bu Labor Labor NLbr NSE 2100-3461.000 Total 221 2011-12 due to recorded vacation and sick time	-E.		1							
2009 2100-3461.000 - Business Planning & Bu Labor 220 NLbr 1 NSE 2100-3461.000 Total 221 2011-12 e due to recorded vacation and sick time										
2009 2100-3461.000 - Business Planning & Bu Labor 220 NLbr 1 NSE 2100-3461.000 Total 221 2011-12 e due to recorded vacation and sick time										
2009 2100-3461.000 - Business Planning & Bu Labor 220 NLbr 1 NSE 2100-3461.000 Total 221 2011-12 e due to recorded vacation and sick time	Adjust	Adjusted Recorded	ъ			Variance	Variances by Year		Workpaper Page	
2100-3461.000 - Business Planning & Bu Labor 220 NLbr 1 NSE 2100-3461.000 Total 221 2011-12 e due to recorded vacation and sick time	. 2010	2011	2012	2013		2009-10 2010-11 2011-12	2011-12	2012_13	上	
Labor 220 NLbr	ining & Budgets Customer Service	mer Servic	a			22.2	77 7707	CT_7T07		٠,
NLbr NSE 2100-3461.000 Total 221 Variance Exp 2011-12 due to recorded vacation and sick time	212	115	112	122	(8)	(40)	(6)	7		
1100-3461.000 Total 221 Variance Exp 2011-12 due to recorded vacation and sick time		2	2	3				7		
2100-3461.000 Total 221 Variance Exp 2011-12 due to recorded vacation and sick time					C	1 0		4 0		
Variance Exp	213	117	114	125	(8)	(96)	(3)	7	Page 176 of 209	
2011-12 a due to recorded vacation and sick time	acitore									
						Variance Amount	Amount			
_							(3)			
							(3)			
							(3)			
2012-13	_									
Increase in labor is due to an employee promotion	from a Pro	iect Mange	promotion from a Project Manger to a Business					,		
Planning Manager		0		3		_		OT		
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								OT		
Increase due to employee-related expenses										
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						_				
								11		

SDGE-ORA-DEF-009-TLG-B1-OM-SDGE-14 App Update.xlsx - -3709 Workpaper Page Page 200 of 209 2012-13 Ŋ 0 2009-10 2010-11 2011-12 4 40 Variances by Year 'n Variance Amount ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1 88 8 0 9/ 89 89 œ œ 9/ (106) (128) (106)0 (106)(22) (22)(128)2013 22 11 95 Page 61 of 64 ncrease due to adding account executive to assist customer adoption of natural gas as a 2012 8 9 8 Reduction of Clean Transportation Manager replaced by SoCalGas employee transportation fuel and providing information and assistance to customers Adjusted Recorded 2011 9 6 85 2010 ∞ 0 თ Variance Explanation 2100-3709.000 - Low Emissions Vehicle Program Bradley M. Baugh 2009 114 137 23 0 Note: Totals may include rounding differences. Decrease due to employee-related expenses Increase due to employee-related expenses Constant 2013\$ in Thousands 2100-3709.000 Total Exh No:SDG&E-14-WP 2009-10 2010-11 Labor Witness Name NLbr NSE Labor NLbr NLbr

Witness Name Bradley M. Baugh Constant 2013\$ in Thousands Adjusted Recorded 2009 2010 2011 Labor 114 8 76 NLbr 23 1 9 NSE 0 0 0 2100-3709.000 fptal 137 9 85 Labor Variance Explanation Labor Variance Explanation	led 2012 80 80 90 90	2013	(106) (22) (128)		Variances by Year 2010-11 2011-12 68 4		
Adjusted Recor 2003		2013	(106) (22) (128) (128)	Variance 8 8 8 0 0 Variance			
Adjusted Recor 2009 2010 201 2100-3709.000 - Low Emissions Vehicle Program Labor 114 8 77 NLbr 23 1 6 2100-3709.000 Total 137 9 88 Variance Explanation 2011-12 or fluctuation is relatively flat with no significant change		2013 84 11 11 95	(106) (22) (128) (128)	Variance 68 8 8 8 0 0 0 76 76 Variance			
Adjusted Recor 2009 2010 2010 2011 2100-3709.000 -Low Emissions Vehicle Program Labor 114 8 7/4 NLbr 23 1 8 7/4 NSE 0 0 0 2100-3709.000 tptal 137 9 8/9 2011-12 Variance Explanation or 2011-12 fluctuation is relatively flat with no significant change	702	2013 84 11 11 95	(106) (22) (128) (128)	Variance 2010-11 2010-11 8 8 0 0 Variance			
10 20	50	2013 84 11 11 95	(106) (22) (128) (128)	2010-11 68 8 8 0 0 76 Variance			Workness Base
8 11 0 6		95	(106) (22) 0 (128)	68 8 8 0 0 76 Variance		2012-13	מפי ושמשליו המפת
8 11 0 6		95	(106) (22) 0 (128)			2017-13	
1 0 0		95	(128)	 - - - -			
0 6		95	(128)		,	4 4	
6 .		95	(128)		10	- 0	
Variance Explanation 2011-12 or fluctuation is relatively flat with no significant change				Variance	0 6	2 2	Page 200 of 209
variance Explanation 2011-12 or fluctuation is relatively flat with no significant change				Variance			
or Fluctuation is relatively flat with no significant change					Variance Amount		
fluctuation is relatively flat with no significant change							
					4		
NLbr					4		
Increase due to employee-related expenses		-					
					7		
					,		
2012-13					5		
Labor							
The fluctuation is relatively flat with no significant change							
						4	
NLbr						4	
Increase due to employee-related expenses						-	
						Н	
		1					
						ις	

Workpaper Page Page 183 of 209 0 3 (9) 2012-13 2013 2009-10 2010-11 2011-12 0 9 Variance Amount Variances by Year Н 7 0 6 7 ო ORA Deficiency Data Request SDG&E-ORA-DEF-009-TLG Question B.1 1 (1) 0 Н 囝 豆 125 130 2012 123 134 Adjusted Recorded 124 4 128 Variance Explanation 123 2100-3511.000 - CCC Strategy and Analysis Manager 7 125 The fluctuation is relatively flat with no significant change The fluctuation is relatively flat with no significant change he fluctuation is relatively flat with no significant change The fluctuation is relatively flat with no significant change Bradley M. Baugh 122 125 Constant 2013\$ in Thousands 2100-3511.000 Total Exh No:SDG&E-14-WP 2009-10 2010-11 Labor NLbr NSE Witness Name Labor NLbr NLbr

Exh No:SDG&E-14-WP										
Witness Name	Bradley M. Baugh	÷.								
Constant 2013\$ in Thousands										
		Ac	Adjusted Recorded				Variance	Variances by Year		Workpaper Page
	2009	2010	2011	2012	2013	2009-10	2010-11	2011-12	2012-13	
2100-3511.000 - CCC Strategy and Analysis Manager	rategy and Analy	sis Manager						-		
Labor	122	123	124	123	125	H	1	(E)	2	
NLbr	3	2	4	11	5	(1)		7		
NSE						0		0	0	
2100-3511.000 Total	125	125	128	134	130	0	3	9	(4)	Page 183 of 209
	Varian	Variance Explanation	u u				Variance	Variance Amount		
2011-12										
Labor										
The fluctuation is relatively flat with no significant change	with no significant	change						3		
								(1)		
								(1)		
NLbr										
Employee-related expenses and services	services							7		
								7		
								9		
2012-13										
Labor										
The fluctuation is relatively flat with no significant change	vith no significant	change							2	
									2	
NLbr										
Employee-related expenses and services	services								(9)	
									(9)	
									(4)	

SDG&E-ORA-DEF-040-TLG

SDG&E-14 Attachments: Summary Tab Details by Workgroup High Level Roadmap

Supporting the Request of Bradley M. Baugh

Customer Service Operations, Information and Technologies

ORA Deficiency SDG&E-ORA-DEF-040-TLG-SDG&E-14 Summary Tab

Witness Name	Bradley Baugh				
Constant 2013\$ in Thousands					
	2013	2016	TY2016		
	Adjusted Recorded	Request	Request		
	Base Year	Test Year	Incremental	Testimony Pages	Workpaper Page
SDG&E					
Exh No:SDG&E-14					
O&M Total (NSS + USS)	58,151		9,433		
NSS 100000.000 - Advanced Metering Ops	57,175	66,605	9,430		
Labor	7,556	8,090	534		
NLbr	579	681	102		
NSE	0	0	0	-	
100000,000 Total	8,135	8,771	636	8MB-10-18	Page 6 of 20
	0,200	0,771	030	OIVID 10 10	rage o or zo
100001.000 - Meter Reading					
Labor	0	0	0		
NLbr	0	0	0		
NSE	0	0	0		
100001.000 Total	0	0	0	BMB-18	Page 21 of 20
100002,000 - Billing					
Labor	4,768	5,508	740		
NLbr	305	331	26		
NSE	0	0	0		
100002,000 Total	5,073	5,839	766	BM8-19-26	Page 27 of 20
100003.000 - Credit & Collections					
Labor	2,227	2,256	29		
NLbr	480	591	111		
NSE	0	0	0		
100003.000 Total	2,707	2,847	140	BMB-26-32	Page 39 of 20
400004.000 0	-				
100004.000 - Remittance Processing					
Labor NLbr	0	0	0 (00)		
	887	865	(22)		
NSE 100004.000 Total	887	10	10	DNAD 22 22	D
100004.000 Total	887	875	(12)	BMB-32-33	Page 52 of 20
100004.001 - Postage	-				
Labor	0	0	0		
NLbr	- 0	0	- 0		
NSE	4,431	4,333	(98)		
100004.001 Total	4,431	4,333	(98)	BMB-34-35	Page 64 of 20
100004.001 10tal	4,431	4,333	(30)	DIVID-34-33	Page 64 01 20
100005.000 - Branch Offices					
Labor	1,503	1,218	(285)		
NLbr	516	516	0		
NSE	310	0	0		
100005,000 Total	2,019	1,734	(285)	BMB-36-49	Page 79 of 20
	2,015		(200)	51110 30 45	1 060 75 01 20
100006.000 - CCC Operations				-	
Labor	8,804	8,429	(375)		
NLbr	384	384	0		
NSE	0	0	0		
100006,000 Total	9,188	8,813	(375)	BMB-49-57	Page 89 of 20
100007.000 - CCC Support					
Labor	1,312	1,313	1		
NLbr	1,010	1,082	72		
NSE	0	0	0		
100007.000 Total	2,322	2,395	73	8MB-57-58	Page 105 of 20

Note: Totals may include rounding differences. Summary

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ORA Deficiency SDG&E-ORA-DEF-040-TLG-SDG&E-14 Summary Tab

Witness Name	Bradley Baugh	1			
Constant 2013\$ in Thousands					
	2013	2016	TY2016		
	Adjusted Recorded	Request	Request		
	Base Year	Test Year	Incremental	Testimony Pages	Workpaper Page
100008.000 - Residential Customer Services					
Labor	2,579	2,903	324		
NLbr	2,998	3,703	706		
NSE	0	0	0		
100008.000 Total	5,577	6,607	1,031	BM8-60-72	Page 124 of 20
		,			1 480 124 01 20.
100009,000 - C&I Services					
Labor	4,418	4,827	409		
NLbr	887	962	75		
NSE	1	0	73		
100009,000 Total	5,305	5,789	484	DN4D 72 04	D 126 - 620
	3,303	3,769	404	BMB-72-81	Page 136 of 209
100010.000 - Communications Research & Web					
Labor	2 204	2.022	010		
NLbr	2,204	3,023	819		
NSE	5,736	11,265	5,529		
100010.000 Total	7040	14 399	0	DA 40 00 4 11	
100010.000 (0(a)	7,940	14,288	6,348	BMB-82-102	Page 142 of 209
100011 000 - Customer Program 9 Projects					
100011.000 - Customer Programs & Projects Labor					
	1,419	1,920	501		
NLbr	1,304	1,518	214		
NSE	0	5	5		
100011,000 Total	2,723	3,443	720	BMB-102-110	Page 156 of 209
400040 000 000 000					
100012.000 - Other Office					
Labor	588	587	(1)		
NLbr NLbr	283	283	0		
NSE NSE	0	0	0		
100012.000 Total	871	870	(1)	BMB-59	Page 116 of 209
		·			
USS	976	979	3 ີ		
2100-0006.000 - Customer Service Strategies		ì	ſ		
Labor	113	113	0		
NLbr	8	8	0		
NSE		0	0		
2100-0006.000 Total	121	121	0	BMB-112-113	Page 169 of 209
				51115 112 113	1 age 103 01 203
2100-3434,000 - Planning & Development					
Labor	259	259	0		
NLbr	246	246	0	+	·
NSE	0	0	0		
2100-3434.000 Total	505	505	0	BMB-115-116	Daga 101 of 200
	303			DIMP-112-116	Page 191 of 209
2100-3461.000 - Business Planning & Budgets Customer Ser	vice				
Labor		122	-	_	
NLbr	122	122	0		
NSE	+ - 3				
2100-3461.000 Total	125	125		D\$40,443,444	D 470 55
2200 5702,000 [044]	125	125	0	8MB-113-114	Page 176 of 209
2100-3511.000 - CCC Strategy and Analysis Manager	1				
Labor	10-				_
NLbr	125	125	0	·	
	5	5	0		
NSE 2100 2511 000 T-4-1		0	0		
2100-3511.000 Total	130	130	0	BMB-114-115	Page 183 of 209
2400 0700 000 1 7					
2100-3709.000 - Low Emissions Vehicle Program					
Labor	84	84	0		
NLbr	11	14	3		
NSE		0	0		
2100-3709.000 Total	95	98	3	BMB-116-117	Page 200 of 209

Note: Totals may include rounding differences. Summary

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ORA Deficiency SDG&E-ORA-DEF-40-TLG-SDG&E-14 Details by Workgroup

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	NOTES	Non-labor is based on contractual	agreement with vendor for warranty.	(0.5) Labor represents 5 FTE at an annual salary of \$92.5K	(2.0) Labor represents 2 FTEs at an annual salary of \$92.5K.	(2.0) Labor represents 1 FTE at \$109K annual salary and 1 FTE at \$86K annual salary.		Labor represents: 1) Increase in O&M field compliance work (5 FTEs x 592-30/hour x 2,080 hours = 5411,575); Helpers/Meter Installers to Single Phase Stephoner x 2,080 hours = 5410,095); Apprentices Step-up Rates Increase (6.6 FTEs x 55.63 x 2,080 = 577,289). Total equals 5639,956 (See cell D27 in supplemental workapper 1 on page 19). 3. Apprentice step-up increase (classroom portion) (4 FTE x 55.63/hour increase x 2,080 = 5.4684) (See cell D28 in supplemental workapper 1 on page 19). 3. Meter Shop (Single Phase Technicians returning from Smart Meter deployment to O&M work) (3.4 FTEs as 159,000 annual salary reduction = (515,680). Total equals \$22.0,974 (see cell D2) in supplemental workapper 1 on page 19). NOTE: Any minor discrepancies or differences are due to rounding.	Non-labor reduction reflects the removal of temporary contract labor (1,950.6 hours at average hourly rate of \$40.52),	
	FTE		10	(0.5)	(2.0)	(2.0)	1.8	8. 8.	1	(1.0)
NSE	(\$000)	,		ı				ı	1	
Non-		22		1				1	(67)	1
Labor	(2000)		100	(64)	(185)	(195)	111	862		(100)
Total	-	22	100	(64)	(185)	(195)	111	862	(62)	(100)
	Cost Driver	Smart Meter Extended Warranty	Testing Hardware/Firmware	Process Improvements - duplicate field visits	Process Improvements - coaching/training to improve performance	Process Improvements - redistributing workload	Meter Reading	Resumption of Field Compliance and Other Maintenance Work	Non-Labor Adjustment	Capital Projects -SMOC EM Capital Project #13031 labor
	Work Group Name	1. Advanced Metering	1. Advanced Metering	1. Advanced Metering	1. Advanced Metering	1. Advanced Metering	1. Advanced Metering	1. Advanced Metering	1. Advanced Metering	1. Advanced Metering
Forecast	Workpapers									
Workpaper	Page #	11, 17-19	10, 19	10, 19	10-11, 19	10, 19	9, 19	9-10, 19	11, 19	11, 19
Workpaper	Group	100000.000	100000.000	100000.000	100000.000	100000.000	100000.000	100000.000	100000.000	100000.000
Testimony	_	13-14	14-15	15	15	15	16	16-17	17	17-18
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	Testimony	ပ	Ü	v	υ	ပ	U	v	U	Ü
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ORA Deficiency SDG&E-ORA-DEF-40-TLG-SDG&E-14 Details by Workgroup

	E NOTES	Non-labor is based on contractual agreement with vendor for software maintenance & service fees.	90	Non-labor is a professional estimate and represents employee-related expenses such as miteage, fravel, training, office supplies, office equipment, cell phones,	Labor represents 3 FTEs at 583.7K annual salary totaling \$2.59K and 2 FTEs at 73K annual salary totaling \$151K. Non-labor is a professional estimate and represents employee-related expenses such as mileage, travel, training, office supplies, office equipment, cell phones, etc.		(1.0) Non-labor is a professional estimate and represents employee-related expenses such as mileage, travel, training, office supplies, office equipment, cell phones, etc.	O Non-labor is a professional estimate and represents employee-related expenses such as mileage, travel, training, office supplies, office equipment, cell phones, etc.	0
	FTE		5.8	4.0	5.0	0:	(1.0	1.0	10.0
3	(2000)	1	ı		1	-	1	,	
-uoN	(\$000)	159	102	10	13	m	(3)	E	26
	(3000)	, ,	535	241	397	8	(54)	£7	740
	(\$000)	159	637	251	410	%	(57)	92	766
	Cost Driver	Capital Projects - SMOC-EM Capital Project #13031 annual software maintenance & service fees		Net Energy Metering	New Rate Options and Programs	Increased Complexity of Activities	Capital Projects - Off But Registering Capital Project #14005 Iabor savings	Capital Projects - Centralized Calculation Engine Capital Project #14013 labor costs	
	Work Group Name	7.1	Sub-Total	3. Billing	3. Billing	3. Billing	3. Billing	3. Billing	Sub-Total
Forecast	Workpapers		Workpaper Pages 6-7 Testimony Pages 12-13						Workpaper Pages 27-28 Testimony Pages 20-21
	vorkpaper Page#	11, 19		28-29, 35	29,36	29, 37	29	29	
, ,	Group	100000.000		100002.000	100002.000	100002.000	100002.000	100002.000	
	Page #	17-18		21-22	22-24	24	25-26	25-26	
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	Testimony			υ (κ	ი ი	ი რ	e	ပ (၃	
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Details By Workgroup

ORA Deficiency SDG&E-ORA-DEF-40-TLG-SDG&E-14 Details by Workgroup

			ate and	nses ffice	ones,	1.553K		ns at		1016	page			no pa	<u>8</u>		no pa		rate	system		see	(o. o.):	ed cost	T Prist	osts	84 —				_
	NOTES		Non-labor is a professional estimate and	represents employee-related expenses such as mileage, travel, training, office	supplies, office equipment, cell phones,	Labor reduction reflects 1 FTE at \$53K	average annual salary.	(2.0) Labor represents 2 FTE reductions at	an average annual salary of \$56.5.	Labor and non-labor represents 2016	torecast muniphed by customer growin (see supplemental workpaper 1 on page 49)	Non-labor represents contractual	agreement for licensing costs.	Non-labor represents savings based on	contractual agreement for licensing		Non-labor represents savings based on	contractual agreements.	Non-labor is based on contractual rate	card and an estimated amount of system changes.	Represents projected increase in	collections by collection agencies (see	suppremental workpaper z on page 50).	Non-labor represents the forecasted cost	for postage and paper to mail final bill notices.	Non-labor is based on historical costs	for postage and paper to mail the 48				
	FTE		2.0	<u> </u>	<i>S</i> (0.10	, et	(5.0)	æ	1.2	3 ° 7		et .		0 0	-	<u>-</u>	ō	•	<u> </u>		0 6	<u>s</u>		4 4	,	<u> </u>	0.2			_
	NSE (\$000)														-				,												_
Non-	Labor (\$000)		vî					•		15		33		(32)			(36)		91		8			14		12		Ξ			_
	Labor (\$000)		133			(3)		(113)		62		'		1			,		•							•		53			
	Total (\$000)		138			(53)		(113)		77		33		(32)			(36)		01		8			14		12		140			_
	Cost Driver		Meter Revenue Protection			Process Improvements - account	reconciliation processes	Process Improvements - collection	of delinquent commercial accounts	Customer Growth		Collection Systems - new collection	systems software licensing costs	Collection Systems - reduction for	old collection system licensing costs		Collection Systems - new collection	system on-time implementation set- up/configuration costs	Collection Systems - annual	software training and vendor assisted system changes/upgrades	Collection Systems - collection	agency commission payments		Other - final bill notices		Other - 48 hour disconnection	notice for vulnerable customers				
	Work Group Name	,,	4. Credit & Collections			4. Credit & Collections		4. Credit & Collections		4. Credit & Collections		4. Credit & Collections		4. Credit & Collections			4. Credit & Collections		4. Credit & Collections		4. Credit & Collections			4. Credit & Collections		4. Credit & Collections		Sub-Total			
Forecast	Methodology Workpapers																											Workpaper	rages 39-40 Testimony	Page 27	
	Workpaper Page#		42			43		43		43, 49		42-43		45			42		43		43, 50			43	:	43					
	Workpaper Group		100003.000			100003.000		100003.000		100003.000		100003.000		100003.000			100003.000		100003.000		100003.000			100003.000		100003.000					
	Testimony Page#	П	28-29			29-30		29-30		90		30-31		30-31			30-31		30-31		30-31			31-32		31-32					_
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ORA Deficiency SDG&E-ORA-DEF-40-TLG-SDG&E-14 Details by Workgroup

NOTES	NSE represents 3% contractual increase see supplemental workpaper 2 page 62).	Non-labor represents the volume multiplied by the unit cost (see supplemental workpaper 2 on page 62).	Non-labor represents the volume multiplied by the rate (see supplemental workpaper 3 on page 60).	Non-labor represents the volume multiplied by the unit cost (see supplemental workpaper 2 on page 62).		Non-labor represents impact due to electric meter growth on volumes multiplied by the rate (see supplemental workpaper 2 on page 77).	Non-labor represents postage increase (see supplemental workpaper 2 on page 777.	Non-labor represents the volume multiplied by the rate (see supplemental workpaper 3 on page 74).	Non-labor represents impact due to electric meter growth on volumes multiplied by the rate for paperless (see supplemental workpaper 2 on page 77).	Non-labor represents savings related to postage increase for paperless (see supplemental workpaper 2 on page 77).	
FTE	,	1	1			I ORF		1		1 24 6	
NSE (\$000)	01		1	1	10	93	386	213	(636)	(154)	(86)
Non- Labor 1 (\$000) (\$	1	19	=	(52)	(22)		1	1			1
Labor (\$000)	1										
Total (S000)	10	19	11	(52)	(12)	93	386	213	(939)	(154)	(86)
Cost Driver	Software Licensing Costs	5. Remittance Processing Increase of E-Bills Delivered	5. Remittance Processing Forms & Envelopes - 1st collection notices	5. Remittance Processing Forms & Envelopes - Suppressed bills		Postage for Meter Growth	Increased Postage Costs - Rate Increase	Increased Postage Costs - 1st call notices	Postage Savings - Paperless	Postage Savings - Rate Increase	
Work Group Name	5. Remittance Processing Software Licensing Costs	5. Remittance Processing	5. Remittance Processing	5. Remittance Processing	Sub-Total	6. Postage	6. Postage	6. Postage	6. Postage	6. Postage	Sub-Total
Forecast Methodology Workpapers					Workpaper Pages 52-53 Testimony Page 32						Workpaper Pages 64-65 Testimony Page 34
Workpaper Page#	54, 62	54, 62	55, 60	54-55, 62		66, 77	66, 73, 75-77	67,74	67, 73, 77	67, 73, 77	
Workpaper Group	100004.000	100004.000	100004.000	100004.000		100004.001	100004.001	100004.001	100004.001	100004.001	
Testimony Page#	33	33	33	33		35	35	35	35	35	
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ORA Deficiency SDG&E-ORA-DEF-40-TLG-SDG&E-14 Details by Workgroup

NOTES		(5.5) Labor represents reduction of 5.5 FTEs	at an average annual salary of \$51.8K	(see supplemental workpaper 1 on page 84).	See supplemental workpaper 2 on pages 85-87.			See comparison table below:	-	FTE Labor FTE	115.6 6,193,626 128.3	31.9 1,168,530 30.3	7.4 - 0.0	0.3 - 0.0	18.8 1,396,000 19.0	8,803,988 174,0 8,758,156 177,6 (45,831) 3,6		(3.0) Labor reductions are represented in	page 103.	1.0 Labor represents 1 FTE to respond to	approximately 17K customer inquiries	(see supplemental workpaper 4, row 14	on page 103).		approximately 80K customer inquiries	or 17K calls per FTE (see supplemental	workpaper 4, row 15 on page 103).		1.5 Labor represents 1.5 FTEs to process	approximately 20K CARE enrollments	(see supplemental workpaper 4, row 16 on page 103).
FTE		(5.5)				(5.5)		3.6	frout incide									6.0		1.0				5.0					1:5		
NSE (\$000)					1	1		,	W Senerat W	Adjusted Recorded					- 1	Total				•				'							
Non- Labor (\$000)					ı	1		١.	Comparison of Zero Base Forecast without incided to 2013	1	ESS Full-Time (FT)	ESS Part-Time (PT)	ESS FT Overtime	ESS PT Overtime	All other staff (Mgmt, Supv)			•													
Labor (\$000)		(285)				(285)		(46)	និ		記器	ESS Par	ESS FI	ESS PT	All other			(145)		87				241				1	7/		
Total (\$000)		(285)	-		-	(285)		(46)										(145)		8 ‡				241				1	7/		
Cost Driver		Process Improvements			Closure of Branch Offices			Staffing Increase and Reduction in	Overtime Pay									Change In Operating Hours		Customer Outreach Safety Checks				New Rate Options and Programs				:	CAKE Enrollment		
Work Group Name		7. Branch Offices			7. Branch Offices	Sub-Total		8. Customer Contact	Center Operations									8. Customer Contact		8. Customer Contact	Center Operations			8. Customer Contact	Center Operations				8. Customer Contact	Center Operations	
Forecast Methodology Workpapers						Workpaper Pages 79-80 Testimony Page 37																									
Workpaper Page#		80,84			85-87			92, 100-103										93-94, 103		93, 103				93, 103				103	25, 105		
Workpaper Group		100005.000			100005.000			100006.000									30000	100006.000		1000906.000				100006.000			_	0000000	100008.000		
Testimony Page#		38			38-49			SS.										95-55 45-55		54				54-55				22	e.		
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Details By Workgroup

ORA Deficiency SDG&E-ORA-DEF-40-TLG-SDG&E-14 Details by Workgroup

	NOTES	(4.0) Labor represents a reduction of 4 FTEs as an estimated 57K calls will be avoided due to capital project (see supplemental workpaper 4 row 17 on page 103).	Labor represents a reduction of 4.5 FTEs as the AHT is reduced by 8 seconds due to capital project (see supplemental workpaper 4,row 18 on page 103).	Labor represents a reduction of 2.8 FTEs as the AHT is reduced by 5 seconds due to capital project (see supplemental workpaper 4, row 19 on page 103).			Non-labor represents contractual agreement for annual software maintenance fees due to capital project.			d on contractual	Non-labor is a professional estimate and	represents employee-related expenses	such as mileage, travel, training, office	suppnes, ornce equipment, cen pnones, etc.
		Labor represents a reduction of as an estimated 57K calls will be a due to capital project (see suppler workpaper 4 row 17 on page 103)	(4.5) Labor represents a reduction of 4.5 FTEs as the AHT is reduced by 8 see due to capital project (see supplemen workpaper 4,row 18 on page 103).	(2.8) Labor represents a reduction of 2.8 FTEs as the AHT is reduced by 5 see due to capital project (see supplemen workpaper 4, row 19 on page 103).			Non-labor represents contractual agreement for annual software maintenance fees due to capital pr			Non-labor is based on contractual agreement.	_	represents employ	such as mileage, th	supplies, ornce equete.
	FTE	(4.0)	(4.5)	(2.8)	(3.2)					1	1.0			
NSE	(2000)	1	1	1	,		1	•						
	(2000)			'	'		73	73		(438)	3			
Labor	(2000)	(193)	(217)	(135)	(375)		1	ı		•	95			
Total	(\$000)	(193)	(217)	(135)	(375)		£7	73		(438)	86			
	Cost Driver	Capital Project Impacts - IVR 2014 Capital Project #14023	Capital Project Impacts - SEAd Phase 1 Capital Project #13309	Capital Project Impacts - SEAd Phase 2 Capital Project #14017			Capital Project Impacts			Adjustment for Manage Act Save	Energy Management Tool ("EMT"			
	Work Group Name	8. Customer Contact Center Operations	8. Customer Contact Center Operations	8. Customer Contact Center Operations	Sub-Total		9. Customer Contact Center Support	Sub-Total		1. Residential Services	1. Residential Services			
Forecast Methodology	Workpapers				Workpaper Pages 89-90 Testimony Pages 50-52			Workpaper Pages 105-106 Testimony Page 58						
Workpaper	Page#	92, 103	92-93, 103	92-93, 103			106			126	126			
Δ	Group	100006.000	100006.000	100006.000			100007.000			100008.000	100008.000			
Testimony	Page#	56-57	56-57	56-57			28				29-69			
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	Testimony	ى «د	8	8		+	<u> </u>		4	1 c	1 c			\dashv
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NOTES	Non-labor is based on contractual agreement. (See supplemental workpaper 1 on page 134).	Non-labor represents the forecasted amount of batch rate comparisons based on 75% increase of current contracted volume.	Non-labor is a professional estimate and represents employee-related expenses such as mileage, travel, training, office supplies, office equipment, cell phones, etc.	Non-labor is based on existing contractual agreements with vendors.	Non-labor is a professional estimate for the outreach and education activities to support customer growth in electric vehicles.	Non-labor represents the costs to write, design and print 45K pieces of collateral at \$1.12 each and is based on historical costs for similar types of communications.			Labor represents 1 FTE at \$75K annual salary and .5 FTE at \$100K salary totaling \$125K and 1 FTE at \$88K annual salary and 1 FTE at \$97K annual salary totaling \$185K.		Non-labor represents a portion of one FTE at an annual salary of \$55K.	Non-labor is based on contractual agreement for software hosting fees.	
FTE	, ",	,	2.5		1		3.5		ξ.	9.1	(0.2)		4.3
NSE (\$000)		1	1			1	-	İ			,		ı
Labor (\$000)	282	27	7	327	100	05	706		ı		,	75	27
Labor (S000)			230	1	1		325		310	107	8		409
Total (\$000)		27	737	327	001	20	1,031		310	107	(8)	75	484
Cost Driver	ool ("EMT"	Energy Management Tool ("EMT"	Customer Data Analytics and Techn	Customer Data Analytics and Techn	Plug-In Electric Vehicle ("PEV") O	Rate Reform			New Kate Options and Programs	Improving Outage Activities - Proje	Process Improvements	Software Licensing Costs	
Work Group Name	1. Residential Services	1. Residential Services	1. Residential Services	1. Residential Services	I. Residential Services	1. Residential Services	Sub-Total		2. Commercial & Industrial Services	2. Commercial & Industrial Services	2. Commercial & Industrial Services	2. Commercial & Industrial Services	Sub-Total
Methodology							Workpaper Pages 124-125 Testimony Page 64						Workpaper Pages 136-137 Testimony Page 78
Workpaper Page#	126-127, 134	127	126-127	126	126	127			138	138	138	138	
Workpaper Group	100008.000	100008.000	100008.000	100008.000	100008.000	100008.000			100009.000	100009.000	100009.000	100009.000	
Testimony Page #	65-67	65-67	67-70	67-70	70-71	71-72		- 1		80-81	81	81	
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Testimony	- -	2	2	1 0	1 0	0		+	2 2	2 c	2 c	2 c	
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ORA Deficiency SDG&E-ORA-DEF-40-TLG-SDG&E-14 Details by Workgroup

				Forecast					Non-			
	Toetimoni	Woulmone	Woulragae	Mashadalam		-		-		2014		
Testimony			workpaper Page#	Workpapers	Work Group Name	Cost Driver	COOO	(SODO)	COOOL	300 300 300 300 300 300 300 300 300 300	H H	SELLON
о м ш	86-90	100010.000	145, 154		3. Communications, Research & Web	Customer Research Activities - Sur	1,842		1,842	-		See supplemental workpaper 2 on page 154. Costs are based on adding additional transactions/experiences under Customer Programs and Customer Assistance for the enhanced Customer Connections Survey and the remaining surveys are based on historical vendor costs for similar surveys.
3 c i		86-90 100010.000	145		3. Communications, Research & Web	Customer Research Activities - Lab	379	379			4.0	
3 c	ii 90-92	100010.000	146		3. Communications, Research & Web	Social Media Tools	06	-	06	ı	•	Non-labor is based on contractual agreement and vendor estimated costs.
3 c ii	iii 92-94	100010.000	145		3. Communications, Research & Web	Social Media Advisor	82	85			1.0	
3 C N	iv 94-95	100010.000	145	1	3. Communications, Research & Web	Mobile Application Capabilities	20	1	90	•		Non-labor is based on historical contractual agreements with vendors.
3 c	v 95-96	100010.000	145]	3. Communications, Research & Web	My Account Content Management System	100	100		•	1.0	
ر د د	vi 96-97	100010.000	146, 153		3. Communications, Research & Web	SPP/Event Notifications and Goals and Alerts	376		376		•	See supplemental workpaper 1 on page 153.
3 c vi	97-99	100010.000	145		3. Communications, Research & Web	Ongoing SPP activities	255	255			3.0	Labor represents 1 FTE (Web Business Technologist) at \$89K annual salary; 1 FTE (Customer Communications Advisor) at \$82K annual salary; and 1 FTE (Research Analyst) at \$85K annual salary.

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ORA Deficiency SDG&E-ORA-DEF-40-TLG-SDG&E-14 Details by Workgroup

NOTES	Non-labor is based on historical costs for similar types of activities broken out as follows: \$2,11M of our mass media is for the use of TV, radio and print (newspaper) and is for both the production of asts and the placing of asts in the media. The costs are based on having the TV, radio and newspaper ads run for 15 weeks, with the media running ast exposure elvels \$50,62k has instorically used. \$250K colline media is based on a hinting to appear within instorically used. \$250K colline media is based on analysing \$50,000 pieces at a total price of \$50.50 each, which include postage, printing and all associated costs. The direct mail is based on mailing \$50,000 pieces at a total price of \$50.50 each, which include postage, printing and all associated costs. The direct mail would be betters mailed in standard envelopes. \$25K for Ermail is based on costs of \$25,50 each, which include postage, million emails, \$105K for bill inserts is based on costs of \$25,250 to design and print an insert with a total of four inserts during the year. \$175K for research is based on one study to be conducted to provide measurement of the project.	Non-labor represents the cost to design and print 350K materials and is based on historical costs for similar communications (350K x 80.05).	Non-labor represents the development, printing, handling and postage for customer posteards and is based on historical costs for similar communications (approximately 450K communications (approximately 450K).	
FTE	1	1	1	9.0
NSE (\$000)	•	1		1
Non- Labor (\$000)	2,870	19	281	5,528
Labor (S000)		1	1	819
Total (\$000)	2,870	19	281	6,347
Cost Driver	New Rate Options and Programs	Enhanced Customer Education Wh	Customer Outreach Safety Checks	
Work Group Name	3. Communications, Research & Web	3. Communications, Research & Web	3. Communications, Research & Web	Sub-Total
Forecast Methodology Workpapers				Workpaper Pages 142-143 Testimony Pages 85-86
Workpaper Page#	946	146	146	
	100010.000	100010.000	101-102 100010.000	
Testimony Page #	99-101	101	101-102	
Testimony	1 B 3 C AIII	В 3 с іх	ა დ	
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_		Testimony	Workpaper	Workpaper	Methodology			Total	Labor	Labor	Z		
Testimony	nony	Page#	Group	Page#	Workpapers	Work Group Name	Cost Driver	(2000)			(2000)	FTE	NOTES
II B 4	نة. ن	106-109	106-109 100011.000	157-158		4. Customer Programs & Projects	4. Customer Programs & Ongoing SPP and CPP-D Activities Projects	281	199	82		2.2	Non-labor is based historical contracts
II B 4	ii o	109-110	109-110 100011.000	158		4. Customer Programs & Customer Privacy Office Projects	Customer Privacy Office	170	170			7.0	
II B 4	:II	110	100011.000	158		4. Customer Programs & Privacy Audit Projects	Privacy Audit	133		133			Non-labor is based on the 2014 privacy audit costs with anticipated changes
II B 4	<u>ن</u> د	110-111	100011.000	158		4. Customer Programs & Other - program office Projects	Other - program office	133	133			9:	6
II B 4	. <u>≥</u>	110-111	110-111 100011.000	158	·	4. Customer Programs & Projects	4. Customer Programs & Other - software maintenance agree Projects	v.			S		Non-labor is based on contractual vendor annual for software maintenance.
					Workpaper Pages 156-157 Testimony Page 106	Sub-Total		722	502	215	w	5.2	
Total No	n-Shar	Fotal Non-Shared Services		-				9,430	2,699	6,814	(83)	29.3	
III B 2	. .	111	2100-3709	203		2. Low Emissions Vehicle Travel Expenses Program	Travel Expenses	6		8		1	Non-Jabor is a professional estimate and represents employee travel expenses.
		_			-	Sub-Total		9	,	m	,		
					Workpaper Pages 200-203 Testimony Pages 116-117								
Total Shared Services	ared Se	irvices						3		3	-	1.	
Total NSS + USS	S+ OS	S						9,433	2,699	6,817	(8)	29.3	

r. Name	ici ivanile			0.00	EKING			OPERATIONS	2ANCE		UPPORT	TERING	ANAGER			ETWORK &	ZT ST	S CENTER		3 SUPPORT 1		3 SUPPORT 2	C	AFF	NO I IO	3 MANAGER	IEGY	VISOR	3 GRP 3 -		3 GRP 5 -	3 ACCESS		SUPPORT 7	GROUP 7	
Cast Center Name	COST CELL			mos (Oramou Io	CORP ATIONS	OI TIVE I IONS	CENTRAL OPS -	MEASUREMENT OF ERATIONS	QUALITY ASSURANCE	ENGINEERING	AMO PROJECT SUPPORT	ADVANCED METERING	OPERATIONS MANAGER	TRAINING	OPERATIONS	CENTRAL OPS NETWORK &	SYSTMS SUPPORT	SMART MTR OPS CENTER		METER READING SUPPORT 1		METER READING SUPPORT 2	METER READING	MTR READING STREET		METER READING MANAGER	POLICY & STRATEGY MANAGER	TRAINING SUPERVISOR	METER READING GRP 3 -	BEACH CITIES	METER READING GRP 5 - METRO	METER READING ACCESS	OF CONT	2100-3596 METER READING SUPPORT 7	ETER READING	
Cost Centers in Group	dio				2100-0035		2,00,0016		2100-0717	2100-3467	2100-3547		\neg	2100-3598	2100-3779	_		2100-3891		2100-0011 N		2100-0012		2100-0649 N		2100-0705 N	2100-3470 N	_		2100-34/2 B	2100-3474 N	7100.3549 C	2400-001-	2100-3596 M	2100-3635 M	
FERC Allocation %					%00		240%	0/47	29%	%6	%81									N/A																
WP Group FERC Accounts		Baugh			586.1		586.2	200	586.6	586.7	902.2									N/A																
MDR Chapter 8 Question #		: Bradley M.		Chanter 8 O1-	4, 15														Chanter & O.1.	4																
Workpaper Pages X of 209		&E - 14 Witness	3-168	2012	5-19		16		17-18											20-25									,							
Testimony Pages	Chibits Mr. Cho.	Xulbit 186.: SDC	BMB-9-111		BMB-10-18		BMB-13		BMB-14											BMB-18																
Work Paper Group	Information and Tachnologies D	Extra to the state of the state		A - Customer Service 100000.000 - Advanced Metering	Operations "AMO"	Reconciliation Ty2016 Zero	2013 Adjusted Recorded.	er Extended	waranty											\neg	was cuminated in 2012 as a result of the implementation of Smart	Meters.														
Testimony Area	r Service Operations.		Non-Shared Costs - Section II	A - Customer Service	Operations														er Service	Operations	<u> </u>															
Functional Area	Custome																		_																	

ORA Deficiency SDG&E-ORA-DEF-040-TLG-SDG&E-14 High Level Roadmap

San Diego Gas & Electric Company 2016 GRC - APP **Shared Services Workpapers**

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nA Isαoitenu∓	Testimony Area	Work Paper Group	Testimony Pages	Workpaper Pages X of 209	MDR Chapter 8 Ouestion #	WP Group FERC	FERC Allocation	Cost Centers	
	A - Customer Service Operations	17N002	20 or 00 ye		Chapter 8 Q1-	e income	₹	III CLOUD	CUSTOMER BILLING
			07-KI -QIVIQ	76-97	4	903.3	%8	2100-0008	RESOURCES MGR
		Energy Metering Forecast	BMB-21	35		903.5	95%	2100-0009	CUSTOMER BILLING MGR
		Supplemental Workpaper 2 - SPP Rate Change Exception Forecast	BMR-24	76					CUSTOMER OPERATIONS
		Supplemental Workpaper 3 -		2				2100-3476	DIRECTOR
		Interval Billing and Training Forecast	BMB-24	37				2100 3477	BILLING OPERATIONS
								2100-3480	CUST OPS SOUTH DIR
								2100-3622	CONTRACTS & COMPLIANCE MANAGER
						-		2100-3782	BILLING OPERATIONS SUPPORT - SMART METER
	A - Customer Service	-			Chapter 8 Q1-				
	Operations	100003.000 - Credit & Collections BMB-26-32 Supplemental Workmaner 1	BMB-26-32	38-50	4, 11, 12	903.3	%19	2100-0021	ACCOUNT MANAGEMENT
		Customer Growth Calculation	BMB-30	49	-	903.4	31%	2100-0022	ACCOUNT PESEA POH
		Supplemental Workpaper 2 -	3					1	METER REVENUE
		Concencia Agency Commissions	BMB-31	20		903.8	%	2100-0023	PROTECTION SDGE
T								2100-0026	CUSTOMER REMITTANCE
_									ALLOWANCE FOR
								2100-0330	UNCOLLECTIBLES
									COST OF SOUTH LVC
								2100-3489	MAJOK MARKETS CREDIT & COLLECTIONS
									CREDIT & COLL MGR
								2100-3811	CUSTOMER OPS SUPPORT
	A - Customer Service Operations	100004.000 - Remittance Processii BMB-32-33	BMB-32-33	51-62	Chapter 8 Q1- 4, 13	903.4	100%	2100-0395	SOSTAGE - CHETCHER BITTE
		Supplemental Workpaper 1 - Historical and Forecast Data	BMB-33	17					MANAGER OF REMITTANCE
		9	20,00					2100-3637	PROCESSING
		Supplemental Workpaper 3 -	cc-divid	70		1			
			BMB-33	09					
						+-			
	A - Customer Service Operations		BMB-34-35	63-77 4	Chapter 8 Q1- 4, 13	903.7	100%	2100-0395	POSTAGE - CLISTOAMED BILLS
			BMB-35	73					COLUMN DILLO
		Supplemental Workpaper 2 - Postage Forecast Calculations	BMB-35	1					
		1	22	,,				_	

ORA Deficiency SDG&E-ORA-DEF-040-TLG-SDG&E-14 High Level Roadmap

San Diego Gas & Electric Company 2016 GRC - APP Shared Services Workpapers

ORA Deficiency SDG&E-ORA-DEF-040-TLG-SDG&E-14 High Level Roadmap

Cost Cartes Name	Cost Center I vame		TOTAL STOCKE STO	BRANCH OFFICE MANAGER BRANCH OFFICE	BRANCH OFFICE	BRANCH OFFICE SATELLITES	AUTHORIZED PAYMENT LOCATIONS		CCC SPECIAL SERVICES SAN	OSSI				COST NO TOTAL COL	CUSTOMER CONTACT	CCC LOS SAN DIEGO	CCC PLANNING & ANALYSIS	CS TRAINING &	OPS SUPPORT SDGE	QUALITY ASSURANCE SDGE	CCC PLANNING & ANALYSIS SDGE	CCC TECHNOLOGY MANAGER
FERC Cost Centers % in Groun				2100-0016 B			2100-3486 L	1 0000		1				0100 0010			2100-3513 CC		2100-3516 OF	2100-3517 Qt	2100-3518 SE	
FERC Allocation			70001	9/001				1000	2001					100%	,							
WP Group FERC Accounts			903.4					903						903 1								
MDR Chapter 8 Question #	'		Chapter 8 Q1-					Chapter 8 Q1-				İ		Chapter 8 Q1-								
Workpaper Pages X of 209	74	75-76	78-87		85-87			88-103		101		102	103	104-114								
Testimony Pages	BMB-35	BMB-35	BMB-36-49	BMB-38	BMB-43, 45, 46, 48			BMB-49-57					BMB-54, 56,	BMB-57-58								
Work Paper Group	Supplemental Workpaper 3 - 1st Call Notices Forecast Adjustment Calculations	Supplemental Workpaper 4 -USPS Postal News - Postal Rate Increase BMB-35		Supplemental Workpaper I - Branch Office Capacity Model	Supplemental Workpaper 2 - Closure of Branch Offices			Service 1IN006.000 - Customer Contact Center Operations	Supplemental Workpaper 1 - Historical Performances	Supplemental Workpaper 2 - Call Volume Forecast	Supplemental Workpaper 3 - e- Workforce Management FTE	Requirements	Supplemental Workpaper 4 - TY2016 FTE Forecast Adjustment BMB-54, 56, Calculations Summary 57	Service 1IN007.000 - Customer Contact Center Support								
Testimony Area			A - Customer Service Operations					A - Customer Service Operations			F		5,1-0	A - Customer Service 1								
Functional Area						İ																

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Cost Center Name	CCC IT PROJECT MANAGER - SDG&E	VP CUSTOMER SERVICES	BUSINESS PLANNING &	VP ENGINEERING & OPERATION STAFF	CUSTOMER SERVICE SVP & STAFF	VP CUSTOMER SOLUTIONS	VP CUSTOMER OPERATIONS	DYNAMIC PRICING MANAGER	CUSTOMER SVCS MARKET		CUSTOMER ASST MGR - DAP	MY ACCOUNT PROGAM MGMT & MARKETING	CUSTOMER ASST MGR -	CUSTOMER ASST MGR -	STRATEGY & OUTREACH	CUSTOMER ASSISTANT OUTREACH MANAGER	CUSTOMER ASST MGR -	MARKETING RESIDENTIAL	ELECTRIC TRANSPORTATION	DIRECTOR RESIDENTIAL	PRODUCT INNOVATION	RES SVCS CUSTOMER	ENGAGEMENT	RES SVCS OUTREACH & EDUCATION		
ر ج				1		. [7 —		STRATI		ı	1	ELECTF	DIRECT	PRODU	RES SV(EXPERIENCE & ENGAGEMENT	RES SVCS OF		
Cost Centers in Group	2100-3715	2100 0004	2100-0712	2100-3538	2100-3562	2100-3701	2100-3844	2100-4026	2100-0040		2100-0630	2100-3446	2100.3452		2100-3453	2100-3454	2100-3455	2100-3593	2100-3675	0010	2100-3705		2100-3839	2100-4027		
FERC Allocation		%08	24%	39%	30%				780%		22%															
WP Group FERC Accounts		903.1	0.806	920.0	921.0				0 806		910.0												ļ			
MDR Chapter 8 Question #		Chapter 8 Q1-							Chapter 8 O23-33																	
Workpaper Pages X of 209		115-122							123-134		134															
Testimony Pages		BMB-59							BMB-60-72		BMB-66															
Work Paper Group		11N012,000 - Other Office							1IN008.000 - Residential Services BMB-60-72	Supplemental Workpaper 1 - Calculation for Aclara/Batch Rate Comparison Annual Hosting, Maintenance Fees and 5 Year	License Fees															
Testimony Area		A - Customer Service Operations							B - Customer Service Information																	
Functional Are											T														1	1

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	Cost Center Name		FEDERAL ACCOUNTS	FEDERAL PROJECTS	C&I MARKETS MANAGER	C&I TECHNOLOGY SUPPORT SUPERING	FEDERAL ACCOUNTS FINANCE & ACCOUNTING	FEDERAL BUSINESS	C&I MAJOR ACCOUNTS	C&I PROJECT	UEG/WHSLE/COGEN/PP	MANAGER	C&I REPRESENTATIVES	TECHNOLOGY SERVICES	MANAGER	KALE SUPPORT SUPERVISOR	CS-MASS MKTS LVC for Budget Use Only	SDGE CUSTOMER	COMMUNICATIONS - BUSINESS	CUSTOMER EXPERIENCE & ENGAGEMENT C&1	SM & MED BUSINESS MGR	SDGE CUSTOMER COMMUNICATIONS -	RESIDENTL	CUSTOMER	COMMUNICATIONS SCG	COSTOMER COMMUNICATIONS - E- SERVICES	CUSTOMER INSIGHTS & ANALYTICS	CREATIVE SERVICES & BRANDING SDGE	DIRECTOR OF CUSTOMER COMMUNICATIONS
Cost Centers	2100 0044		7700-0017	2100-0627	2100-0634	2100-0653	2100-0655	2100-3435	2100-3442	21000	2100-3444		2100-3545	2100-3570		2100-2280	2100-3633		2100-3770	2100-3786			2100-0058		2100-3100	2100-3167	2100-3168		
FERC Allocation	8 %	, èi	0/1/																				100%						
WP Group FERC	903.1	0 800	2:00																				0.806						
MDR Chapter 8 Ouestion#	Chapter 8 O23-33																					Chapter 8	25-53						
Workpaper Pages X of 209	135-140																i					25.	+01-1	153		154			
Testimony Pages	BMB-72-81																					BMB-82-102	701-70-0110	BMB-96		BMB-87			
Work Paper Group	1 INO09																					1IN010.000 - Communications, Research & Web	Supplemental Workpaper 1 - SPP	Event Notification, and Goals and Alerts TY2016 Forecast Calculation	Supplemental Workpaper 2 -	Forecast Calculations for New Surveys.			
Testimony Area	B - Customer Service Information																					B - Customer Service			93				
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rs Cost Center Name	CUST	_			DIR CUST PROGRAMS & PROJECTS			COMMERCIAL NEW CONSTRUCTION MANAGER			_	MANAGER SMALL C&I SEGMENT EE/DR MANAGER				: 1	MARKET PLANNING & ANALYSIS	AMI PROGRAM OFFICE DIRECTOR	- I	AMI CLIENT INTERFACE	AMI STAKEHOLDER EDUCATION	CST - SORT	ENERGY EFFICIENCY NEW	2100-3619 TECHNICAL SUPPORT 2100-3620 AMI INSTALLATIONS
Cost Centers in Group	2100-3783	2100-3784	2100-3785	2100-4012	2100-0064	2100-0065	2100-0629	2100-0643	2100-0650	2100-0651	2100-3440	 2100-3448	2100-3449	2100-3450	2100-3451	2100-3556	2100-3570	2100-3574	2100-3575	2100-3576	2100-3577	2100-3584	2100-3601	2100-3619
FERC Allocation %					%9	11%	%61	64%																
WP Group FERC Accounts					580.2	879.1	903.1	0.806																
MDR Chapter 8 Question #					Chapter 8 Q23-33																			
Workpaper Pages X of 209					155-165																			
Testimony Pages					BMB-102-110																			
Work Paper Group					B - Customer Service 1IN011.000 - Customer Programs Information & Projects																			
Testimony Area					B - Customer Service Information																			
Functional Area																			+-			+	\top	

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A Isnoitenu		, ,	Testimony	Workpaper	MDR Chapter 8	WP Group FERC	FERC	Cost Centers	
Ā	restimonly Area	Work Paper Group	Pages	Pages X of 209	Question #	Accounts	%	in Group	
								2100-3642	SPECIAL PROJS PLANNING & DEVEL OPMENT OF
								200000	DISTRIBUTED GENERATION
								2100-3707	PROGRAMS
								2100-3765	2100-3765 PROGRAM OPERATIONS
									CUSTOMER PROGRAMS
								2100-3766	SUPPORT
								2100-3776	ENERGY EFFICIENCY ADMINISTRATIVE COST
									ENERGY FFFICIENCY
								2100-3777	MARKETING COST
									ENERGY EFFICIENCY DIRECT
								2100-37/8	TECHNOLOGY STB ATSCA
									HAN (HOME AREA
								2100-3847	NETWORK)
								2100-3880	OFFICE OF CUSTOMER PRIVACY
									TECHNOLOGY
								2100-4018	DEVELOPMENT MANAGER
	Shared Costs (USS) -								
	Section III		BMB-111-117	166-205		_			
	A. Customer Service Operations	2100-0006.000 Customer Service Strategies	BMB 112 113	120 121	Chapter 8				
			C11-711-GIMG	108-1/4	C16-20	903.1	100%		
	A. Customer Service				Chapter 8				
	A. Customer Service	2100-3511.000 CCC Strategy and	DIMID-113-114	1/2-181	Charter 6	920.0	100%		
	Operations	Analysis Manager	BMB-114-115	182-189	Q16-20	903.1	100%		
	B. Customer Service								
	Policies, and	2100-3434.000 Planning &			Chapter 8	0006	48%		,
	Solutions	Development	BMB-115-116	190-198	034-42	921.0	\$2%		_
	Gustomer Service Technologies,								
	Policies, and	2100-3709.000 Low Emissions			Chapter 8				
	Solutions	Vehicle Program	BMB-116-117	199-205	034-42	910	100%		
	Uncollectible Rate - Section IV		BMB-117-118	N/A	Chapter 8 Q14	N/A	N/A		

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Functional Area	Testimony Area	Work Paper Group	Testimony Pages	Workpaper Pages X of 209	MDR Chapter 8 Question #	WP Group FERC	FERC Allocation	Cost Centers	
	Capital Projects- Section V		9	Capital Workpapers found in Ex. SDG&E-19-	Chapter 8				Cost Center Name
GRID WP#	Capital Project #	Capital Project Name	041-Giric	CWF	<u>722,</u> 33, 44	¥.	Y.A		
00832A	14006	Branch Office Technical and Security Improvements	BWB 121	0,000					
00831B	15009	EBPP Tech Refresh	BMB-122	Stephen J. Mikovits Exh. SDG&E-19-CWP pp 18 - 22 Stephen J. Mikovits Exh. SDG&E-19-CWP pp 13 - 12	IS EXH. SDG&E	-19-CWP pp	18 - 22		
00833D	15012	I-Avenue Replacement	BMB-122	Stephen J. Mikovits Exh. SDG&E-19-CWP pn 73 - 77	ts Exh. SDG&E	19-CWP pr	3-77		
008310	11013	SCG My Account Accessibility	BMB-123-124	Stephen J. Mikovits Exh. SDG&E-19-CWP pp 47 - 52	ts Exh. SDG&E	-19-CWP pp	47 - 52		
00831P	12051	SDG&E My Account Accessibility BMB-124-125	/ BMB-124-125	Stephen J. Mikovits Exh. SDG&F-19-CWP ng 53 - 59	B Exh. SDG&F	-19-CW/P pg	53 - 58		
008313	14015	C&I Business Portal	BMB-125-126	Stephen J. Mikovits Exh. SDG&E-19-CWP np 33 - 41	s Exh. SDG&E	-19-CWP pp	33 - 41		
00831L	14023	IVR Phase 4 SDGE	BMB-126-127	Stephen J. Mikovits Exh. SDG&E-19-CWP pp 42 - 46	s Exh. SDG&E	-19-CWP pp	42 - 46		
02040C	/0007	SDGE.com Redesign	BMB-127	Stephen J. Mikovits Exh. SDG&E-19-CWP pp 28 - 32	s Exh. SDG&E	-19-CWP pp	28 - 32		
100724	13800	Bill Re-Design	BMB-127-128	Stephen J. Mikovits Exh. SDG&E-19-CWP pp 59 - 63	s Exh. SDG&E	-19-CWP pp	59 - 63		
U00/201	13003	Smart Peak Pricing	BMB-128-129	Stephen J. Mikovits Exh. SDG&E-19-CWP pp 101 - 105	s Exh. SDG&E	-19-CWP pp	101 - 105		
3	COOCT	Oritical Dayl, Brigging Defection	BMB-129	Stephen J. Mikovits Exh. SDG&E-19-CWP pp 83 - 87	s Exh. SDG&E	-19-CWP pp	83 - 87		
03851F	13021	(CPP D)	BMB129-130	Stephen Mikovite Fyh SDG&E-19 Cum 00	s Fyb. SDG&E	10 CW/P			
13849A	13026	Reduce your Use Opt In	BMB-130	Stephen J. Mikovits Exh. SDG&E-19-CWP pp 106 - 110	s Exh. SDG&E	19-CWP pp	106 - 110		
03849A	14039	CEN Phase 4 - System Enhancements	121						
		Direct Access Service Request	1CI-GINIG	Stephen J. Mikovits Exh. SDG&E-19-CWP pp 77 - 82	s Exh. SDG&E.	19-CWP pp	77 - 82		
M1 E800	14040	(DASR) Upgrade	BMB-131-132	Stephen J. Mikovits Exh. SDG&E-19-CWP np 64 - 68	s Exh. SDG&E-	.19-CWP nn	64 - 68		
N1 5800	14065	CCA - Community Choice				44	3		
04843A	14843	Smart Meter IT Phase 3 Billing	BMB-132-153	Stephen J. Mikovits Exh. SDG&E-19-CWP pp 69 - 76	S Exh. SDG&E-	19-CWP pp	69 - 76		
00833U	13009	Smart Energy Advisor	135	Stephen J. Mikovits Exh. SDG&E-19-CWP pp 96 - 100 Stephen J. Mikovits Exh. SDG&E-19-CWP pp 138 - 142	Exh. SDG&E-	19-CWP pp	138 - 142		
03849B	13012	Net Energy Metering Enhancement RMB-135		Ctenhan I Milania	0 0 0		!!		
00833R	13013	Smart Meter Operation Center	3	organism Minopile Ext. SDG&E-19-CWP pp 143 - 147	באווי פוחמשב	19-CWP pp	143 - 147		
		Smart Meter Operations Center	DIVID-133-136	Stephen J. Mikovits Exh. SDG&E-19-CWP pp 132 - 137	Exh. SDG&E-	19-CWP pp	132 - 137		
03851H	13031	Exception Management (SMOC-EM)	BMB-136	Stenhen I Mikovite Evh 2008 to Outh 1.00	Fyb CDC8.	610.01			
00831E	14005	Off But Registering (OBR)		The state of the s	באון פוטמפי	IN-CWF DD	70 - 127		
00833F	14013	Centralized Calculation Engine	BMB 137	Stephen J. Mikovits Exh. SDG&E-19-CWP pp 111 - 115	Exh. SDG&E-	19-CWP pp	111 - 115		
00833G		Smart Energy Advisor 2	138	Stephen J. Mikovits Exh. SDG&E-19-CWP pp 116 - 123 Stephen J. Mikovits Exh. SDG&E-19-CWB == 124 13	Fxh SDG&E-	SCWP pp	16 - 123		
00821A	13010	Customer Analytics System 2013		Stephen J. Mikovits Exh. SDG&E-19-CWP nn 153 - 160	Exh. SDG&E-	19-CWP nn	53 - 160		
03853B	14030	Customer Analytics System - Phase II	BMB-139	Otanhan I Miles	0 00				
03853C	16003	r Analytics System - III	140	Stephen J. Mikovits Exh. SDG&E-19-CWP pp 161 - 168 Stephen J. Mikovits Exh. SDG&E-19-CWP pp 169 - 174	Exh. SDG&E-	9-CWP pp	69 - 174		
ğ	Appendix A - NSS Cost Center Listing	isting		906 306					
		9		Z00-20y		N/A		_	

San Diego Gas & Electric Company 2016 GRC - APP

Non-Shared Service Workpapers

Area: CS - OPERATIONS, INFORMATION & TECHNOLOGIES

Witness: Bradley M. Baugh

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	<u>Description</u>
2100-0004	000	VP CUSTOMER SERVICES SVCS & STAFF
2100-0008	000	CUSTOMER BILLING RESOURCES MGR
2100-0009	000	CUSTOMER BILLING MGR
2100-0011	000	METER READING SUPPORT 1
2100-0012	000	METER READING SUPPORT 2
2100-0013	000	CCC SAN DIEGO MANAGER
2100-0016	000	BRANCH OFFICE MANAGER
2100-0019	000	CCC TECHNOLOGY SDGE
2100-0021	000	ACCOUNT MANAGEMENT
2100-0022	000	ACCOUNT RESEARCH
2100-0023	000	METER REVENUE PROTECTION SDGE
2100-0026	000	CUSTOMER REMITTANCE PROCESSING MANAGER
2100-0035	000	ELECTRIC METERING OPERATIONS
2100-0040	000	CUSTOMER SVCS MARKET STRATEGIES
2100-0042	000	CENTRAL OPS - MEASUREMENT OPERATIONS
2100-0044	000	CUSTOMER CHOICE
2100-0058	000	SDGE CUSTOMER COMMUNICATIONS - RESIDENTL
2100-0064	000	DIR CUST PROGRAMS & PROJECTS
2100-0065	000	RES REBATE PROGRAMS MANAGER
2100-0330	000	ALLOWANCE FOR UNCOLLECTIBLES
2100-0395	000	POSTAGE - CUSTOMER BILLS
2100-0622	000	COMMERCIAL & INDUSTRIAL MARKETS DIR SDGE
2100-0626	000	FEDERAL ACCOUNTS DIRECTOR
2100-0627	000	FEDERAL PROJECTS
2100-0629	000	POLICY & SUPPORT
2100-0630	000	CUSTOMER ASST MGR - DAP
2100-0634	000	C&I MARKETS MANAGER
2100-0643	000	COMMERCIAL NEW CONSTRUCTION MANAGER
2100-0648	000	METER READING OPERATIONS STAFF
2100-0649	000	MTR READING SUPPORT
2100-0650	000	RESIDENTIAL & DR PROGRAM MANAGEMENT
2100-0651	000	ENERGY EFFICIENCY PROGRAM MANAGER
2100-0653	000	C&I TECHNOLOGY SUPPORT SUPERVISOR
2100-0655	000	FEDERAL ACCOUNTS FINANCE & ACCOUNTING
2100-0705	000	METER READING MANAGER
2100-0712	000	BUSINESS PLANNING & BUDGETS - CO
2100-0717	000	QUALITY ASSURANCE
2100-3166	000	CUSTOMER COMMUNICATIONS SCG
2100-3167	000	CUSTOMER COMMUNICATIONS - E-SERVICES
2100-3168	000	CUSTOMER INSIGHTS & ANALYTICS
2100-3307	000	CREATIVE SERVICES & BRANDING SDGE
2100-3435	000	FEDERAL BUSINESS DEVELOPMENT
2100-3440	000	DEMAND RESPONSE PROGRAM MANAGER
2100-3441	000	LOW EMMISSION VEHICLE MANAGER
2100-3442	000	C&I MAJOR ACCOUNTS

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Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2100-3444	000	C&I PROJECT COORDINATION
2100-3446	000	MY ACCOUNT PROGAM MGMT & MARKETING
2100-3448	000	SMALL C&I SEGMENT EE/DR MANAGER
2100-3449	000	RES NEW CONSTRUCTION MANAGER
2100-3450	000	CODES & STANDARDS MANAGER
2100-3451	000	ENERGY EFFICIENCY PARTNERSHIPS & OBF
2100-3452	000	CUSTOMER ASST MGR - CARE
2100-3453	000	CUSTOMER ASST MGR - STRATEGY & OUTREACH
2100-3454	000	CUSTOMER ASSISTANT OUTREACH MANAGER
2100-3455	000	CUSTOMER ASST MGR - PROGRAM SUPPORT
2100-3466	000	DIRECTOR OF CUSTOMER COMMUNICATIONS
2100-3467	000	ELECTRIC METERING ENGINEERING
2100-3470	000	POLICY & STRATEGY MANAGER
2100-3471	000	TRAINING SUPERVISOR
2100-3472	000	METER READING GRP 3 - BEACH CITIES
2100-3474	000	METER READING GRP 5 - METRO
2100-3476	000	CUSTOMER OPERATIONS DIRECTOR
2100-3477	000	BILLING OPERATIONS SUPPORT MGR
2100-3480	000	CUST OPS SOUTH DIR
2100-3482	000	BRANCH OFFICE PAYSTATIONS
2100-3484	000	BRANCH OFFICE OPERATIONS
2100-3485	000	BRANCH OFFICE SATELLITES
2100-3486	000	AUTHORIZED PAYMENT LOCATIONS
2100-3488	000	CUST OPS SOUTH LVC
2100-3489	000	MAJOR MARKETS CREDIT & COLLECTIONS
2100-3490	000	CREDIT & COLL MGR
2100-3510	000	CUSTOMER CONTACT CENTERS DIRECTOR
2100-3512	000	CCC LOS SAN DIEGO
2100-3513	000	CCC PLANNING & ANALYSIS
2100-3514	000	CCC SPECIAL SERVICES SAN DIEGO
2100-3515	000	CS TRAINING & DEVELOPMENT (SDGE)
2100-3516	000	OPS SUPPORT SDGE
2100-3517	000	QUALITY ASSURANCE SDGE
2100-3518	000	CCC PLANNING & ANALYSIS SDGE
2100-3530	000	UEG/WHSLE/COGEN/IPP MANAGER
2100-3538	000	VP ENGINEERING & OPERATION STAFF
2100-3545	000	C&I REPRESENTATIVES
2100-3547	000	AMO PROJECT SUPPORT
2100-3549	000	METER READING ACCESS SUPPORT
2100-3556	000	AMO PROJECTS
2100-3562	000	CUSTOMER SERVICE SVP & STAFF
2100-3570	000	MARKET PLANNING & ANALYSIS
2100-3571	000	ADVANCED METERING OPERATIONS MANAGER
2100-3574	000	AMI PROGRAM OFFICE DIRECTOR
	000	AMI TECHNOLOGIES

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Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	<u>Description</u>
2100-3576	000	AMI CLIENT INTERFACE
2100-3577	000	AMI STAKEHOLDER EDUCATION
2100-3579	000	TECHNOLOGY SERVICES MANAGER
2100-3580	000	RATE SUPPORT SUPERVISOR
2100-3584	000	CST - SORT
2100-3593	000	MARKETING RESIDENTIAL
2100-3596	000	METER READING SUPPORT 7
2100-3598	000	ELECTRIC METERING TRAINING
2100-3601	000	ENERGY EFFICIENCY NEW CONSTRUCTION
2100-3611	000	CCC TECHNOLOGY MANAGER
2100-3619	000	TECHNICAL SUPPORT
2100-3620	000	AMI INSTALLATIONS
2100-3622	000	CONTRACTS & COMPLIANCE MANAGER
2100-3633	000	CS-MASS MKTS LVC for Budget Use Only
2100-3635	000	METER READING GROUP 7
2100-3637	000	MANAGER OF REMITTANCE PROCESSING
2100-3639	000	AMO C&I DEPLOYMENT PROJECT
2100-3642	000	SPECIAL PROJS PLANNING & DEVELOPMENT SD
2100-3675	000	ELECTRIC TRANSPORTATION
2100-3701	000	VP CUSTOMER SOLUTIONS
2100-3703	000	DIRECTOR RESIDENTIAL SERVICES
2100-3705	000	PRODUCT INNOVATION
2100-3707	000	DISTRIBUTED GENERATION PROGRAMS
2100-3715	000	CCC IT PROJECT MANAGER - SDG&E
2100-3765	000	PROGRAM OPERATIONS
2100-3766	000	CUSTOMER PROGRAMS SUPPORT
2100-3770	000	SDGE CUSTOMER COMMUNICATIONS - BUSINESS
2100-3776	000	ENERGY EFFICIENCY ADMINISTRATIVE COST
2100-3777	000	ENERGY EFFICIENCY MARKETING COST
2100-3778	000	ENERGY EFFICIENCY DIRECT IMPLEMENT COST
2100-3779	000	CENTRALIZED OPS - SYSTEM OPERATIONS
2100-3780	000	CENTRAL OPS NETWORK & SYSTMS SUPPORT
2100-3782	000	BILLING OPERATIONS SUPPORT - SMART METER
2100-3783	000	CUSTOMER INSIGHTS & E-SERVICES
2100-3784	000	CUSTOMER COMMUNICATIONS - TECHNOLOGIES
2100-3785	000	SCG CUSTOMER COMMUNICATIONS - BUSINESS
2100-3786	000	CUSTOMER EXPERIENCE & ENGAGEMENT C&I
2100-3811	000	CUSTOMER OPS SUPPORT
2100-3839	000	RES SVCS CUSTOMER EXPERIENCE & ENGAGEMENT
2100-3841	000	TECHNOLOGY STRATEGY
2100-3844	000	VP CUSTOMER OPERATIONS
2100-3847	000	HAN (HOME AREA NETWORK)
2100-3880	000	OFFICE OF CUSTOMER PRIVACY
2100-3891	000	SMART MTR OPS CENTER

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Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	<u>Description</u>
2100-4012	000	ADVERTISING & RESEARCH
2100-4018	000	TECHNOLOGY DEVELOPMENT MANAGER
2100-4026	000	DYNAMIC PRICING MANAGER
2100-4027	000	RES SVCS OUTREACH & EDUCATION