

Application of SAN DIEGO GAS & ELECTRIC )  
COMPANY for authority to update its gas and )  
electric revenue requirement and base rates )  
effective January 1, 2019 (U 902-M) )

Application No. 17-10-007

Exhibit No.: (SDG&E-24-WP-R)

REVISED WORKPAPERS TO  
PREPARED DIRECT TESTIMONY  
OF CHRISTOPHER R. OLMSTED  
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

DECEMBER 2017



**2019 General Rate Case - REVISED  
INDEX OF WORKPAPERS**

**Exhibit SDG&E-24-WP-R - INFORMATION TECHNOLOGY**

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**Overall Summary For Exhibit No. SDG&E-24-WP-R**

<b>Area:</b>	<b>INFORMATION TECHNOLOGY</b>
<b>Witness:</b>	<b>Christopher R. Olmsted</b>

Description	In 2016 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
<b>Non-Shared Services</b>	17,762	25,646	27,790	29,741
<b>Shared Services</b>	55,616	56,498	57,446	58,708
<b>Total</b>	<b>73,378</b>	<b>82,144</b>	<b>85,236</b>	<b>88,449</b>

*Note: Totals may include rounding differences.*



San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted

**Summary of Non-Shared Services Workpapers:**

Description	In 2016 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
A. Applications	14,114	17,137	17,346	17,489
B. Infrastructure	3,650	8,598	11,282	15,198
C. IT Support	-2	-89	-838	-2,946
<b>Total</b>	<b>17,762</b>	<b>25,646</b>	<b>27,790</b>	<b>29,741</b>

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Workpaper: 1IT001.000

**Summary for Category: A. Applications**

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	6,292	6,292	6,876	6,876
Non-Labor	7,822	10,572	10,054	10,209
NSE	0	273	416	404
<b>Total</b>	<b>14,114</b>	<b>17,137</b>	<b>17,346</b>	<b>17,489</b>
FTE	55.4	55.4	60.7	60.7

**Workpapers belonging to this Category:**

**1IT001.000 IT Applications NSS**

Labor	6,292	6,292	6,876	6,876
Non-Labor	7,822	10,572	10,054	10,209
NSE	0	273	416	404
<b>Total</b>	<b>14,114</b>	<b>17,137</b>	<b>17,346</b>	<b>17,489</b>
FTE	55.4	55.4	60.7	60.7

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**1IT001.000 - IT Applications NSS**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Workpaper: 1IT001.000 - IT Applications NSS

**Activity Description:**

The Non-Shared SDG&E IT Applications costs represent labor and non-labor for systems where 100% of the activities directly support SDG&E. The types of systems supported in this area include customer field operations, work order management, smart meter data management, customer billing, service order routing, scheduling and dispatching, revenue cycle processing, and customer assistance and customer contact functions, including self-service capabilities via MyAccount.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		8,265	8,444	8,188	8,197	6,292	6,291	6,875	6,875	
Non-Labor		3,670	4,421	5,005	7,311	7,822	10,573	10,055	10,210	
NSE		0	0	0	0	0	273	416	404	
<b>Total</b>		<b>11,935</b>	<b>12,864</b>	<b>13,193</b>	<b>15,508</b>	<b>14,114</b>	<b>17,137</b>	<b>17,346</b>	<b>17,489</b>	
FTE		77.0	75.1	71.5	65.4	55.4	55.5	60.8	60.8	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Workpaper: 1IT001.000 - IT Applications NSS

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	6,292	6,292	6,292	0	584	584	6,292	6,876	6,876
Non-Labor	Base YR Rec	7,822	7,822	7,822	2,750	2,232	2,387	10,572	10,054	10,209
NSE	Base YR Rec	0	0	0	273	416	404	273	416	404
<b>Total</b>		<b>14,114</b>	<b>14,114</b>	<b>14,114</b>	<b>3,023</b>	<b>3,232</b>	<b>3,375</b>	<b>17,137</b>	<b>17,346</b>	<b>17,489</b>
FTE	Base YR Rec	55.4	55.4	55.4	0.0	5.3	5.3	55.4	60.7	60.7

**Forecast Adjustment Details:**

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	0	0	273	273	0.0	1-Sided Adj	SOMAHONY20161204140925283	
<b>Explanation:</b>		2017 forecast for Incremental O&M from capital projects							
2017	Other	0	138	0	138	0.0	1-Sided Adj	SOMAHONY20170310011522357	
<b>Explanation:</b>		Contract escalations and new contracts							
2017	Other	0	222	0	222	0.0	1-Sided Adj	SOMAHONY20170310020843907	
<b>Explanation:</b>		Additional purchased services for the Customer Engagement Services cost center 2100-3086 to support IVR							
2017	Other	0	2,254	0	2,254	0.0	1-Sided Adj	SOMAHONY20170511072203780	
<b>Explanation:</b>		\$2.254M added to Cisco baseline for Cisco Wellness.							
2017	Other	0	136	0	136	0.0	1-Sided Adj	SOMAHONY20170511074049797	
<b>Explanation:</b>		\$136k increase in contracted labor							
<b>2017 Total</b>		<b>0</b>	<b>2,750</b>	<b>273</b>	<b>3,023</b>	<b>0.0</b>			
2018	Other	0	0	416	416	0.0	1-Sided Adj	SOMAHONY20161204140956217	
<b>Explanation:</b>		2018 forecast for Incremental O&M from capital projects							
2018	Other	0	284	0	284	0.0	1-Sided Adj	SOMAHONY20170310011555403	
<b>Explanation:</b>		Contract escalations and new contracts							
2018	Other	584	90	0	674	5.3	1-Sided Adj	SOMAHONY20170310015056360	
<b>Explanation:</b>		Filling 9 labor vacancies. Assumes 59% O&C ratio and \$110k (\$584,100) average salary plus \$10k per employee for non-labor costs.							

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Workpaper: 1IT001.000 - IT Applications NSS

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2018	Other	0	222	0	222	0.0	1-Sided Adj	SOMAHONY20170310020859260
<b>Explanation:</b>		Additional purchased services for the Customer Engagement Services cost center 2100-3086 to support IVR						
2018	Other	0	1,500	0	1,500	0.0	1-Sided Adj	SOMAHONY20170511072341123
<b>Explanation:</b>		\$1.5M added to Cisco baseline for Cisco Wellness.						
2018	Other	0	136	0	136	0.0	1-Sided Adj	SOMAHONY20170511074624330
<b>Explanation:</b>		\$136k increase in contracted labor						
<b>2018 Total</b>		<b>584</b>	<b>2,232</b>	<b>416</b>	<b>3,232</b>	<b>5.3</b>		
2019	Other	0	0	404	404	0.0	1-Sided Adj	SOMAHONY20161204141116917
<b>Explanation:</b>		2019 forecast for Incremental O&M from capital projects						
2019	Other	0	439	0	439	0.0	1-Sided Adj	SOMAHONY20170310011610620
<b>Explanation:</b>		Contract escalations and new contracts						
2019	Other	584	90	0	674	5.3	1-Sided Adj	SOMAHONY20170310015224250
<b>Explanation:</b>		Filling 9 labor vacancies. Assumes 59% O&C ratio and \$110k (\$584,100) average salary plus \$10k per employee for non-labor costs.						
2019	Other	0	222	0	222	0.0	1-Sided Adj	SOMAHONY20170310020908367
<b>Explanation:</b>		Additional purchased services for the Customer Engagement Services cost center 2100-3086 to support IVR						
2019	Other	0	1,500	0	1,500	0.0	1-Sided Adj	SOMAHONY20170511072400660
<b>Explanation:</b>		\$1.5M added to Cisco baseline for Cisco Wellness.						
2019	Other	0	136	0	136	0.0	1-Sided Adj	SOMAHONY20170511074810363
<b>Explanation:</b>		\$136k increase in contracted labor						
<b>2019 Total</b>		<b>584</b>	<b>2,387</b>	<b>404</b>	<b>3,375</b>	<b>5.3</b>		

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Workpaper: 1IT001.000 - IT Applications NSS

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	5,895	6,694	6,605	6,936	5,544
Non-Labor	3,519	4,355	4,996	7,635	7,828
NSE	0	0	0	0	0
<b>Total</b>	<b>9,414</b>	<b>11,050</b>	<b>11,601</b>	<b>14,571</b>	<b>13,373</b>
FTE	59.3	62.6	59.0	55.8	48.0
<b>Adjustments (Nominal \$) **</b>					
Labor	712	120	139	0	-148
Non-Labor	53	5	1	-340	-6
NSE	0	0	0	0	0
<b>Total</b>	<b>765</b>	<b>126</b>	<b>140</b>	<b>-340</b>	<b>-154</b>
FTE	7.0	1.4	1.7	0.0	-1.1
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	6,607	6,815	6,744	6,936	5,396
Non-Labor	3,572	4,360	4,996	7,295	7,822
NSE	0	0	0	0	0
<b>Total</b>	<b>10,179</b>	<b>11,175</b>	<b>11,741</b>	<b>14,231</b>	<b>13,219</b>
FTE	66.3	64.0	60.7	55.8	46.9
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	957	1,081	1,077	1,071	895
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>957</b>	<b>1,081</b>	<b>1,077</b>	<b>1,071</b>	<b>895</b>
FTE	10.7	11.2	10.9	9.8	8.5
<b>Escalation to 2016\$</b>					
Labor	701	548	366	190	0
Non-Labor	98	60	8	16	0
NSE	0	0	0	0	0
<b>Total</b>	<b>799</b>	<b>608</b>	<b>375</b>	<b>206</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	8,265	8,444	8,188	8,197	6,292
Non-Labor	3,670	4,421	5,005	7,311	7,822
NSE	0	0	0	0	0
<b>Total</b>	<b>11,935</b>	<b>12,864</b>	<b>13,193</b>	<b>15,508</b>	<b>14,114</b>
FTE	77.0	75.2	71.6	65.6	55.4

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Workpaper: 1IT001.000 - IT Applications NSS

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	712	120	139	0	-148
Non-Labor	53	5	0.651	-340	-6
NSE	0	0	0	0	0
<b>Total</b>	<b>765</b>	<b>126</b>	<b>140</b>	<b>-340</b>	<b>-154</b>
FTE	7.0	1.4	1.7	0.0	-1.1

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	169	0	0	1.9	CCTR Transf From 2100-0642.000	CSCHRAMM20161018172216517
<b>Explanation:</b> Tranfer labor and FTE associated with IT Quality Assurance function from cost center 2100-0642 (Customer Operations Technology Mgr.) in work paper group Customer Operations Support & Projects to cost center 2100-3935 (IT Quality Assurance) in work paper group 11T001 IT Applications NSS to align costs where activity/function resides.							
2012	Other	0	0	0	0.0	CCTR Transf From 2100-3754.000	SOMAHONY20170308011445357
<b>Explanation:</b> Customer Care Project Office costs transferred to 2100-3823.							
2012	Other	32	3	0	0.3	CCTR Transf From 2100-3754.000	SOMAHONY20170308011512483
<b>Explanation:</b> Customer Care Project Office costs transferred to 2100-3823.							
2012	Other	40	0	0	0.4	CCTR Transf From 2100-0040.000	CSCHRAMM20161011110029730
<b>Explanation:</b> Transfer Sr Software Developer labor and FTE from cost center 2100-0040 in work paper group 11N001 Residential Services to cost center to 2100-3081 work paper group 11T001 IT Applications to align costs where function/activity resides.							
2012	Other	0	1	0	0.0	CCTR Transf From 2100-3754.000	SOMAHONY20170308011608210
<b>Explanation:</b> Customer Care Project Office costs transferred to 2100-3823.							
2012	Other	471	49	0	4.4	CCTR Transf From 2100-3754.000	SOMAHONY20170308011645010
<b>Explanation:</b> Customer Care Project Office costs transferred to 2100-3823.							
<b>2012 Total</b>		<b>712</b>	<b>53</b>	<b>0</b>	<b>7.0</b>		

2013	Other	1	5	0	0.0	CCTR Transf From 2100-3754.000	SOMAHONY20170308011342687
<b>Explanation:</b> Customer Care Project Office costs transferred to 2100-3823.							

*Note: Totals may include rounding differences.*



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Workpaper: 1IT001.000 - IT Applications NSS

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2013	Other	120	0	0	1.4	CCTR Transf From 2100-0642.000	CSCHRAMM20161018172332293
<b>Explanation:</b> Transfer labor and FTE associated with IT Quality Assurance function from cost center 2100-0642 (Customer Operations Technology Mgr.) in work paper group Customer Operations Support & Projects to cost center 2100-3935 (IT Quality Assurance) in work paper group 1IT001 IT Applications NSS to align function/activity where it resides.							
<b>2013 Total</b>		<b>120</b>	<b>5</b>	<b>0</b>	<b>1.4</b>		
2014	Other	94	1	0	1.2	CCTR Transf From 2100-3933.000	SOMAHONY20170308000135417
<b>Explanation:</b> Historical costs transferred from GIS & Architecture SDGE 2100-3933 to 2100-3093.							
2014	Other	45	0	0	0.5	CCTR Transf From 2100-0642.000	CSCHRAMM20161018172043997
<b>Explanation:</b> Transfer labor/FTE associated with IT Quality Assurance function from cost center 2100-0642 (Customer Operations Technology Mgr.) in WP Group Customer Operations Support & Projects to cost center 2100-3935 (IT Quality Assurance) in WP Group 1IT001 IT Applications NSS to align function/activity where it resides.							
<b>2014 Total</b>		<b>139</b>	<b>1</b>	<b>0</b>	<b>1.7</b>		
2015	Other	0	-340	0	0.0	1-Sided Adj	SOMAHONY20170309235634793
<b>Explanation:</b> CIS Strategy Initiative costs removed							
<b>2015 Total</b>		<b>0</b>	<b>-340</b>	<b>0</b>	<b>0.0</b>		
2016	Other	-33	0	0	0.0	1-Sided Adj	SOMAHONY20170309232012977
<b>Explanation:</b> CIS Strategy Initiative costs removed							
2016	Other	-115	-6	0	-1.1	1-Sided Adj	SOMAHONY20170309235254123
<b>Explanation:</b> CIS Strategy Initiative costs removed							
<b>2016 Total</b>		<b>-148</b>	<b>-6</b>	<b>0</b>	<b>-1.1</b>		

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Workpaper: 1IT002.000

**Summary for Category: B. Infrastructure**

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	422	1,535	1,635	1,735
Non-Labor	3,228	6,591	9,025	11,208
NSE	0	472	622	2,255
<b>Total</b>	<b>3,650</b>	<b>8,598</b>	<b>11,282</b>	<b>15,198</b>
FTE	3.0	14.1	15.1	16.1

**Workpapers belonging to this Category:**

**1IT002.000 IT Infrastructue NSS**

Labor	422	1,535	1,635	1,735
Non-Labor	3,228	6,591	9,025	11,208
NSE	0	472	622	2,255
<b>Total</b>	<b>3,650</b>	<b>8,598</b>	<b>11,282</b>	<b>15,198</b>
FTE	3.0	14.1	15.1	16.1

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**1IT002.000 - IT Infrastructure NSS**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Workpaper: 1IT002.000 - IT Infrastructure NSS

**Activity Description:**

These Non-Shared SDG&E IT Infrastructure costs represent labor and non-labor for the infrastructure area where 100% of the activities are for SDG&E. These costs are typically related to providing service to SDG&E-only facilities (e.g., construction and operations districts, and customer contact centers) and include network engineering infrastructure support.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		488	558	392	725	422	1,535	1,635	1,735	
Non-Labor		10,288	12,305	5,900	3,358	3,228	6,591	9,025	11,208	
NSE		0	0	0	0	0	472	622	2,255	
<b>Total</b>		<b>10,776</b>	<b>12,863</b>	<b>6,293</b>	<b>4,083</b>	<b>3,650</b>	<b>8,598</b>	<b>11,282</b>	<b>15,198</b>	
FTE		3.8	4.7	3.2	6.1	3.1	14.1	15.1	16.1	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Workpaper: 1IT002.000 - IT Infrastructure NSS

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	422	422	422	1,113	1,213	1,313	1,535	1,635	1,735
Non-Labor	Base YR Rec	3,228	3,228	3,228	3,363	5,797	7,980	6,591	9,025	11,208
NSE	Base YR Rec	0	0	0	472	622	2,255	472	622	2,255
<b>Total</b>		<b>3,650</b>	<b>3,650</b>	<b>3,650</b>	<b>4,948</b>	<b>7,632</b>	<b>11,548</b>	<b>8,598</b>	<b>11,282</b>	<b>15,198</b>
FTE	Base YR Rec	3.0	3.0	3.0	11.1	12.1	13.1	14.1	15.1	16.1

**Forecast Adjustment Details:**

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	413	3,088	0	3,501	4.1	1-Sided Adj	SOMAHONY20170627191257170	
<b>Explanation:</b>		Operational Data Center/Infrastructure enhancements. FTE assumptions: salary \$100k, 100% O&M.							
2017	Other	0	0	472	472	0.0	1-Sided Adj	SOMAHONY20161204144717220	
<b>Explanation:</b>		2017 forecast for incremental O&M from capital projects							
2017	Other	0	205	0	205	0.0	1-Sided Adj	SOMAHONY20170310140648377	
<b>Explanation:</b>		Mainframe/ATOS additional capacity to handle workload increase							
2017	Other	700	70	0	770	7.0	1-Sided Adj	SOMAHONY20170310171312587	
<b>Explanation:</b>		7 new employees will be hired in 2017. 1 infrastructure analyst, 2 problem management employees, 1 NOC consolidation reporting employee, 3 OT communication team employees at \$100k each, 100% O&M.							
<b>2017 Total</b>		<b>1,113</b>	<b>3,363</b>	<b>472</b>	<b>4,948</b>	<b>11.1</b>			

2018	Other	513	4,788	0	5,301	5.1	1-Sided Adj	SOMAHONY20170627191744527	
<b>Explanation:</b>		Operational Data Center/Infrastructure enhancements. FTE assumptions: salary \$100k, 100% O&M.							
2018	Other	0	0	622	622	0.0	1-Sided Adj	SOMAHONY20161204144733220	
<b>Explanation:</b>		2018 forecast for incremental O&M from capital projects							
2018	Other	0	205	0	205	0.0	1-Sided Adj	SOMAHONY20170310140716060	
<b>Explanation:</b>		Mainframe/ATOS additional capacity to handle workload increase							
2018	Other	0	88	0	88	0.0	1-Sided Adj	SOMAHONY20170310140946283	
<b>Explanation:</b>		Contract escalations and new contracts							

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Workpaper: 1IT002.000 - IT Infrastructure NSS

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>
2018	Other	700	70	0	770	7.0	1-Sided Adj	SOMAHONY20170310171337723
<b>Explanation:</b>		7 new employees will be hired in 2017. 1 infrastructure analyst, 2 problem management employees, 1 NOC consolidation reporting employee, 3 OT communication team employees at \$100k each, 100% O&M.						
2018	Other	0	646	0	646	0.0	1-Sided Adj	SOMAHONY20170511075349500
<b>Explanation:</b>		Office 365 annual subscription						
<b>2018 Total</b>		<b>1,213</b>	<b>5,797</b>	<b>622</b>	<b>7,632</b>	<b>12.1</b>		
2019	Other	613	5,587	0	6,200	6.1	1-Sided Adj	SOMAHONY20170627191927590
<b>Explanation:</b>		Operational Data Center/Infrastructure enhancements. FTE assumptions: salary \$100k, 100% O&M.						
2019	Other	0	0	2,255	2,255	0.0	1-Sided Adj	SOMAHONY20161204144756410
<b>Explanation:</b>		2019 forecast for incremental O&M from capital projects						
2019	Other	0	205	0	205	0.0	1-Sided Adj	SOMAHONY20170310140728080
<b>Explanation:</b>		Mainframe/ATOS additional capacity to handle workload increase						
2019	Other	0	181	0	181	0.0	1-Sided Adj	SOMAHONY20170310141231690
<b>Explanation:</b>		Contract escalations and new contracts						
2019	Other	700	70	0	770	7.0	1-Sided Adj	SOMAHONY20170310171411417
<b>Explanation:</b>		7 new employees will be hired in 2017. 1 infrastructure analyst, 2 problem management employees, 1 NOC consolidation reporting employee, 3 OT communication team employees at \$100k each, 100% O&M.						
2019	Other	0	1,937	0	1,937	0.0	1-Sided Adj	SOMAHONY20170511075405120
<b>Explanation:</b>		Office 365 annual subscription						
<b>2019 Total</b>		<b>1,313</b>	<b>7,980</b>	<b>2,255</b>	<b>11,548</b>	<b>13.1</b>		

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Workpaper: 1IT002.000 - IT Infrastructure NSS

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	496	450	323	614	362
Non-Labor	258	23	1,952	3,350	3,228
NSE	0	0	0	0	0
<b>Total</b>	<b>754</b>	<b>473</b>	<b>2,275</b>	<b>3,964</b>	<b>3,590</b>
FTE	4.1	4.0	2.7	5.2	2.5
<b>Adjustments (Nominal \$) **</b>					
Labor	-106	0	0	0	0
Non-Labor	9,755	12,114	3,938	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>9,650</b>	<b>12,114</b>	<b>3,938</b>	<b>0</b>	<b>0</b>
FTE	-0.7	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	390	450	323	614	362
Non-Labor	10,013	12,137	5,890	3,350	3,228
NSE	0	0	0	0	0
<b>Total</b>	<b>10,404</b>	<b>12,587</b>	<b>6,214</b>	<b>3,964</b>	<b>3,590</b>
FTE	3.4	4.0	2.7	5.2	2.5
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	57	71	52	95	60
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>57</b>	<b>71</b>	<b>52</b>	<b>95</b>	<b>60</b>
FTE	0.5	0.7	0.5	0.9	0.5
<b>Escalation to 2016\$</b>					
Labor	41	36	18	17	0
Non-Labor	274	168	10	7	0
NSE	0	0	0	0	0
<b>Total</b>	<b>316</b>	<b>204</b>	<b>28</b>	<b>24</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	488	558	392	725	422
Non-Labor	10,288	12,305	5,900	3,358	3,228
NSE	0	0	0	0	0
<b>Total</b>	<b>10,776</b>	<b>12,863</b>	<b>6,293</b>	<b>4,083</b>	<b>3,650</b>
FTE	3.9	4.7	3.2	6.1	3.0

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Workpaper: 1IT002.000 - IT Infrastructure NSS

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-106	0	0	0	0
Non-Labor	9,755	12,114	3,938	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>9,650</b>	<b>12,114</b>	<b>3,938</b>	<b>0</b>	<b>0</b>
FTE	-0.7	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	0	9,758	0	0.0	CCTR Transf From 2100-3103.000	SHAO20170308105121677
<b>Explanation:</b> CSC Contract costs move to cost center 2100-3917. Cost center 2100-3103 has been retired.							
2012	Other	-106	-3	0	-0.7	1-Sided Adj	SOMAHONY20170224105429857
<b>Explanation:</b> IT employee xfers from SDGE to SCG 2IT002.							
<b>2012 Total</b>		<b>-106</b>	<b>9,755</b>	<b>0</b>	<b>-0.7</b>		
2013	Other	0	12,114	0	0.0	CCTR Transf From 2100-3103.000	SHAO20170308105707750
<b>Explanation:</b> CSC Contract costs move to cost center 2100-3917. Cost center 2100-3103 has been retired.							
<b>2013 Total</b>		<b>0</b>	<b>12,114</b>	<b>0</b>	<b>0.0</b>		
2014	Other	0	3,938	0	0.0	CCTR Transf From 2100-3103.000	SHAO20170308112121037
<b>Explanation:</b> CSC Contract costs move to cost center 2100-3917. Cost center 2100-3103 has been retired.							
<b>2014 Total</b>		<b>0</b>	<b>3,938</b>	<b>0</b>	<b>0.0</b>		
<b>2015 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2016 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		

Note: Totals may include rounding differences.



San Diego Gas & Electric Company  
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Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Workpaper: 1IT003.000

**Summary for Category: C. IT Support**

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	0	201	163	163
Non-Labor	-2	-457	-1,647	-3,224
NSE	0	167	646	115
<b>Total</b>	<u>-2</u>	<u>-89</u>	<u>-838</u>	<u>-2,946</u>
FTE	0.0	0.0	0.0	0.0

**Workpapers belonging to this Category:**

**1IT003.000 IT Support NSS**

Labor	0	201	163	163
Non-Labor	-2	-457	-1,647	-3,224
NSE	0	167	646	115
<b>Total</b>	<u>-2</u>	<u>-89</u>	<u>-838</u>	<u>-2,946</u>
FTE	0.0	0.0	0.0	0.0

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**1IT003.000 - IT Support NSS**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Category-Sub: 1. IT Support  
Workpaper: 1IT003.000 - IT Support NSS

**Activity Description:**

The costs in SDG&E Non-Shared IT Support cover costs and savings associated with IT's FoF initiatives.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		413	-14	0	0	0	201	163	163	
Non-Labor		3,607	-622	83	80	-2	-457	-1,647	-3,224	
NSE		0	0	0	0	0	167	646	115	
<b>Total</b>		<b>4,020</b>	<b>-637</b>	<b>83</b>	<b>80</b>	<b>-2</b>	<b>-89</b>	<b>-838</b>	<b>-2,946</b>	
FTE		4.5	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Category-Sub: 1. IT Support  
Workpaper: 1IT003.000 - IT Support NSS

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	0	0	0	201	163	163	201	163	163
Non-Labor	Base YR Rec	-2	-2	-2	-455	-1,645	-3,222	-457	-1,647	-3,224
NSE	Base YR Rec	0	0	0	167	646	115	167	646	115
<b>Total</b>		<b>-2</b>	<b>-2</b>	<b>-2</b>	<b>-87</b>	<b>-836</b>	<b>-2,944</b>	<b>-89</b>	<b>-838</b>	<b>-2,946</b>
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	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	0	2	0	2	0.0	1-Sided Adj	SOMAHONY20170310002215113	
<b>Explanation:</b>		Adjusting forecast back to \$0							
2017	FOF-Implementation	0	0	167	167	0.0	1-Sided Adj	SOMAHONY20170628150933697	
<b>Explanation:</b>		FOF Implementation Costs							
2017	FOF-Ongoing	201	-261	0	-60	0.0	1-Sided Adj	SOMAHONY20170628151913543	
<b>Explanation:</b>		FOF Ongoing Costs							
2017	FOF-Ongoing	0	-196	0	-196	0.0	1-Sided Adj	SOMAHONY20170719155409050	
<b>Explanation:</b>		FoF Group 101 benefits related to contracting/procurement efficiencies							
<b>2017 Total</b>		<b>201</b>	<b>-455</b>	<b>167</b>	<b>-87</b>	<b>0.0</b>			
2018	Other	0	2	0	2	0.0	1-Sided Adj	SOMAHONY20170310002228717	
<b>Explanation:</b>		Adjusting forecast back to \$0							
2018	FOF-Implementation	0	0	646	646	0.0	1-Sided Adj	SOMAHONY20170628150957200	
<b>Explanation:</b>		FOF Implementation Costs							
2018	FOF-Ongoing	163	-1,285	0	-1,122	0.0	1-Sided Adj	SOMAHONY20170628152226480	
<b>Explanation:</b>		FOF Ongoing Costs							
2018	FOF-Ongoing	0	-362	0	-362	0.0	1-Sided Adj	SOMAHONY20170719155443140	
<b>Explanation:</b>		FoF Group 101 benefits related to contracting/procurement efficiencies							

Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Workpaper: 1IT003.000 - IT Support NSS

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>
<b>2018 Total</b>		<b>163</b>	<b>-1,645</b>	<b>646</b>	<b>-836</b>	<b>0.0</b>		
2019	Other	0	2	0	2	0.0	1-Sided Adj	SOMAHONY20170310002239653
<b>Explanation:</b>		Adjusting forecast back to \$0						
2019	FOF-Implementation	0	0	115	115	0.0	1-Sided Adj	SOMAHONY20170628151021370
<b>Explanation:</b>		FOF Implementation Costs						
2019	FOF-Ongoing	163	-2,842	0	-2,679	0.0	1-Sided Adj	SOMAHONY20170628152301963
<b>Explanation:</b>		FOF Ongoing Costs						
2019	FOF-Ongoing	0	-382	0	-382	0.0	1-Sided Adj	SOMAHONY20170719155459117
<b>Explanation:</b>		FoF Group 101 benefits related to contracting/procurement efficiencies						
<b>2019 Total</b>		<b>163</b>	<b>-3,222</b>	<b>115</b>	<b>-2,944</b>	<b>0.0</b>		

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Category-Sub: 1. IT Support  
Workpaper: 1IT003.000 - IT Support NSS

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	459	-12	0	0	0
Non-Labor	8,592	-614	82	80	-2
NSE	0	0	0	0	0
<b>Total</b>	<b>9,050</b>	<b>-625</b>	<b>82</b>	<b>80</b>	<b>-2</b>
FTE	5.1	-0.1	0.0	0.0	0.0
<b>Adjustments (Nominal \$) **</b>					
Labor	-129	0	0	0	0
Non-Labor	-5,081	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-5,209</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	-1.2	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	330	-12	0	0	0
Non-Labor	3,511	-614	82	80	-2
NSE	0	0	0	0	0
<b>Total</b>	<b>3,841</b>	<b>-625</b>	<b>82</b>	<b>80</b>	<b>-2</b>
FTE	3.9	-0.1	0.0	0.0	0.0
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	48	-2	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>48</b>	<b>-2</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.6	0.0	0.0	0.0	0.0
<b>Escalation to 2016\$</b>					
Labor	35	-1	0	0	0
Non-Labor	96	-9	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>131</b>	<b>-9</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	413	-14	0	0	0
Non-Labor	3,607	-622	83	80	-2
NSE	0	0	0	0	0
<b>Total</b>	<b>4,020</b>	<b>-637</b>	<b>83</b>	<b>80</b>	<b>-2</b>
FTE	4.5	-0.1	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

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Category-Sub: 1. IT Support  
Workpaper: 1IT003.000 - IT Support NSS

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-129	0	0	0	0
Non-Labor	-5,081	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-5,209</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	-1.2	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	0	-1,998	0	0.0	1-Sided Adj	SOMAHONY20170223202309937
<b>Explanation:</b> Adjustment of IT Inventory balancing account for cost centers 2100-3172 and 2100-3339							
2012	Other	0	-1,587	0	0.0	1-Sided Adj	SOMAHONY20170223202419000
<b>Explanation:</b> Adjustment of IT Inventory balancing account for cost centers 2100-3172 and 2100-3339							
2012	Other	0	-363	0	0.0	1-Sided Adj	SOMAHONY20170223202935780
<b>Explanation:</b> Adjustment of IT Inventory balancing account for cost centers 2100-3172 and 2100-3339							
2012	Other	0	-767	0	0.0	1-Sided Adj	SOMAHONY20170223203044220
<b>Explanation:</b> Adjustment of IT Inventory balancing account for cost centers 2100-3172 and 2100-3339							
2012	Other	0	-174	0	0.0	1-Sided Adj	SOMAHONY20170223203649180
<b>Explanation:</b> Adjustment of IT Inventory balancing account for cost centers 2100-3172 and 2100-3339							
2012	Other	0	-119	0	0.0	1-Sided Adj	SOMAHONY20170223203810537
<b>Explanation:</b> Adjustment of IT Inventory balancing account for cost centers 2100-3172 and 2100-3339							
2012	Other	-59	-2	0	-0.6	1-Sided Adj	SOMAHONY20170224111228107
<b>Explanation:</b> Transfer of CPD costs from 1IT003 to 2100-3713 as part of IT reorg							
2012	Other	-70	0	0	-0.6	1-Sided Adj	SOMAHONY20170224111436040
<b>Explanation:</b> Transfer of CPD costs from 1IT003 to 2100-3713 as part of IT reorg							
2012	Other	0	-71	0	0.0	1-Sided Adj	SOMAHONY20170224111559063
<b>Explanation:</b> Adjustment of IT Inventory balancing account for cost centers 2100-3172 and 2100-3339							
<b>2012 Total</b>		<b>-129</b>	<b>-5,081</b>	<b>0</b>	<b>-1.2</b>		

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Workpaper: 1IT003.000 - IT Support NSS

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
<b>2013 Total</b>		0	0	0	0.0		
<b>2014 Total</b>		0	0	0	0.0		
<b>2015 Total</b>		0	0	0	0.0		
<b>2016 Total</b>		0	0	0	0.0		

*Note: Totals may include rounding differences.*



San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted

**Summary of Shared Services Workpapers:**

Description	In 2016 \$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
A. Applications	15,045	15,586	15,910	16,253
B. Infrastructure	36,019	36,695	37,319	38,238
C. IT Support	4,551	4,218	4,218	4,218
<b>Total</b>	<b>55,616</b>	<b>56,498</b>	<b>57,446</b>	<b>58,708</b>

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Cost Center: VARIOUS

**Summary for Category: A. Applications**

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	9,301	9,506	9,506	9,506
Non-Labor	5,742	6,078	6,402	6,745
NSE	0	0	0	0
<b>Total</b>	<b>15,043</b>	<b>15,584</b>	<b>15,908</b>	<b>16,251</b>
FTE	77.7	79.6	79.6	79.6

**Cost Centers belonging to this Category:**

**2100-3071.000 SAP ACCOUNTING & FINANCIAL SYSTEMS**

Labor	1,605	1,605	1,605	1,605
Non-Labor	15	15	15	15
NSE	0	0	0	0
<b>Total</b>	<b>1,620</b>	<b>1,620</b>	<b>1,620</b>	<b>1,620</b>
FTE	13.8	13.8	13.8	13.8

**2100-3072.000 SUPPLY CHAIN & LOGISTICS SYSTEMS**

Labor	1,549	1,549	1,549	1,549
Non-Labor	23	23	23	23
NSE	0	0	0	0
<b>Total</b>	<b>1,572</b>	<b>1,572</b>	<b>1,572</b>	<b>1,572</b>
FTE	13.6	13.6	13.6	13.6

**2100-3073.000 ENTERPRISE INTEGRATION SERVICES**

Labor	1,641	1,641	1,641	1,641
Non-Labor	12	12	12	12
NSE	0	0	0	0
<b>Total</b>	<b>1,653</b>	<b>1,653</b>	<b>1,653</b>	<b>1,653</b>
FTE	13.9	13.9	13.9	13.9

**2100-3074.000 SSDS PROJECT OFFICE**

Labor	642	642	642	642
Non-Labor	11	11	11	11
NSE	0	0	0	0
<b>Total</b>	<b>653</b>	<b>653</b>	<b>653</b>	<b>653</b>
FTE	5.2	5.2	5.2	5.2

**2100-3088.000 SOFTWARE DEV - WORK MEAS SYSTEMS**

Labor	317	317	317	317
Non-Labor	8	8	8	8
NSE	0	0	0	0
<b>Total</b>	<b>325</b>	<b>325</b>	<b>325</b>	<b>325</b>
FTE	2.6	2.6	2.6	2.6

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Cost Center: VARIOUS

In 2016\$ (000) Incurred Costs			
Adjusted-Recorded	Adjusted-Forecast		
2016	2017	2018	2019

**2100-3089.000 BUSINESS INTELLIGENCE GROUP**

Labor	876	876	876	876
Non-Labor	18	18	18	18
NSE	0	0	0	0
<b>Total</b>	<b>894</b>	<b>894</b>	<b>894</b>	<b>894</b>
FTE	7.2	7.2	7.2	7.2

**2100-3091.000 SOFTWARE DEV - DATABASE ADMINISTRATOR**

Labor	2,039	2,039	2,039	2,039
Non-Labor	30	30	30	30
NSE	0	0	0	0
<b>Total</b>	<b>2,069</b>	<b>2,069</b>	<b>2,069</b>	<b>2,069</b>
FTE	16.3	16.3	16.3	16.3

**2100-3102.000 INFRASTRUCTURE ENG & OPS DIRECTOR**

Labor	283	488	488	488
Non-Labor	25	55	55	55
NSE	0	0	0	0
<b>Total</b>	<b>308</b>	<b>543</b>	<b>543</b>	<b>543</b>
FTE	2.1	4.0	4.0	4.0

**2100-3623.000 SHARED SOFTWARE DEVELOPMENT CONTRACTS**

Labor	0	0	0	0
Non-Labor	5,279	5,585	5,909	6,252
NSE	0	0	0	0
<b>Total</b>	<b>5,279</b>	<b>5,585</b>	<b>5,909</b>	<b>6,252</b>
FTE	0.0	0.0	0.0	0.0

**2100-3848.000 CUSTOMER ANALYTICS SYSTEM**

Labor	349	349	349	349
Non-Labor	321	321	321	321
NSE	0	0	0	0
<b>Total</b>	<b>670</b>	<b>670</b>	<b>670</b>	<b>670</b>
FTE	3.0	3.0	3.0	3.0

Note: Totals may include rounding differences.

**Beginning of Workpaper**  
**2100-3071.000 - SAP ACCOUNTING & FINANCIAL SYSTEMS**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3071.000 - SAP ACCOUNTING & FINANCIAL SYSTEMS

**Activity Description:**

This cost center is responsible for maintenance, enhancements and application security for SAP and non-SAP financial systems. Business Units supported include SDGE, SoCal Gas and Sempra Corporate Center.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		1,075	1,282	1,539	2,105	1,605	1,605	1,605	1,605	
Non-Labor		189	78	88	157	15	15	15	15	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>1,264</b>	<b>1,360</b>	<b>1,627</b>	<b>2,262</b>	<b>1,620</b>	<b>1,620</b>	<b>1,620</b>	<b>1,620</b>	
FTE		9.4	11.1	13.4	17.1	13.7	13.8	13.8	13.8	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3071.000 - SAP ACCOUNTING & FINANCIAL SYSTEMS

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	5	1	0	6	-0.1	5	1	0	6	-0.1
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	1,600	14	0	1,614	13.9	1,600	14	0	1,614	13.9
<b>Total Incurred</b>	<b>1,605</b>	<b>15</b>	<b>0</b>	<b>1,620</b>	<b>13.8</b>	<b>1,605</b>	<b>15</b>	<b>0</b>	<b>1,620</b>	<b>13.8</b>
<b>% Allocation</b>										
Retained	32.48%	32.48%				34.95%	34.95%			
SEU	52.95%	52.95%				61.08%	61.08%			
CORP	14.57%	14.57%				3.97%	3.97%			
Unreg	0.00%	0.00%				0.00%	0.00%			

  

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	5	1	0	6	-0.1	5	1	0	6	-0.1
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	1,600	14	0	1,614	13.9	1,600	14	0	1,614	13.9
<b>Total Incurred</b>	<b>1,605</b>	<b>15</b>	<b>0</b>	<b>1,620</b>	<b>13.8</b>	<b>1,605</b>	<b>15</b>	<b>0</b>	<b>1,620</b>	<b>13.8</b>
<b>% Allocation</b>										
Retained	34.95%	34.95%				34.95%	34.95%			
SEU	61.08%	61.08%				61.08%	61.08%			
CORP	3.97%	3.97%				3.97%	3.97%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Cost Center: 2100-3071.000 - SAP ACCOUNTING & FINANCIAL SYSTEMS

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Allocations are based on a labor study of all applications that will be supported by this cost center. FTE requirements are then assigned and using an average labor cost for Shared Apps, a total support cost for each application is derived. A labor study of all applications used by this cost center is appropriate as it defines how the resources in the department will be allocated.

**Cost Center Allocation Percentage for 2017**

Allocations are based on a labor study of all applications that will be supported by this cost center. FTE requirements are then assigned and using an average labor cost for Shared Apps, a total support cost for each application is derived. A labor study of all applications used by this cost center is appropriate as it defines how the resources in the department will be allocated.

**Cost Center Allocation Percentage for 2018**

Allocations are based on a labor study of all applications that will be supported by this cost center. FTE requirements are then assigned and using an average labor cost for Shared Apps, a total support cost for each application is derived. A labor study of all applications used by this cost center is appropriate as it defines how the resources in the department will be allocated.

**Cost Center Allocation Percentage for 2019**

Allocations are based on a labor study of all applications that will be supported by this cost center. FTE requirements are then assigned and using an average labor cost for Shared Apps, a total support cost for each application is derived. A labor study of all applications used by this cost center is appropriate as it defines how the resources in the department will be allocated.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3071.000 - SAP ACCOUNTING & FINANCIAL SYSTEMS

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	1,605	1,605	1,605	0	0	0	1,605	1,605	1,605
Non-Labor	Base YR Rec	15	15	15	0	0	0	15	15	15
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>1,620</b>	<b>1,620</b>	<b>1,620</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,620</b>	<b>1,620</b>	<b>1,620</b>
FTE	Base YR Rec	13.8	13.8	13.8	0.0	0.0	0.0	13.8	13.8	13.8

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Cost Center: 2100-3071.000 - SAP ACCOUNTING & FINANCIAL SYSTEMS

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	877	1,052	1,283	1,794	1,390
Non-Labor	177	74	85	154	16
NSE	0	0	0	0	0
<b>Total</b>	<b>1,054</b>	<b>1,126</b>	<b>1,369</b>	<b>1,948</b>	<b>1,406</b>
FTE	8.1	9.4	11.4	14.6	11.8
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	-14
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-14</b>
FTE	0.0	0.0	0.0	0.0	-0.2
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	877	1,052	1,283	1,794	1,376
Non-Labor	177	74	85	154	15
NSE	0	0	0	0	0
<b>Total</b>	<b>1,054</b>	<b>1,126</b>	<b>1,369</b>	<b>1,948</b>	<b>1,392</b>
FTE	8.1	9.4	11.4	14.6	11.6
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	127	167	205	277	228
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>127</b>	<b>167</b>	<b>205</b>	<b>277</b>	<b>228</b>
FTE	1.3	1.7	2.0	2.6	2.1
<b>Escalation to 2016\$</b>					
Labor	71	63	51	34	0
Non-Labor	12	4	3	3	0
NSE	0	0	0	0	0
<b>Total</b>	<b>83</b>	<b>67</b>	<b>54</b>	<b>37</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	1,075	1,282	1,539	2,105	1,605
Non-Labor	189	78	88	157	15
NSE	0	0	0	0	0
<b>Total</b>	<b>1,264</b>	<b>1,360</b>	<b>1,627</b>	<b>2,262</b>	<b>1,620</b>
FTE	9.4	11.1	13.4	17.2	13.7

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3071.000 - SAP ACCOUNTING & FINANCIAL SYSTEMS

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	-14
Non-Labor	0	0	0	0	-0.186
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-14</b>
FTE	0.0	0.0	0.0	0.0	-0.2

**Detail of Adjustments to Recorded:**

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
<b>2012 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2013 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2014 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2015 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
2016	Aliso	-14	0	0	-0.2	1-Sided Adj	SOMAHONY20170223164007907
<b>Explanation:</b>	2016 Aliso Canyon - Removing Productive Labor and Travel						
<b>2016 Total</b>		<b>-14</b>	<b>0</b>	<b>0</b>	<b>-0.2</b>		

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3072.000 - SUPPLY CHAIN & LOGISTICS SYSTEMS**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3072.000 - SUPPLY CHAIN & LOGISTICS SYSTEMS

**Activity Description:**

This cost center supports system-wide Supply Chain & Logistics Applications for the Utilities and Corporate Center.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		1,009	637	1,311	1,315	1,549	1,550	1,550	1,550	
Non-Labor		624	318	6	13	23	23	23	23	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>1,633</b>	<b>955</b>	<b>1,317</b>	<b>1,328</b>	<b>1,573</b>	<b>1,573</b>	<b>1,573</b>	<b>1,573</b>	
FTE		8.9	5.5	11.7	11.6	13.6	13.6	13.6	13.6	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3072.000 - SUPPLY CHAIN & LOGISTICS SYSTEMS

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	3	2	0	5	0.0	3	2	0	5	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	1,547	21	0	1,568	13.6	1,547	21	0	1,568	13.6
<b>Total Incurred</b>	<b>1,550</b>	<b>23</b>	<b>0</b>	<b>1,573</b>	<b>13.6</b>	<b>1,550</b>	<b>23</b>	<b>0</b>	<b>1,573</b>	<b>13.6</b>
<b>% Allocation</b>										
Retained	34.50%	34.50%				36.42%	36.42%			
SEU	61.91%	61.91%				59.94%	59.94%			
CORP	3.59%	3.59%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

  

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	3	2	0	5	0.0	3	2	0	5	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	1,547	21	0	1,568	13.6	1,547	21	0	1,568	13.6
<b>Total Incurred</b>	<b>1,550</b>	<b>23</b>	<b>0</b>	<b>1,573</b>	<b>13.6</b>	<b>1,550</b>	<b>23</b>	<b>0</b>	<b>1,573</b>	<b>13.6</b>
<b>% Allocation</b>										
Retained	36.42%	36.42%				36.42%	36.42%			
SEU	59.94%	59.94%				59.94%	59.94%			
CORP	3.64%	3.64%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Cost Center: 2100-3072.000 - SUPPLY CHAIN & LOGISTICS SYSTEMS

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on the number of LAN IDs used across each utility and Parent (corporate center). The use of LAN IDs is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

Calculations are based on the number of LAN IDs used across each utility and Parent (corporate center). The use of LAN IDs is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

Calculations are based on the number of LAN IDs used across each utility and Parent (corporate center). The use of LAN IDs is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

Calculations are based on the number of LAN IDs used across each utility and Parent (corporate center). The use of LAN IDs is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3072.000 - SUPPLY CHAIN & LOGISTICS SYSTEMS

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	1,549	1,549	1,549	0	0	0	1,549	1,549	1,549
Non-Labor	Base YR Rec	23	23	23	0	0	0	23	23	23
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>1,573</b>	<b>1,573</b>	<b>1,573</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,573</b>	<b>1,573</b>	<b>1,573</b>
FTE	Base YR Rec	13.6	13.6	13.6	0.0	0.0	0.0	13.6	13.6	13.6

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Cost Center: 2100-3072.000 - SUPPLY CHAIN & LOGISTICS SYSTEMS

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	823	523	1,093	1,121	1,329
Non-Labor	583	302	6	13	23
NSE	0	0	0	0	0
<b>Total</b>	<b>1,406</b>	<b>825</b>	<b>1,099</b>	<b>1,134</b>	<b>1,352</b>
FTE	7.7	4.8	9.9	10.0	11.5
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	823	523	1,093	1,121	1,329
Non-Labor	583	302	6	13	23
NSE	0	0	0	0	0
<b>Total</b>	<b>1,406</b>	<b>825</b>	<b>1,099</b>	<b>1,134</b>	<b>1,352</b>
FTE	7.7	4.8	9.9	10.0	11.5
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	119	83	175	173	220
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>119</b>	<b>83</b>	<b>175</b>	<b>173</b>	<b>220</b>
FTE	1.2	0.8	1.8	1.7	2.1
<b>Escalation to 2016\$</b>					
Labor	67	31	43	21	0
Non-Labor	41	16	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>108</b>	<b>47</b>	<b>43</b>	<b>22</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	1,009	637	1,311	1,315	1,549
Non-Labor	624	318	6	13	23
NSE	0	0	0	0	0
<b>Total</b>	<b>1,633</b>	<b>955</b>	<b>1,317</b>	<b>1,328</b>	<b>1,573</b>
FTE	8.9	5.6	11.7	11.7	13.6

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.



San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3072.000 - SUPPLY CHAIN & LOGISTICS SYSTEMS

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3073.000 - ENTERPRISE INTEGRATION SERVICES**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3073.000 - ENTERPRISE INTEGRATION SERVICES

**Activity Description:**

This cost center is responsible for performance monitoring, tuning, problem resolution and software installation for the SAP environment. This cost center is also responsible for providing and securing access to all systems in the SAP environment.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		785	814	1,042	1,312	1,641	1,642	1,642	1,642	
Non-Labor		411	177	173	52	12	12	12	12	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>1,196</b>	<b>990</b>	<b>1,216</b>	<b>1,364</b>	<b>1,653</b>	<b>1,654</b>	<b>1,654</b>	<b>1,654</b>	
FTE		7.1	7.5	9.4	11.6	13.9	13.9	13.9	13.9	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3073.000 - ENTERPRISE INTEGRATION SERVICES

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	2	4	0	6	0.0	2	4	0	6	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	1,640	8	0	1,648	13.9	1,640	8	0	1,648	13.9
<b>Total Incurred</b>	<b>1,642</b>	<b>12</b>	<b>0</b>	<b>1,654</b>	<b>13.9</b>	<b>1,642</b>	<b>12</b>	<b>0</b>	<b>1,654</b>	<b>13.9</b>
<b>% Allocation</b>										
Retained	34.02%	34.02%				34.29%	34.29%			
SEU	62.21%	62.21%				61.59%	61.59%			
CORP	3.77%	3.77%				4.12%	4.12%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	2	4	0	6	0.0	2	4	0	6	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	1,640	8	0	1,648	13.9	1,640	8	0	1,648	13.9
<b>Total Incurred</b>	<b>1,642</b>	<b>12</b>	<b>0</b>	<b>1,654</b>	<b>13.9</b>	<b>1,642</b>	<b>12</b>	<b>0</b>	<b>1,654</b>	<b>13.9</b>
<b>% Allocation</b>										
Retained	34.29%	34.29%				34.29%	34.29%			
SEU	61.59%	61.59%				61.59%	61.59%			
CORP	4.12%	4.12%				4.12%	4.12%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Allocations are based on the number of active SAP R3 Login ID's for SDGE, SCG and Parent.

**Cost Center Allocation Percentage for 2017**

Allocations are based on the number of active SAP R3 Login ID's for SDGE, SCG and Parent.

**Cost Center Allocation Percentage for 2018**

Allocations are based on the number of active SAP R3 Login ID's for SDGE, SCG and Parent.

**Cost Center Allocation Percentage for 2019**

Allocations are based on the number of active SAP R3 Login ID's for SDGE, SCG and Parent.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3073.000 - ENTERPRISE INTEGRATION SERVICES

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	1,641	1,641	1,641	0	0	0	1,641	1,641	1,641
Non-Labor	Base YR Rec	12	12	12	0	0	0	12	12	12
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>1,653</b>	<b>1,653</b>	<b>1,653</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,653</b>	<b>1,653</b>	<b>1,653</b>
FTE	Base YR Rec	13.9	13.9	13.9	0.0	0.0	0.0	13.9	13.9	13.9

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Cost Center: 2100-3073.000 - ENTERPRISE INTEGRATION SERVICES

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	640	668	869	1,118	1,408
Non-Labor	384	168	167	52	12
NSE	0	0	0	0	0
<b>Total</b>	<b>1,024</b>	<b>836</b>	<b>1,037</b>	<b>1,170</b>	<b>1,420</b>
FTE	6.1	6.4	8.1	9.9	11.8
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	640	668	869	1,118	1,408
Non-Labor	384	168	167	52	12
NSE	0	0	0	0	0
<b>Total</b>	<b>1,024</b>	<b>836</b>	<b>1,037</b>	<b>1,170</b>	<b>1,420</b>
FTE	6.1	6.4	8.1	9.9	11.8
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	93	106	139	173	234
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>93</b>	<b>106</b>	<b>139</b>	<b>173</b>	<b>234</b>
FTE	1.0	1.1	1.4	1.7	2.1
<b>Escalation to 2016\$</b>					
Labor	52	40	34	21	0
Non-Labor	27	9	6	1	0
NSE	0	0	0	0	0
<b>Total</b>	<b>79</b>	<b>49</b>	<b>40</b>	<b>22</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	785	814	1,042	1,312	1,641
Non-Labor	411	177	173	52	12
NSE	0	0	0	0	0
<b>Total</b>	<b>1,196</b>	<b>990</b>	<b>1,216</b>	<b>1,364</b>	<b>1,653</b>
FTE	7.1	7.5	9.5	11.6	13.9

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3073.000 - ENTERPRISE INTEGRATION SERVICES

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3074.000 - SSDS PROJECT OFFICE**



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3074.000 - SSDS PROJECT OFFICE

**Activity Description:**

This cost center is responsible for architecture and design of new systems and major enhancements to existing systems in the Shared application services department. Business Units supported include SDGE and SoCal Gas.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		379	311	175	155	642	642	642	642	
Non-Labor		495	61	19	39	11	11	11	11	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>874</b>	<b>372</b>	<b>194</b>	<b>194</b>	<b>654</b>	<b>653</b>	<b>653</b>	<b>653</b>	
FTE		4.1	2.3	1.4	1.3	5.2	5.2	5.2	5.2	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3074.000 - SSDS PROJECT OFFICE

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	1	0	0	1	0.0	1	0	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	641	11	0	652	5.2	641	11	0	652	5.2
<b>Total Incurred</b>	<b>642</b>	<b>11</b>	<b>0</b>	<b>653</b>	<b>5.2</b>	<b>642</b>	<b>11</b>	<b>0</b>	<b>653</b>	<b>5.2</b>
<b>% Allocation</b>										
Retained	73.08%	73.08%				45.15%	45.15%			
SEU	26.92%	26.92%				50.68%	50.68%			
CORP	0.00%	0.00%				4.17%	4.17%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	1	0	0	1	0.0	1	0	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	641	11	0	652	5.2	641	11	0	652	5.2
<b>Total Incurred</b>	<b>642</b>	<b>11</b>	<b>0</b>	<b>653</b>	<b>5.2</b>	<b>642</b>	<b>11</b>	<b>0</b>	<b>653</b>	<b>5.2</b>
<b>% Allocation</b>										
Retained	45.15%	45.15%				45.15%	45.15%			
SEU	50.68%	50.68%				50.68%	50.68%			
CORP	4.17%	4.17%				4.17%	4.17%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Cost Center: 2100-3074.000 - SSDS PROJECT OFFICE

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Allocations are based on a labor study of all projects supported by this cost center. FTE requirements are then assigned and using an average labor cost, a total support cost for each application is derived. A labor study of all projects supported by this cost center is appropriate as it defines how the resources in the department will be allocated.

**Cost Center Allocation Percentage for 2017**

Allocations are based on a labor study of all projects supported by this cost center. FTE requirements are then assigned and using an average labor cost, a total support cost for each application is derived. A labor study of all projects supported by this cost center is appropriate as it defines how the resources in the department will be allocated.

**Cost Center Allocation Percentage for 2018**

Allocations are based on a labor study of all projects supported by this cost center. FTE requirements are then assigned and using an average labor cost, a total support cost for each application is derived. A labor study of all projects supported by this cost center is appropriate as it defines how the resources in the department will be allocated.

**Cost Center Allocation Percentage for 2019**

Allocations are based on a labor study of all projects supported by this cost center. FTE requirements are then assigned and using an average labor cost, a total support cost for each application is derived. A labor study of all projects supported by this cost center is appropriate as it defines how the resources in the department will be allocated.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3074.000 - SSDS PROJECT OFFICE

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	642	642	642	0	0	0	642	642	642
Non-Labor	Base YR Rec	11	11	11	0	0	0	11	11	11
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>654</b>	<b>654</b>	<b>654</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>654</b>	<b>654</b>	<b>654</b>
FTE	Base YR Rec	5.2	5.2	5.2	0.0	0.0	0.0	5.2	5.2	5.2

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3074.000 - SSDS PROJECT OFFICE

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	147	226	96	134	551
Non-Labor	41	29	4	3	11
NSE	0	0	0	0	0
<b>Total</b>	<b>187</b>	<b>255</b>	<b>100</b>	<b>136</b>	<b>562</b>
FTE	1.6	1.9	0.8	1.1	4.4
<b>Adjustments (Nominal \$) **</b>					
Labor	162	28	50	-1	0
Non-Labor	422	30	14	36	0
NSE	0	0	0	0	0
<b>Total</b>	<b>584</b>	<b>58</b>	<b>65</b>	<b>34</b>	<b>0</b>
FTE	1.9	0.1	0.4	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	309	255	146	132	551
Non-Labor	462	58	18	38	11
NSE	0	0	0	0	0
<b>Total</b>	<b>771</b>	<b>313</b>	<b>164</b>	<b>171</b>	<b>562</b>
FTE	3.5	2.0	1.2	1.1	4.4
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	45	40	23	20	91
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>45</b>	<b>40</b>	<b>23</b>	<b>20</b>	<b>91</b>
FTE	0.6	0.4	0.2	0.2	0.8
<b>Escalation to 2016\$</b>					
Labor	25	15	6	3	0
Non-Labor	33	3	1	1	0
NSE	0	0	0	0	0
<b>Total</b>	<b>58</b>	<b>18</b>	<b>6</b>	<b>3</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	379	311	175	155	642
Non-Labor	495	61	19	39	11
NSE	0	0	0	0	0
<b>Total</b>	<b>874</b>	<b>372</b>	<b>194</b>	<b>194</b>	<b>654</b>
FTE	4.1	2.4	1.4	1.3	5.2

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3074.000 - SSDS PROJECT OFFICE

**Summary of Adjustments to Recorded:**

		In Nominal \$ (000) Incurred Costs				
Years		2012	2013	2014	2015	2016
Labor		162	28	50	-1	0
Non-Labor		422	30	14	36	0
NSE		0	0	0	0	0
	<b>Total</b>	<b>584</b>	<b>58</b>	<b>65</b>	<b>34</b>	<b>0</b>
FTE		1.9	0.1	0.4	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	98	157	0	1.1	CCTR Transf From 2100-3079.000	SOMAHONY20170307233357167
<b>Explanation:</b> SDGE Integration costs moved to 2100-3074.							
2012	Other	64	264	0	0.8	CCTR Transf From 2100-3079.000	SOMAHONY20170307233555013
<b>Explanation:</b> SDGE Integration costs moved to 2100-3074.							
<b>2012 Total</b>		<b>162</b>	<b>422</b>	<b>0</b>	<b>1.9</b>		
2013	Other	0	1	0	0.0	CCTR Transf From 2100-3079.000	SOMAHONY20170307234554410
<b>Explanation:</b> SDGE Integration costs moved to 2100-3074.							
2013	Other	13	7	0	0.1	CCTR Transf From 2100-3079.000	SOMAHONY20170307234704050
<b>Explanation:</b> SDGE Integration costs moved to 2100-3074.							
2013	Other	15	21	0	0.0	CCTR Transf From 2100-3079.000	SOMAHONY20170307234758643
<b>Explanation:</b> SDGE Integration costs moved to 2100-3074.							
<b>2013 Total</b>		<b>28</b>	<b>30</b>	<b>0</b>	<b>0.1</b>		
2014	Other	50	14	0	0.4	CCTR Transf From 2100-3079.000	SOMAHONY20170307235039090
<b>Explanation:</b> SDGE Integration costs moved to 2100-3074.							
<b>2014 Total</b>		<b>50</b>	<b>14</b>	<b>0</b>	<b>0.4</b>		
2015	Other	-1	36	0	0.0	CCTR Transf From 2100-3079.000	SOMAHONY20170307235129837
<b>Explanation:</b> SDGE Integration costs moved to 2100-3074.							

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
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Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3074.000 - SSDS PROJECT OFFICE

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
<b>2015 Total</b>		-1	36	0	0.0		
<b>2016 Total</b>		0	0	0	0.0		

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3088.000 - SOFTWARE DEV - WORK MEAS SYSTEMS**



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3088.000 - SOFTWARE DEV - WORK MEAS SYSTEMS

**Activity Description:**

This cost center represents support services for a broad range of client organizations, including: Gas Operations / Distribution, Construction, Generation and Environmental Services. The application services are based on several enterprise systems, including: SAP Plant Maintenance and Click Scheduling and Mobility. In addition, the legacy support services include Distribution Planning Scheduling System (DPSS).

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		206	166	149	291	317	318	318	318	
Non-Labor		82	32	1	8	8	8	8	8	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>288</b>	<b>198</b>	<b>150</b>	<b>299</b>	<b>325</b>	<b>326</b>	<b>326</b>	<b>326</b>	
FTE		2.1	1.6	1.4	2.7	2.6	2.6	2.6	2.6	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3088.000 - SOFTWARE DEV - WORK MEAS SYSTEMS

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	2	1	0	3	0.0	2	1	0	3	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	316	7	0	323	2.6	316	7	0	323	2.6
<b>Total Incurred</b>	<b>318</b>	<b>8</b>	<b>0</b>	<b>326</b>	<b>2.6</b>	<b>318</b>	<b>8</b>	<b>0</b>	<b>326</b>	<b>2.6</b>
<b>% Allocation</b>										
Retained	67.09%	67.09%				57.35%	57.35%			
SEU	32.91%	32.91%				42.65%	42.65%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	2	1	0	3	0.0	2	1	0	3	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	316	7	0	323	2.6	316	7	0	323	2.6
<b>Total Incurred</b>	<b>318</b>	<b>8</b>	<b>0</b>	<b>326</b>	<b>2.6</b>	<b>318</b>	<b>8</b>	<b>0</b>	<b>326</b>	<b>2.6</b>
<b>% Allocation</b>										
Retained	57.35%	57.35%				57.35%	57.35%			
SEU	42.65%	42.65%				42.65%	42.65%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Cost Center: 2100-3088.000 - SOFTWARE DEV - WORK MEAS SYSTEMS

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Allocations are based on a labor study of applications that will be supported by this cost center. FTE requirements are then assigned and using an average labor cost for the department, a total support cost for each application is derived. The applications are split across BU's based on assumptions.

**Cost Center Allocation Percentage for 2017**

Allocations are based on a labor study of applications that will be supported by this cost center. FTE requirements are then assigned and using an average labor cost for the department, a total support cost for each application is derived. The applications are split across BU's based on assumptions.

**Cost Center Allocation Percentage for 2018**

Allocations are based on a labor study of applications that will be supported by this cost center. FTE requirements are then assigned and using an average labor cost for the department, a total support cost for each application is derived. The applications are split across BU's based on assumptions.

**Cost Center Allocation Percentage for 2019**

Allocations are based on a labor study of applications that will be supported by this cost center. FTE requirements are then assigned and using an average labor cost for the department, a total support cost for each application is derived. The applications are split across BU's based on assumptions.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3088.000 - SOFTWARE DEV - WORK MEAS SYSTEMS

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	317	317	317	0	0	0	317	317	317
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
<b>Total</b>		<b>325</b>	<b>325</b>	<b>325</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>325</b>	<b>325</b>	<b>325</b>
FTE	Base YR Rec	2.6	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Cost Center: 2100-3088.000 - SOFTWARE DEV - WORK MEAS SYSTEMS

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	989	136	124	248	272
Non-Labor	113	30	1	8	8
NSE	0	0	0	0	0
<b>Total</b>	<b>1,102</b>	<b>166</b>	<b>126</b>	<b>256</b>	<b>280</b>
FTE	9.8	1.4	1.2	2.3	2.2
<b>Adjustments (Nominal \$) **</b>					
Labor	-821	0	0	0	0
Non-Labor	-36	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-857</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	-8.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	168	136	124	248	272
Non-Labor	77	30	1	8	8
NSE	0	0	0	0	0
<b>Total</b>	<b>245</b>	<b>166</b>	<b>126</b>	<b>256</b>	<b>280</b>
FTE	1.8	1.4	1.2	2.3	2.2
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	24	22	20	38	45
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>24</b>	<b>22</b>	<b>20</b>	<b>38</b>	<b>45</b>
FTE	0.3	0.2	0.2	0.4	0.4
<b>Escalation to 2016\$</b>					
Labor	14	8	5	5	0
Non-Labor	5	2	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>19</b>	<b>10</b>	<b>5</b>	<b>5</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	206	166	149	291	317
Non-Labor	82	32	1	8	8
NSE	0	0	0	0	0
<b>Total</b>	<b>288</b>	<b>198</b>	<b>150</b>	<b>299</b>	<b>325</b>
FTE	2.1	1.6	1.4	2.7	2.6

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3088.000 - SOFTWARE DEV - WORK MEAS SYSTEMS

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-821	0	0	0	-0.195
Non-Labor	-36	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-857</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-0.195</b>
FTE	-8.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	-821	-36	0	-8.0	CCTR Transf To 2200-2445.000	SOMAHONY20161104163356100

**Explanation:** IT Employee Transfer from SDGE to SCG as of 2013.

<b>2012 Total</b>		<b>-821</b>	<b>-36</b>	<b>0</b>	<b>-8.0</b>		
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<b>2013 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
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<b>2014 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
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<b>2015 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
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2016	Aliso	0	0	0	0.0	1-Sided Adj	SOMAHONY20170223181240630
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**Explanation:** 2016 Aliso Canyon - Removing Productive Labor

<b>2016 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3089.000 - BUSINESS INTELLIGENCE GROUP**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3089.000 - BUSINESS INTELLIGENCE GROUP

**Activity Description:**

This cost center supports IT business Intelligence, including enterprise-wide software support, BI strategy and project services, as well as project management.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		797	812	700	613	876	876	876	876	
Non-Labor		570	232	13	17	18	18	18	18	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>1,368</b>	<b>1,044</b>	<b>713</b>	<b>630</b>	<b>894</b>	<b>894</b>	<b>894</b>	<b>894</b>	
FTE		7.4	7.3	6.4	5.2	7.2	7.2	7.2	7.2	

*Note: Totals may include rounding differences.*



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3089.000 - BUSINESS INTELLIGENCE GROUP

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	2	0	0	2	0.0	2	0	0	2	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	874	18	0	892	7.2	874	18	0	892	7.2
<b>Total Incurred</b>	<b>876</b>	<b>18</b>	<b>0</b>	<b>894</b>	<b>7.2</b>	<b>876</b>	<b>18</b>	<b>0</b>	<b>894</b>	<b>7.2</b>
<b>% Allocation</b>										
Retained	34.50%	34.50%				36.42%	36.42%			
SEU	61.91%	61.91%				59.94%	59.94%			
CORP	3.59%	3.59%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	2	0	0	2	0.0	2	0	0	2	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	874	18	0	892	7.2	874	18	0	892	7.2
<b>Total Incurred</b>	<b>876</b>	<b>18</b>	<b>0</b>	<b>894</b>	<b>7.2</b>	<b>876</b>	<b>18</b>	<b>0</b>	<b>894</b>	<b>7.2</b>
<b>% Allocation</b>										
Retained	36.42%	36.42%				36.42%	36.42%			
SEU	59.94%	59.94%				59.94%	59.94%			
CORP	3.64%	3.64%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3089.000 - BUSINESS INTELLIGENCE GROUP

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	876	876	876	0	0	0	876	876	876
Non-Labor	Base YR Rec	18	18	18	0	0	0	18	18	18
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>894</b>	<b>894</b>	<b>894</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>894</b>	<b>894</b>	<b>894</b>
FTE	Base YR Rec	7.2	7.2	7.2	0.0	0.0	0.0	7.2	7.2	7.2

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Cost Center: 2100-3089.000 - BUSINESS INTELLIGENCE GROUP

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	991	666	584	523	751
Non-Labor	557	221	12	17	18
NSE	0	0	0	0	0
<b>Total</b>	<b>1,548</b>	<b>887</b>	<b>596</b>	<b>540</b>	<b>770</b>
FTE	9.4	6.2	5.5	4.4	6.1
<b>Adjustments (Nominal \$) **</b>					
Labor	-341	0	0	0	0
Non-Labor	-24	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-365</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	-3.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	650	666	584	523	751
Non-Labor	533	221	12	17	18
NSE	0	0	0	0	0
<b>Total</b>	<b>1,183</b>	<b>887</b>	<b>596</b>	<b>540</b>	<b>770</b>
FTE	6.4	6.2	5.5	4.4	6.1
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	94	106	93	81	125
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>94</b>	<b>106</b>	<b>93</b>	<b>81</b>	<b>125</b>
FTE	1.0	1.1	1.0	0.8	1.1
<b>Escalation to 2016\$</b>					
Labor	53	40	23	10	0
Non-Labor	38	11	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>90</b>	<b>51</b>	<b>24</b>	<b>10</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	797	812	700	613	876
Non-Labor	570	232	13	17	18
NSE	0	0	0	0	0
<b>Total</b>	<b>1,368</b>	<b>1,044</b>	<b>713</b>	<b>630</b>	<b>894</b>
FTE	7.4	7.3	6.5	5.2	7.2

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3089.000 - BUSINESS INTELLIGENCE GROUP

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-341	0	0	0	0
Non-Labor	-24	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-365</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	-3.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	-341	-24	0	-3.0	CCTR Transf To 2200-2470.000	SOMAHONY20161104163650983

**Explanation:** IT Employee Transfer from SDGE to SCG as of 2013.

<b>2012 Total</b>		-341	-24	0	-3.0		
<b>2013 Total</b>		0	0	0	0.0		
<b>2014 Total</b>		0	0	0	0.0		
<b>2015 Total</b>		0	0	0	0.0		
<b>2016 Total</b>		0	0	0	0.0		

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3091.000 - SOFTWARE DEV - DATABASE ADMINISTRATOR**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3091.000 - SOFTWARE DEV - DATABASE ADMINISTRATOR

**Activity Description:**

This cost center provides maintenance and enhancement support for system wide database administration.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		1,208	1,367	1,328	1,604	2,039	2,039	2,039	2,039	
Non-Labor		209	3,228	44	173	30	30	30	30	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>1,417</b>	<b>4,595</b>	<b>1,372</b>	<b>1,777</b>	<b>2,069</b>	<b>2,069</b>	<b>2,069</b>	<b>2,069</b>	
FTE		10.1	10.9	10.5	12.8	16.4	16.4	16.4	16.4	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3091.000 - SOFTWARE DEV - DATABASE ADMINISTRATOR

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	6	5	0	11	0.0	6	5	0	11	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	2,033	25	0	2,058	16.4	2,033	25	0	2,058	16.4
<b>Total Incurred</b>	<b>2,039</b>	<b>30</b>	<b>0</b>	<b>2,069</b>	<b>16.4</b>	<b>2,039</b>	<b>30</b>	<b>0</b>	<b>2,069</b>	<b>16.4</b>
<b>% Allocation</b>										
Retained	34.50%	34.50%				36.42%	36.42%			
SEU	61.91%	61.91%				59.94%	59.94%			
CORP	3.59%	3.59%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	6	5	0	11	0.0	6	5	0	11	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	2,033	25	0	2,058	16.4	2,033	25	0	2,058	16.4
<b>Total Incurred</b>	<b>2,039</b>	<b>30</b>	<b>0</b>	<b>2,069</b>	<b>16.4</b>	<b>2,039</b>	<b>30</b>	<b>0</b>	<b>2,069</b>	<b>16.4</b>
<b>% Allocation</b>										
Retained	36.42%	36.42%				36.42%	36.42%			
SEU	59.94%	59.94%				59.94%	59.94%			
CORP	3.64%	3.64%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3091.000 - SOFTWARE DEV - DATABASE ADMINISTRATOR

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	2,039	2,039	2,039	0	0	0	2,039	2,039	2,039
Non-Labor	Base YR Rec	30	30	30	0	0	0	30	30	30
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>2,069</b>	<b>2,069</b>	<b>2,069</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,069</b>	<b>2,069</b>	<b>2,069</b>
FTE	Base YR Rec	16.3	16.3	16.3	0.0	0.0	0.0	16.3	16.3	16.3

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Cost Center: 2100-3091.000 - SOFTWARE DEV - DATABASE ADMINISTRATOR

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	1,723	1,121	1,108	1,367	1,753
Non-Labor	225	3,069	42	170	30
NSE	0	0	0	0	0
<b>Total</b>	<b>1,948</b>	<b>4,190</b>	<b>1,150</b>	<b>1,537</b>	<b>1,783</b>
FTE	14.7	9.4	8.9	10.8	13.9
<b>Adjustments (Nominal \$) **</b>					
Labor	-738	0	0	0	-4
Non-Labor	-30	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-768</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-4</b>
FTE	-6.0	0.0	0.0	0.0	-0.1
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	985	1,121	1,108	1,367	1,749
Non-Labor	195	3,069	42	170	30
NSE	0	0	0	0	0
<b>Total</b>	<b>1,180</b>	<b>4,190</b>	<b>1,150</b>	<b>1,537</b>	<b>1,779</b>
FTE	8.7	9.4	8.9	10.8	13.8
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	143	178	177	211	290
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>143</b>	<b>178</b>	<b>177</b>	<b>211</b>	<b>290</b>
FTE	1.4	1.6	1.6	1.9	2.5
<b>Escalation to 2016\$</b>					
Labor	80	67	44	26	0
Non-Labor	14	159	1	3	0
NSE	0	0	0	0	0
<b>Total</b>	<b>94</b>	<b>227</b>	<b>45</b>	<b>29</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	1,208	1,367	1,328	1,604	2,039
Non-Labor	209	3,228	44	173	30
NSE	0	0	0	0	0
<b>Total</b>	<b>1,417</b>	<b>4,595</b>	<b>1,372</b>	<b>1,777</b>	<b>2,069</b>
FTE	10.1	11.0	10.5	12.7	16.3

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3091.000 - SOFTWARE DEV - DATABASE ADMINISTRATOR

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-738	0	0	0	-4
Non-Labor	-30	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-768</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-4</b>
FTE	-6.0	0.0	0.0	0.0	-0.1

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	-738	-30	0	-6.0	CCTR Transf To 2200-2447.000	SOMAHONY20161104164059697

**Explanation:** IT Employee Transfer from SDGE to SCG as of 2013.

<b>2012 Total</b>	<b>-738</b>	<b>-30</b>	<b>0</b>	<b>-6.0</b>
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<b>2013 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>
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<b>2014 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>
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<b>2015 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>
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2016	Aliso	-4	0	0	-0.1	1-Sided Adj	SOMAHONY20170223163429647
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**Explanation:** 2016 Aliso Canyon Productive Labor

<b>2016 Total</b>	<b>-4</b>	<b>0</b>	<b>0</b>	<b>-0.1</b>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3102.000 - INFRASTRUCTURE ENG & OPS DIRECTOR**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3102.000 - INFRASTRUCTURE ENG & OPS DIRECTOR

**Activity Description:**

The director cost center manages the work activities and prioritization of the UOFAS department for project, operational and system support activities.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		250	277	278	278	283	488	488	488	
Non-Labor		38	26	24	28	25	56	56	56	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>288</b>	<b>302</b>	<b>302</b>	<b>306</b>	<b>308</b>	<b>544</b>	<b>544</b>	<b>544</b>	
FTE		1.5	2.1	2.1	2.1	2.1	4.0	4.0	4.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3102.000 - INFRASTRUCTURE ENG & OPS DIRECTOR

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	1	0	1	0.0	0	1	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	283	25	0	308	2.1	488	55	0	543	4.0
<b>Total Incurred</b>	<b>283</b>	<b>26</b>	<b>0</b>	<b>309</b>	<b>2.1</b>	<b>488</b>	<b>56</b>	<b>0</b>	<b>544</b>	<b>4.0</b>
<b>% Allocation</b>										
Retained	40.95%	40.95%				41.15%	41.15%			
SEU	55.96%	55.96%				56.28%	56.28%			
CORP	3.09%	3.09%				2.57%	2.57%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	1	0	1	0.0	0	1	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	488	55	0	543	4.0	488	55	0	543	4.0
<b>Total Incurred</b>	<b>488</b>	<b>56</b>	<b>0</b>	<b>544</b>	<b>4.0</b>	<b>488</b>	<b>56</b>	<b>0</b>	<b>544</b>	<b>4.0</b>
<b>% Allocation</b>										
Retained	41.15%	41.15%				41.15%	41.15%			
SEU	56.28%	56.28%				56.28%	56.28%			
CORP	2.57%	2.57%				2.57%	2.57%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Cost Center: 2100-3102.000 - INFRASTRUCTURE ENG & OPS DIRECTOR

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Cost Center Allocation Percentage for 2017**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Cost Center Allocation Percentage for 2018**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Cost Center Allocation Percentage for 2019**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3102.000 - INFRASTRUCTURE ENG & OPS DIRECTOR

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	283	283	283	205	205	205	488	488	488
Non-Labor	Base YR Rec	25	25	25	30	30	30	55	55	55
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>308</b>	<b>308</b>	<b>308</b>	<b>235</b>	<b>235</b>	<b>235</b>	<b>543</b>	<b>543</b>	<b>543</b>
FTE	Base YR Rec	2.1	2.1	2.1	1.9	1.9	1.9	4.0	4.0	4.0

**Forecast Adjustment Details:**

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	205	30	0	235	1.9	1-Sided Adj	SOMAHONY20161119155444153	
<b>Explanation:</b>		Filling 3 labor vacancies. Assumes 62% O&C ratio and \$110k average salary plus \$10k per employee for non-labor costs.							
<b>2017 Total</b>		<b>205</b>	<b>30</b>	<b>0</b>	<b>235</b>	<b>1.9</b>			
2018	Other	205	30	0	235	1.9	1-Sided Adj	SOMAHONY20161119155537293	
<b>Explanation:</b>		Filling 3 labor vacancies. Assumes 62% O&C ratio and \$110k average salary plus \$10k per employee for non-labor costs.							
<b>2018 Total</b>		<b>205</b>	<b>30</b>	<b>0</b>	<b>235</b>	<b>1.9</b>			
2019	Other	205	30	0	235	1.9	1-Sided Adj	SOMAHONY20161119155606010	
<b>Explanation:</b>		Filling 3 labor vacancies. Assumes 62% O&C ratio and \$110k average salary plus \$10k per employee for non-labor costs.							
<b>2019 Total</b>		<b>205</b>	<b>30</b>	<b>0</b>	<b>235</b>	<b>1.9</b>			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Cost Center: 2100-3102.000 - INFRASTRUCTURE ENG & OPS DIRECTOR

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	204	227	232	237	242
Non-Labor	35	24	23	28	25
NSE	0	0	0	0	0
<b>Total</b>	<b>239</b>	<b>251</b>	<b>255</b>	<b>265</b>	<b>268</b>
FTE	1.3	1.8	1.8	1.8	1.8
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	204	227	232	237	242
Non-Labor	35	24	23	28	25
NSE	0	0	0	0	0
<b>Total</b>	<b>239</b>	<b>251</b>	<b>255</b>	<b>265</b>	<b>268</b>
FTE	1.3	1.8	1.8	1.8	1.8
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	30	36	37	37	40
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>30</b>	<b>36</b>	<b>37</b>	<b>37</b>	<b>40</b>
FTE	0.2	0.3	0.3	0.3	0.3
<b>Escalation to 2016\$</b>					
Labor	17	14	9	5	0
Non-Labor	2	1	1	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>19</b>	<b>15</b>	<b>10</b>	<b>5</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	250	277	278	278	283
Non-Labor	38	26	24	28	25
NSE	0	0	0	0	0
<b>Total</b>	<b>288</b>	<b>302</b>	<b>302</b>	<b>306</b>	<b>308</b>
FTE	1.5	2.1	2.1	2.1	2.1

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.



San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3102.000 - INFRASTRUCTURE ENG & OPS DIRECTOR

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3623.000 - SHARED SOFTWARE DEVELOPMENT CONTRACTS**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3623.000 - SHARED SOFTWARE DEVELOPMENT CONTRACTS

**Activity Description:**

This Cost Center is responsible for paying the maintenance for software products supported by the UOFAS department.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		0	0	0	0	0	0	0	0	
Non-Labor		6,312	5,211	3,802	3,264	5,279	5,584	5,908	6,251	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>6,312</b>	<b>5,211</b>	<b>3,802</b>	<b>3,264</b>	<b>5,279</b>	<b>5,584</b>	<b>5,908</b>	<b>6,251</b>	
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3623.000 - SHARED SOFTWARE DEVELOPMENT CONTRACTS

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	184	0	184	0.0	0	184	0	184	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	5,094	0	5,094	0.0	0	5,400	0	5,400	0.0
<b>Total Incurred</b>	<b>0</b>	<b>5,278</b>	<b>0</b>	<b>5,278</b>	<b>0.0</b>	<b>0</b>	<b>5,584</b>	<b>0</b>	<b>5,584</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	36.21%	36.21%				36.66%	36.66%			
SEU	61.81%	61.81%				61.16%	61.16%			
CORP	1.98%	1.98%				2.18%	2.18%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	184	0	184	0.0	0	184	0	184	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	5,724	0	5,724	0.0	0	6,067	0	6,067	0.0
<b>Total Incurred</b>	<b>0</b>	<b>5,908</b>	<b>0</b>	<b>5,908</b>	<b>0.0</b>	<b>0</b>	<b>6,251</b>	<b>0</b>	<b>6,251</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	36.66%	36.66%				36.66%	36.66%			
SEU	61.16%	61.16%				61.16%	61.16%			
CORP	2.18%	2.18%				2.18%	2.18%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Allocations are based on a weighted average of the usage of the software by company as provided by client, as well as the shared asset percentages based on user licenses by company.

**Cost Center Allocation Percentage for 2017**

Allocations are based on a weighted average of the usage of the software by company as provided by client, as well as the shared asset percentages based on user licenses by company.

**Cost Center Allocation Percentage for 2018**

Allocations are based on a weighted average of the usage of the software by company as provided by client, as well as the shared asset percentages based on user licenses by company.

**Cost Center Allocation Percentage for 2019**

Allocations are based on a weighted average of the usage of the software by company as provided by client, as well as the shared asset percentages based on user licenses by company.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3623.000 - SHARED SOFTWARE DEVELOPMENT CONTRACTS

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	0	0	0	0	0	0	0	0	0
Non-Labor	Base YR Rec	5,279	5,279	5,279	306	630	973	5,585	5,909	6,252
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>5,279</b>	<b>5,279</b>	<b>5,279</b>	<b>306</b>	<b>630</b>	<b>973</b>	<b>5,585</b>	<b>5,909</b>	<b>6,252</b>
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:**

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>	
2017	Other	0	306	0	306	0.0	1-Sided Adj	SOMAHONY20170307231110490	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2017 Total</b>		<b>0</b>	<b>306</b>	<b>0</b>	<b>306</b>	<b>0.0</b>			
2018	Other	0	630	0	630	0.0	1-Sided Adj	SOMAHONY20170307231359533	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2018 Total</b>		<b>0</b>	<b>630</b>	<b>0</b>	<b>630</b>	<b>0.0</b>			
2019	Other	0	973	0	973	0.0	1-Sided Adj	SOMAHONY20170307231502127	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2019 Total</b>		<b>0</b>	<b>973</b>	<b>0</b>	<b>973</b>	<b>0.0</b>			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Cost Center: 2100-3623.000 - SHARED SOFTWARE DEVELOPMENT CONTRACTS

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	0	0	0	0
Non-Labor	5,895	4,954	3,676	3,211	5,279
NSE	0	0	0	0	0
<b>Total</b>	<b>5,895</b>	<b>4,954</b>	<b>3,676</b>	<b>3,211</b>	<b>5,279</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	5,895	4,954	3,676	3,211	5,279
NSE	0	0	0	0	0
<b>Total</b>	<b>5,895</b>	<b>4,954</b>	<b>3,676</b>	<b>3,211</b>	<b>5,279</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Escalation to 2016\$</b>					
Labor	0	0	0	0	0
Non-Labor	417	257	125	53	0
NSE	0	0	0	0	0
<b>Total</b>	<b>417</b>	<b>257</b>	<b>125</b>	<b>53</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	0	0	0	0	0
Non-Labor	6,312	5,211	3,802	3,264	5,279
NSE	0	0	0	0	0
<b>Total</b>	<b>6,312</b>	<b>5,211</b>	<b>3,802</b>	<b>3,264</b>	<b>5,279</b>
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

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3623.000 - SHARED SOFTWARE DEVELOPMENT CONTRACTS

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3848.000 - CUSTOMER ANALYTICS SYSTEM**



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3848.000 - CUSTOMER ANALYTICS SYSTEM

**Activity Description:**

This cost center provides enterprise-wide IT support and delivery of advanced analytics for customer and grid data.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		61	131	218	235	349	349	349	349	
Non-Labor		445	7	68	144	321	321	321	321	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>506</b>	<b>138</b>	<b>286</b>	<b>379</b>	<b>670</b>	<b>670</b>	<b>670</b>	<b>670</b>	
FTE		0.4	1.2	1.6	2.1	3.0	3.0	3.0	3.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3848.000 - CUSTOMER ANALYTICS SYSTEM

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	349	321	0	670	3.0	349	321	0	670	3.0
<b>Total Incurred</b>	<b>349</b>	<b>321</b>	<b>0</b>	<b>670</b>	<b>3.0</b>	<b>349</b>	<b>321</b>	<b>0</b>	<b>670</b>	<b>3.0</b>
<b>% Allocation</b>										
Retained	34.50%	34.50%				36.42%	36.42%			
SEU	61.91%	61.91%				59.94%	59.94%			
CORP	3.59%	3.59%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	349	321	0	670	3.0	349	321	0	670	3.0
<b>Total Incurred</b>	<b>349</b>	<b>321</b>	<b>0</b>	<b>670</b>	<b>3.0</b>	<b>349</b>	<b>321</b>	<b>0</b>	<b>670</b>	<b>3.0</b>
<b>% Allocation</b>										
Retained	36.42%	36.42%				36.42%	36.42%			
SEU	59.94%	59.94%				59.94%	59.94%			
CORP	3.64%	3.64%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3848.000 - CUSTOMER ANALYTICS SYSTEM

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	349	349	349	0	0	0	349	349	349
Non-Labor	Base YR Rec	321	321	321	0	0	0	321	321	321
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>670</b>	<b>670</b>	<b>670</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>670</b>	<b>670</b>	<b>670</b>
FTE	Base YR Rec	3.0	3.0	3.0	0.0	0.0	0.0	3.0	3.0	3.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: A. Applications  
Category-Sub: 1. Applications  
Cost Center: 2100-3848.000 - CUSTOMER ANALYTICS SYSTEM

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	49	107	182	200	299
Non-Labor	416	6	66	142	321
NSE	0	0	0	0	0
<b>Total</b>	<b>465</b>	<b>114</b>	<b>247</b>	<b>342</b>	<b>620</b>
FTE	0.5	1.0	1.4	1.8	2.5
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	49	107	182	200	299
Non-Labor	416	6	66	142	321
NSE	0	0	0	0	0
<b>Total</b>	<b>465</b>	<b>114</b>	<b>247</b>	<b>342</b>	<b>620</b>
FTE	0.5	1.0	1.4	1.8	2.5
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	7	17	29	31	50
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>7</b>	<b>17</b>	<b>29</b>	<b>31</b>	<b>50</b>
FTE	0.1	0.2	0.2	0.3	0.5
<b>Escalation to 2016\$</b>					
Labor	4	6	7	4	0
Non-Labor	29	0	2	2	0
NSE	0	0	0	0	0
<b>Total</b>	<b>33</b>	<b>7</b>	<b>9</b>	<b>6</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	61	131	218	235	349
Non-Labor	445	7	68	144	321
NSE	0	0	0	0	0
<b>Total</b>	<b>506</b>	<b>138</b>	<b>286</b>	<b>379</b>	<b>670</b>
FTE	0.6	1.2	1.6	2.1	3.0

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
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Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: A. Applications  
 Category-Sub: 1. Applications  
 Cost Center: 2100-3848.000 - CUSTOMER ANALYTICS SYSTEM

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Cost Center: VARIOUS

**Summary for Category: B. Infrastructure**

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	9,258	9,353	9,353	9,353
Non-Labor	26,761	27,342	27,966	28,885
NSE	0	0	0	0
<b>Total</b>	<b>36,019</b>	<b>36,695</b>	<b>37,319</b>	<b>38,238</b>
FTE	83.2	84.1	84.1	84.1

**Cost Centers belonging to this Category:**

**2100-0207.000 TELECOM FIELD VOICE - SDGE**

Labor	1,612	1,612	1,612	1,612
Non-Labor	433	683	433	433
NSE	0	0	0	0
<b>Total</b>	<b>2,045</b>	<b>2,295</b>	<b>2,045</b>	<b>2,045</b>
FTE	14.9	14.9	14.9	14.9

**2100-3095.000 NETWORK COMMUNICATION SERVICES DIRECTOR**

Labor	0	0	0	0
Non-Labor	34	34	34	34
NSE	0	0	0	0
<b>Total</b>	<b>34</b>	<b>34</b>	<b>34</b>	<b>34</b>
FTE	0.0	0.0	0.0	0.0

**2100-3097.000 CLIENT TECHNOLOGY & DEPOT SERVICES**

Labor	1,074	1,074	1,074	1,074
Non-Labor	581	581	581	581
NSE	0	0	0	0
<b>Total</b>	<b>1,655</b>	<b>1,655</b>	<b>1,655</b>	<b>1,655</b>
FTE	10.5	10.5	10.5	10.5

**2100-3100.000 MIDDLEWARE AND INTERNET ENGINEERING**

Labor	536	536	536	536
Non-Labor	33	33	33	33
NSE	0	0	0	0
<b>Total</b>	<b>569</b>	<b>569</b>	<b>569</b>	<b>569</b>
FTE	4.9	4.9	4.9	4.9

**2100-3106.000 NETWORK/TELECOM SERVICES - SDG&E**

Labor	0	0	0	0
Non-Labor	5,703	5,295	5,599	5,947
NSE	0	0	0	0
<b>Total</b>	<b>5,703</b>	<b>5,295</b>	<b>5,599</b>	<b>5,947</b>
FTE	0.0	0.0	0.0	0.0

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
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Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Cost Center: VARIOUS

In 2016\$ (000) Incurred Costs			
Adjusted-Recorded	Adjusted-Forecast		
2016	2017	2018	2019

**2100-3107.000 ENTERPRISE OPERATIONS**

Labor	0	0	0	0
Non-Labor	2	2	2	2
NSE	0	0	0	0
<b>Total</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
FTE	0.0	0.0	0.0	0.0

**2100-3334.000 SERVER MANAGEMENT**

Labor	877	877	877	877
Non-Labor	11	11	11	11
NSE	0	0	0	0
<b>Total</b>	<b>888</b>	<b>888</b>	<b>888</b>	<b>888</b>
FTE	8.1	8.1	8.1	8.1

**2100-3498.000 INFRASTRUCTURE PROGRAM OFFICE**

Labor	241	241	241	241
Non-Labor	127	127	127	127
NSE	0	0	0	0
<b>Total</b>	<b>368</b>	<b>368</b>	<b>368</b>	<b>368</b>
FTE	1.6	1.6	1.6	1.6

**2100-3500.000 IT NETWORK FIELD - LAN/WAN VOICE**

Labor	-5	0	0	0
Non-Labor	1	1	1	1
NSE	0	0	0	0
<b>Total</b>	<b>-4</b>	<b>1</b>	<b>1</b>	<b>1</b>
FTE	-0.1	0.0	0.0	0.0

**2100-3502.000 ENTERPRISE COMMAND CENTER**

Labor	1,812	1,812	1,812	1,812
Non-Labor	275	275	275	275
NSE	0	0	0	0
<b>Total</b>	<b>2,087</b>	<b>2,087</b>	<b>2,087</b>	<b>2,087</b>
FTE	17.0	17.0	17.0	17.0

**2100-3683.000 PROJECT IMPROVEMENT OFFICE-NCS**

Labor	195	195	195	195
Non-Labor	21	21	21	21
NSE	0	0	0	0
<b>Total</b>	<b>216</b>	<b>216</b>	<b>216</b>	<b>216</b>
FTE	2.0	2.0	2.0	2.0

**2100-3684.000 SERVICE DELIVERY - NCS**

Labor	663	663	663	663
Non-Labor	104	104	104	104
NSE	0	0	0	0
<b>Total</b>	<b>767</b>	<b>767</b>	<b>767</b>	<b>767</b>
FTE	6.9	6.9	6.9	6.9

Note: Totals may include rounding differences.

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Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Cost Center: VARIOUS

In 2016\$ (000) Incurred Costs			
Adjusted-Recorded	Adjusted-Forecast		
2016	2017	2018	2019

**2100-3698.000 SERVICE DEVELOPMENT PROGRAM MANAGEMENT**

Labor	292	292	292	292
Non-Labor	1	1	1	1
NSE	0	0	0	0
<b>Total</b>	<b>293</b>	<b>293</b>	<b>293</b>	<b>293</b>
FTE	2.6	2.6	2.6	2.6

**2100-3814.000 DIRECTOR IT INFRASTRUCTURE**

Labor	434	524	524	524
Non-Labor	431	575	575	575
NSE	0	0	0	0
<b>Total</b>	<b>865</b>	<b>1,099</b>	<b>1,099</b>	<b>1,099</b>
FTE	2.1	2.9	2.9	2.9

**2100-3824.000 INFRASTR PRGRM OFFICE**

Labor	552	552	552	552
Non-Labor	345	184	194	205
NSE	0	0	0	0
<b>Total</b>	<b>897</b>	<b>736</b>	<b>746</b>	<b>757</b>
FTE	4.5	4.5	4.5	4.5

**2100-3855.000 CLINT SERVICES MAINTENANCE & SUPPORT**

Labor	0	0	0	0
Non-Labor	2	2	2	2
NSE	0	0	0	0
<b>Total</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
FTE	0.0	0.0	0.0	0.0

**2100-3856.000 VOICE LEASED CIRCUITS**

Labor	0	0	0	0
Non-Labor	2,328	867	919	974
NSE	0	0	0	0
<b>Total</b>	<b>2,328</b>	<b>867</b>	<b>919</b>	<b>974</b>
FTE	0.0	0.0	0.0	0.0

**2100-3884.000 MGD SVC VOICE ENTERP**

Labor	0	0	0	0
Non-Labor	832	2,133	2,261	2,397
NSE	0	0	0	0
<b>Total</b>	<b>832</b>	<b>2,133</b>	<b>2,261</b>	<b>2,397</b>
FTE	0.0	0.0	0.0	0.0

**2100-3885.000 VOICE ENTERP SUPPORT**

Labor	418	418	418	418
Non-Labor	85	85	85	85
NSE	0	0	0	0
<b>Total</b>	<b>503</b>	<b>503</b>	<b>503</b>	<b>503</b>
FTE	3.2	3.2	3.2	3.2

Note: Totals may include rounding differences.



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Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Cost Center: VARIOUS

In 2016\$ (000) Incurred Costs			
Adjusted-Recorded	Adjusted-Forecast		
2016	2017	2018	2019

**2100-3888.000 IT PORTFOLIO MANAGEMENT**

Labor	63	63	63	63
Non-Labor	4	4	4	4
NSE	0	0	0	0
<b>Total</b>	<b>67</b>	<b>67</b>	<b>67</b>	<b>67</b>
FTE	0.9	0.9	0.9	0.9

**2100-3900.000 IT PORTFOLIO MANAGEMENT**

Labor	255	255	255	255
Non-Labor	33	33	33	33
NSE	0	0	0	0
<b>Total</b>	<b>288</b>	<b>288</b>	<b>288</b>	<b>288</b>
FTE	2.0	2.0	2.0	2.0

**2100-3916.000 BI & ANALYTICS ENGINEERING-SAS CONTRACTS**

Labor	0	0	0	0
Non-Labor	4,045	4,288	4,545	4,818
NSE	0	0	0	0
<b>Total</b>	<b>4,045</b>	<b>4,288</b>	<b>4,545</b>	<b>4,818</b>
FTE	0.0	0.0	0.0	0.0

**2100-3921.000 IT&OTI CONTRACTS SS**

Labor	0	0	0	0
Non-Labor	9,812	10,401	10,436	10,438
NSE	0	0	0	0
<b>Total</b>	<b>9,812</b>	<b>10,401</b>	<b>10,436</b>	<b>10,438</b>
FTE	0.0	0.0	0.0	0.0

**2100-3924.000 BI & ANALYTICS OPS-SAP CONTRACTS**

Labor	0	0	0	0
Non-Labor	1,233	1,307	1,385	1,468
NSE	0	0	0	0
<b>Total</b>	<b>1,233</b>	<b>1,307</b>	<b>1,385</b>	<b>1,468</b>
FTE	0.0	0.0	0.0	0.0

**2100-3926.000 IT Communications**

Labor	0	0	0	0
Non-Labor	162	172	182	193
NSE	0	0	0	0
<b>Total</b>	<b>162</b>	<b>172</b>	<b>182</b>	<b>193</b>
FTE	0.0	0.0	0.0	0.0

**2100-3954.000 IT TELECOM PMO**

Labor	87	87	87	87
Non-Labor	1	1	1	1
NSE	0	0	0	0
<b>Total</b>	<b>88</b>	<b>88</b>	<b>88</b>	<b>88</b>
FTE	0.7	0.7	0.7	0.7

Note: Totals may include rounding differences.

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Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Cost Center: VARIOUS

In 2016\$ (000) Incurred Costs			
Adjusted-Recorded	Adjusted-Forecast		
2016	2017	2018	2019

**2100-3975.000 SDGE NETWORK ENGINEERING**

Labor	152	152	152	152
Non-Labor	122	122	122	122
NSE	0	0	0	0
<b>Total</b>	<b>274</b>	<b>274</b>	<b>274</b>	<b>274</b>
FTE	1.4	1.4	1.4	1.4

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-0207.000 - TELECOM FIELD VOICE - SDGE**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-0207.000 - TELECOM FIELD VOICE - SDGE

**Activity Description:**

This cost center is responsible for the installation and maintenance of telecom equipment including PBXs, microwave, data and mobile radio services across the SDG&E service territory, including Corporate Center (parent).

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

NA

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		1,977	1,936	1,482	1,680	1,612	1,612	1,612	1,612	
Non-Labor		699	518	582	591	433	682	432	432	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>2,677</b>	<b>2,454</b>	<b>2,064</b>	<b>2,271</b>	<b>2,045</b>	<b>2,294</b>	<b>2,044</b>	<b>2,044</b>	
FTE		20.0	18.9	14.5	15.5	14.9	14.8	14.8	14.8	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
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Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-0207.000 - TELECOM FIELD VOICE - SDGE

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	9	4	0	13	0.0	9	4	0	13	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	1,603	428	0	2,031	14.8	1,603	678	0	2,281	14.8
<b>Total Incurred</b>	<b>1,612</b>	<b>432</b>	<b>0</b>	<b>2,044</b>	<b>14.8</b>	<b>1,612</b>	<b>682</b>	<b>0</b>	<b>2,294</b>	<b>14.8</b>
<b>% Allocation</b>										
Retained	98.39%	98.39%				98.39%	98.39%			
SEU	0.00%	0.00%				0.00%	0.00%			
CORP	1.61%	1.61%				1.61%	1.61%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	9	4	0	13	0.0	9	4	0	13	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	1,603	428	0	2,031	14.8	1,603	428	0	2,031	14.8
<b>Total Incurred</b>	<b>1,612</b>	<b>432</b>	<b>0</b>	<b>2,044</b>	<b>14.8</b>	<b>1,612</b>	<b>432</b>	<b>0</b>	<b>2,044</b>	<b>14.8</b>
<b>% Allocation</b>										
Retained	98.39%	98.39%				98.39%	98.39%			
SEU	0.00%	0.00%				0.00%	0.00%			
CORP	1.61%	1.61%				1.61%	1.61%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-0207.000 - TELECOM FIELD VOICE - SDGE

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on the number of Network Sites used across SDG&E and the Parent. The use of Network Sites is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

Calculations are based on the number of Network Sites used across SDG&E and the Parent. The use of Network Sites is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

Calculations are based on the number of Network Sites used across SDG&E and the Parent. The use of Network Sites is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

Calculations are based on the number of Network Sites used across SDG&E and the Parent. The use of Network Sites is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-0207.000 - TELECOM FIELD VOICE - SDGE

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	1,612	1,612	1,612	0	0	0	1,612	1,612	1,612
Non-Labor	Base YR Rec	433	433	433	250	0	0	683	433	433
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>2,045</b>	<b>2,045</b>	<b>2,045</b>	<b>250</b>	<b>0</b>	<b>0</b>	<b>2,295</b>	<b>2,045</b>	<b>2,045</b>
FTE	Base YR Rec	14.9	14.9	14.9	0.0	0.0	0.0	14.9	14.9	14.9

**Forecast Adjustment Details:**

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	0	250	0	250	0.0	1-Sided Adj	SHAO20161130150750360	
<b>Explanation:</b>		Tower Inspection expense in 2017							
<b>2017 Total</b>		<b>0</b>	<b>250</b>	<b>0</b>	<b>250</b>	<b>0.0</b>			
<b>2018 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			
<b>2019 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
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Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-0207.000 - TELECOM FIELD VOICE - SDGE

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	1,033	1,589	1,236	1,431	1,383
Non-Labor	342	476	563	582	433
NSE	0	0	0	0	0
<b>Total</b>	<b>1,375</b>	<b>2,065</b>	<b>1,799</b>	<b>2,013</b>	<b>1,816</b>
FTE	10.4	16.2	12.3	13.2	12.6
<b>Adjustments (Nominal \$) **</b>					
Labor	580	0	0	0	0
Non-Labor	311	17	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>891</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	6.7	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	1,613	1,589	1,236	1,431	1,383
Non-Labor	653	492	563	582	433
NSE	0	0	0	0	0
<b>Total</b>	<b>2,266</b>	<b>2,081</b>	<b>1,799</b>	<b>2,013</b>	<b>1,816</b>
FTE	17.1	16.2	12.3	13.2	12.6
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	234	252	197	221	229
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>234</b>	<b>252</b>	<b>197</b>	<b>221</b>	<b>229</b>
FTE	2.8	2.8	2.2	2.3	2.3
<b>Escalation to 2016\$</b>					
Labor	131	95	49	27	0
Non-Labor	46	26	19	10	0
NSE	0	0	0	0	0
<b>Total</b>	<b>177</b>	<b>121</b>	<b>68</b>	<b>37</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	1,977	1,936	1,482	1,680	1,612
Non-Labor	699	518	582	591	433
NSE	0	0	0	0	0
<b>Total</b>	<b>2,677</b>	<b>2,454</b>	<b>2,064</b>	<b>2,271</b>	<b>2,045</b>
FTE	19.9	19.0	14.5	15.5	14.9

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-0207.000 - TELECOM FIELD VOICE - SDGE

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	580	-0.380	0	0	0
Non-Labor	311	17	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>891</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	6.7	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	580	309	0	6.7	CCTR Transf From 2100-3835.000	SHAO20170308140452140
<b>Explanation:</b> Network Integration costs move to cost center 2100-0207. Cost center 2100-3835 has been retired.							
2012	Other	0	2	0	0.0	CCTR Transf From 2100-3835.000	SHAO20170308140524953
<b>Explanation:</b> Network Integration costs move to cost center 2100-0207. Cost center 2100-3835 has been retired.							
2012	Other	0	0	0	0.0	CCTR Transf From 2100-3835.000	SHAO20170308140545190
<b>Explanation:</b> Network Integration costs move to cost center 2100-0207. Cost center 2100-3835 has been retired.							
<b>2012 Total</b>		<b>580</b>	<b>311</b>	<b>0</b>	<b>6.7</b>		
2013	Other	0	17	0	0.0	CCTR Transf From 2100-3835.000	SHAO20170308140639910
<b>Explanation:</b> Network Integration costs move to cost center 2100-0207. Cost center 2100-3835 has been retired.							
<b>2013 Total</b>		<b>0</b>	<b>17</b>	<b>0</b>	<b>0.0</b>		
<b>2014 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2015 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2016 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3095.000 - NETORK COMMUNICATION SERVICES DIRECTOR**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3095.000 - NETORK COMMUNICATION SERVICES DIRECTOR

**Activity Description:**

This cost center includes the Director of ITOTI and his administrative support. Activities include department level management for plan, design, build, implementation and management of system-wide network and telecommunications infrastructure.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Zero-Based**

NA

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		0	143	216	129	0	0	0	0	
Non-Labor		64	32	43	59	34	34	34	34	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>64</b>	<b>175</b>	<b>259</b>	<b>189</b>	<b>34</b>	<b>34</b>	<b>34</b>	<b>34</b>	
FTE		0.0	0.9	1.3	0.5	0.0	0.0	0.0	0.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3095.000 - NETORK COMMUNICATION SERVICES DIRECTOR

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	34	0	34	0.0	0	34	0	34	0.0
<b>Total Incurred</b>	<b>0</b>	<b>34</b>	<b>0</b>	<b>34</b>	<b>0.0</b>	<b>0</b>	<b>34</b>	<b>0</b>	<b>34</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	48.58%	48.58%				49.86%	49.86%			
SEU	50.35%	50.35%				49.07%	49.07%			
CORP	1.07%	1.07%				1.07%	1.07%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	34	0	34	0.0	0	34	0	34	0.0
<b>Total Incurred</b>	<b>0</b>	<b>34</b>	<b>0</b>	<b>34</b>	<b>0.0</b>	<b>0</b>	<b>34</b>	<b>0</b>	<b>34</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	49.86%	49.86%				49.86%	49.86%			
SEU	49.07%	49.07%				49.07%	49.07%			
CORP	1.07%	1.07%				1.07%	1.07%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3095.000 - NETWORK COMMUNICATION SERVICES DIRECTOR

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on department weighted average. The use of department weighted average is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

Calculations are based on department weighted average. The use of department weighted average is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

Calculations are based on department weighted average. The use of department weighted average is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

Calculations are based on department weighted average. The use of department weighted average is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3095.000 - NETORK COMMUNICATION SERVICES DIRECTOR

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	0	0	0	0	0	0	0	0	0
Non-Labor	Base YR Rec	34	34	34	0	0	0	34	34	34
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>34</b>	<b>34</b>	<b>34</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>34</b>	<b>34</b>	<b>34</b>
FTE	Base YR Rec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3095.000 - NETORK COMMUNICATION SERVICES DIRECTOR

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	170	117	180	110	0
Non-Labor	66	31	41	58	34
NSE	0	0	0	0	0
<b>Total</b>	<b>236</b>	<b>148</b>	<b>222</b>	<b>168</b>	<b>34</b>
FTE	1.3	0.9	1.1	0.4	0.0
<b>Adjustments (Nominal \$) **</b>					
Labor	-170	0	0	0	0
Non-Labor	-6	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-176</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	-2.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	117	180	110	0
Non-Labor	60	31	41	58	34
NSE	0	0	0	0	0
<b>Total</b>	<b>60</b>	<b>148</b>	<b>222</b>	<b>168</b>	<b>34</b>
FTE	-0.7	0.9	1.1	0.4	0.0
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	19	29	17	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>19</b>	<b>29</b>	<b>17</b>	<b>0</b>
FTE	-0.1	0.2	0.2	0.1	0.0
<b>Escalation to 2016\$</b>					
Labor	0	7	7	2	0
Non-Labor	4	2	1	1	0
NSE	0	0	0	0	0
<b>Total</b>	<b>4</b>	<b>9</b>	<b>9</b>	<b>3</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	0	143	216	129	0
Non-Labor	64	32	43	59	34
NSE	0	0	0	0	0
<b>Total</b>	<b>64</b>	<b>175</b>	<b>259</b>	<b>189</b>	<b>34</b>
FTE	-0.8	1.1	1.3	0.5	0.0

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3095.000 - NETORK COMMUNICATION SERVICES DIRECTOR

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-170	0	0	0	0
Non-Labor	-6	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-176</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	-2.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	-170	-6	0	-2.0	CCTR Transf To 2200-2406.000	SOMAHONY20161104165146790

**Explanation:** IT Employee Transfer from SDGE to SCG as of 2013.

<b>2012 Total</b>		<b>-170</b>	<b>-6</b>	<b>0</b>	<b>-2.0</b>		
<b>2013 Total</b>		0	0	0	0.0		
<b>2014 Total</b>		0	0	0	0.0		
<b>2015 Total</b>		0	0	0	0.0		
<b>2016 Total</b>		0	0	0	0.0		

*Note: Totals may include rounding differences.*



**Beginning of Workpaper**  
**2100-3097.000 - CLIENT TECHNOLOGY & DEPOT SERVICES**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3097.000 - CLIENT TECHNOLOGY & DEPOT SERVICES

**Activity Description:**

Provides management and support services for system-wide Client Technology and Depot services.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Zero-Based**

NA

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		2,057	1,013	1,297	1,139	1,074	1,074	1,074	1,074	
Non-Labor		997	132	27	425	581	581	581	581	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>3,054</b>	<b>1,144</b>	<b>1,324</b>	<b>1,564</b>	<b>1,655</b>	<b>1,655</b>	<b>1,655</b>	<b>1,655</b>	
FTE		21.0	10.9	13.4	10.7	10.5	10.5	10.5	10.5	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3097.000 - CLIENT TECHNOLOGY & DEPOT SERVICES

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	4	0	4	0.0	0	4	0	4	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	1,074	577	0	1,651	10.5	1,074	577	0	1,651	10.5
<b>Total Incurred</b>	<b>1,074</b>	<b>581</b>	<b>0</b>	<b>1,655</b>	<b>10.5</b>	<b>1,074</b>	<b>581</b>	<b>0</b>	<b>1,655</b>	<b>10.5</b>
<b>% Allocation</b>										
Retained	34.50%	34.50%				36.42%	36.42%			
SEU	61.91%	61.91%				59.94%	59.94%			
CORP	3.59%	3.59%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

  

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	4	0	4	0.0	0	4	0	4	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	1,074	577	0	1,651	10.5	1,074	577	0	1,651	10.5
<b>Total Incurred</b>	<b>1,074</b>	<b>581</b>	<b>0</b>	<b>1,655</b>	<b>10.5</b>	<b>1,074</b>	<b>581</b>	<b>0</b>	<b>1,655</b>	<b>10.5</b>
<b>% Allocation</b>										
Retained	36.42%	36.42%				36.42%	36.42%			
SEU	59.94%	59.94%				59.94%	59.94%			
CORP	3.64%	3.64%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3097.000 - CLIENT TECHNOLOGY & DEPOT SERVICES

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

This cost center provides infrastructure computing services for computer users at SDGE, SCG, and Parent. Computer users are provided a LAN ID in order to access and use the services provided by IT & Client Services cost centers. Therefore, LAN ID is the most representative determination for the allocation of costs to SDGE, SCG, and Parent. In addition, LAN ID is assigned specifically to the users at the respective companies and is the most efficient and streamlined method to accurately determine the use of services by the various companies. LAN IDs are assigned to all types of workers, employees and non-employees, providing an improved allocation measure compared to employee FTE counts. The LAN ID use across companies will be measured on an annual basis at the end of the fiscal year and changed accordingly for the next fiscal year if company usage changes.

**Cost Center Allocation Percentage for 2017**

This cost center provides infrastructure computing services for computer users at SDGE, SCG, and Parent. Computer users are provided a LAN ID in order to access and use the services provided by IT & Client Services cost centers. Therefore, LAN ID is the most representative determination for the allocation of costs to SDGE, SCG, and Parent. In addition, LAN ID is assigned specifically to the users at the respective companies and is the most efficient and streamlined method to accurately determine the use of services by the various companies. LAN IDs are assigned to all types of workers, employees and non-employees, providing an improved allocation measure compared to employee FTE counts. The LAN ID use across companies will be measured on an annual basis at the end of the fiscal year and changed accordingly for the next fiscal year if company usage changes.

**Cost Center Allocation Percentage for 2018**

This cost center provides infrastructure computing services for computer users at SDGE, SCG, and Parent. Computer users are provided a LAN ID in order to access and use the services provided by IT & Client Services cost centers. Therefore, LAN ID is the most representative determination for the allocation of costs to SDGE, SCG, and Parent. In addition, LAN ID is assigned specifically to the users at the respective companies and is the most efficient and streamlined method to accurately determine the use of services by the various companies. LAN IDs are assigned to all types of workers, employees and non-employees, providing an improved allocation measure compared to employee FTE counts. The LAN ID use across companies will be measured on an annual basis at the end of the fiscal year and changed accordingly for the next fiscal year if company usage changes.

**Cost Center Allocation Percentage for 2019**

This cost center provides infrastructure computing services for computer users at SDGE, SCG, and Parent. Computer users are provided a LAN ID in order to access and use the services provided by IT & Client Services cost centers. Therefore, LAN ID is the most representative determination for the allocation of costs to SDGE, SCG, and Parent. In addition, LAN ID is assigned specifically to the users at the respective companies and is the most efficient and streamlined method to accurately determine the use of services by the various companies. LAN IDs are assigned to all types of workers, employees and non-employees, providing an improved allocation measure compared to employee FTE counts. The LAN ID use across companies will be measured on an annual basis at the end of the fiscal year and changed accordingly for the next fiscal year if company usage changes.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3097.000 - CLIENT TECHNOLOGY & DEPOT SERVICES

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	1,074	1,074	1,074	0	0	0	1,074	1,074	1,074
Non-Labor	Base YR Rec	581	581	581	0	0	0	581	581	581
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>1,655</b>	<b>1,655</b>	<b>1,655</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,655</b>	<b>1,655</b>	<b>1,655</b>
FTE	Base YR Rec	10.5	10.5	10.5	0.0	0.0	0.0	10.5	10.5	10.5

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3097.000 - CLIENT TECHNOLOGY & DEPOT SERVICES

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	944	692	1,082	971	921
Non-Labor	125	50	26	418	581
NSE	0	0	0	0	0
<b>Total</b>	<b>1,069</b>	<b>742</b>	<b>1,108</b>	<b>1,389</b>	<b>1,502</b>
FTE	11.7	7.8	11.4	9.1	8.9
<b>Adjustments (Nominal \$) **</b>					
Labor	735	139	0	0	0
Non-Labor	807	75	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>1,541</b>	<b>214</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	6.5	1.5	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	1,678	831	1,082	971	921
Non-Labor	932	125	26	418	581
NSE	0	0	0	0	0
<b>Total</b>	<b>2,610</b>	<b>956</b>	<b>1,108</b>	<b>1,389</b>	<b>1,502</b>
FTE	18.2	9.3	11.4	9.1	8.9
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	243	132	173	150	153
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>243</b>	<b>132</b>	<b>173</b>	<b>150</b>	<b>153</b>
FTE	2.9	1.6	2.0	1.6	1.6
<b>Escalation to 2016\$</b>					
Labor	136	50	43	18	0
Non-Labor	66	6	1	7	0
NSE	0	0	0	0	0
<b>Total</b>	<b>202</b>	<b>56</b>	<b>44</b>	<b>25</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	2,057	1,013	1,297	1,139	1,074
Non-Labor	997	132	27	425	581
NSE	0	0	0	0	0
<b>Total</b>	<b>3,054</b>	<b>1,144</b>	<b>1,324</b>	<b>1,564</b>	<b>1,655</b>
FTE	21.1	10.9	13.4	10.7	10.5

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3097.000 - CLIENT TECHNOLOGY & DEPOT SERVICES

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	735	139	0	0	0
Non-Labor	807	75	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>1,541</b>	<b>214</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	6.5	1.5	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	733	142	0	7.7	CCTR Transf From 2100-3548.000	SHAO20170308112414793
<b>Explanation:</b> SempraHelp & IT Management costs move to cost center 2100-3097. Cost center 2100-3548 has been retired.							
2012	Other	-171	-9	0	-2.0	CCTR Transf To 2200-2453.000	SOMAHONY20161104185022000
<b>Explanation:</b> IT Employee Transfer from SDGE to SCG as of 2013.							
2012	Other	-89	-3	0	-1.0	CCTR Transf To 2200-2455.000	SOMAHONY20161104185445357
<b>Explanation:</b> IT Employee Transfer from SDGE to SCG as of 2013.							
2012	Other	259	672	0	1.8	CCTR Transf From 2100-3096.000	SHAO20170308103440287
<b>Explanation:</b> CI Client Advocacy costs move to cost center 2100-3097. Cost center 2100-3096 has been retired.							
2012	Other	3	3	0	0.0	CCTR Transf From 2100-3096.000	SHAO20170308103818310
<b>Explanation:</b> CI Client Advocacy costs move to cost center 2100-3097. Cost center 2100-3096 has been retired.							
2012	Other	0	1	0	0.0	CCTR Transf From 2100-3096.000	SHAO20170308103942267
<b>Explanation:</b> CI Client Advocacy costs move to cost center 2100-3097. Cost center 2100-3096 has been retired.							
<b>2012 Total</b>		<b>735</b>	<b>807</b>	<b>0</b>	<b>6.5</b>		
2013	Other	139	75	0	1.5	CCTR Transf From 2100-3548.000	SHAO20170308112643027
<b>Explanation:</b> SempraHelp & IT Management costs move to cost center 2100-3097. Cost center 2100-3548 has been retired.							
<b>2013 Total</b>		<b>139</b>	<b>75</b>	<b>0</b>	<b>1.5</b>		

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3097.000 - CLIENT TECHNOLOGY & DEPOT SERVICES

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

*Note: Totals may include rounding differences.*



**Beginning of Workpaper**  
**2100-3100.000 - MIDDLEWARE AND INTERNET ENGINEERING**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3100.000 - MIDDLEWARE AND INTERNET ENGINEERING

**Activity Description:**

Infrastructure engineering support for the following systems: email, Gateways, FTP, Enterprise System Management, middleware and Internet technologies such as directories and web and application servers that are used on a system-wide basis.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Zero-Based**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		1,645	1,174	346	253	536	536	536	536	
Non-Labor		20	209	11	77	33	34	34	34	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>1,665</b>	<b>1,383</b>	<b>357</b>	<b>330</b>	<b>569</b>	<b>570</b>	<b>570</b>	<b>570</b>	
FTE		14.9	10.5	3.1	2.5	4.9	4.9	4.9	4.9	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3100.000 - MIDDLEWARE AND INTERNET ENGINEERING

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	3	2	0	5	0.0	3	2	0	5	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	533	32	0	565	4.9	533	32	0	565	4.9
<b>Total Incurred</b>	<b>536</b>	<b>34</b>	<b>0</b>	<b>570</b>	<b>4.9</b>	<b>536</b>	<b>34</b>	<b>0</b>	<b>570</b>	<b>4.9</b>
<b>% Allocation</b>										
Retained	47.47%	47.47%				47.47%	47.47%			
SEU	48.28%	48.28%				48.28%	48.28%			
CORP	4.25%	4.25%				4.25%	4.25%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	3	2	0	5	0.0	3	2	0	5	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	533	32	0	565	4.9	533	32	0	565	4.9
<b>Total Incurred</b>	<b>536</b>	<b>34</b>	<b>0</b>	<b>570</b>	<b>4.9</b>	<b>536</b>	<b>34</b>	<b>0</b>	<b>570</b>	<b>4.9</b>
<b>% Allocation</b>										
Retained	47.47%	47.47%				47.47%	47.47%			
SEU	48.28%	48.28%				48.28%	48.28%			
CORP	4.25%	4.25%				4.25%	4.25%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3100.000 - MIDDLEWARE AND INTERNET ENGINEERING

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on the number of server counts s used across each utility and Parent (corporatecenter). The use of server counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

Calculations are based on the number of server counts s used across each utility and Parent (corporatecenter). The use of server counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

Calculations are based on the number of server counts s used across each utility and Parent (corporatecenter). The use of server counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

Calculations are based on the number of server counts s used across each utility and Parent (corporatecenter). The use of server counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3100.000 - MIDDLEWARE AND INTERNET ENGINEERING

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	536	536	536	0	0	0	536	536	536
Non-Labor	Base YR Rec	33	33	33	0	0	0	33	33	33
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>569</b>	<b>569</b>	<b>569</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>569</b>	<b>569</b>	<b>569</b>
FTE	Base YR Rec	4.9	4.9	4.9	0.0	0.0	0.0	4.9	4.9	4.9

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3100.000 - MIDDLEWARE AND INTERNET ENGINEERING

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	1,010	921	288	216	460
Non-Labor	31	198	10	76	33
NSE	0	0	0	0	0
<b>Total</b>	<b>1,041</b>	<b>1,119</b>	<b>299</b>	<b>292</b>	<b>493</b>
FTE	10.1	8.5	2.6	2.1	4.1
<b>Adjustments (Nominal \$) **</b>					
Labor	332	42	0	0	0
Non-Labor	-12	1	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>319</b>	<b>43</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	2.8	0.5	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	1,342	963	288	216	460
Non-Labor	19	199	10	76	33
NSE	0	0	0	0	0
<b>Total</b>	<b>1,361</b>	<b>1,162</b>	<b>299</b>	<b>292</b>	<b>493</b>
FTE	12.9	9.0	2.6	2.1	4.1
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	194	153	46	33	76
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>194</b>	<b>153</b>	<b>46</b>	<b>33</b>	<b>76</b>
FTE	2.1	1.6	0.5	0.4	0.8
<b>Escalation to 2016\$</b>					
Labor	109	58	11	4	0
Non-Labor	1	10	0	1	0
NSE	0	0	0	0	0
<b>Total</b>	<b>110</b>	<b>68</b>	<b>12</b>	<b>5</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	1,645	1,174	346	253	536
Non-Labor	20	209	11	77	33
NSE	0	0	0	0	0
<b>Total</b>	<b>1,665</b>	<b>1,383</b>	<b>357</b>	<b>330</b>	<b>569</b>
FTE	15.0	10.6	3.1	2.5	4.9

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3100.000 - MIDDLEWARE AND INTERNET ENGINEERING

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	332	42	0	0	0
Non-Labor	-12	0.602	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>319</b>	<b>43</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	2.8	0.5	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	-65	-3	0	-1.0	CCTR Transf To 2200-2464.000	SOMAHONY20161104191547710
<b>Explanation:</b> IT Employee Transfer from SDGE to SCG as of 2013.							
2012	Other	-73	-3	0	-1.0	CCTR Transf To 2200-2463.000	SOMAHONY20161104191839333
<b>Explanation:</b> IT Employee Transfer from SDGE to SCG as of 2013.							
2012	Other	-46	-3	0	0.0	CCTR Transf To 2200-2467.000	SOMAHONY20161104194152700
<b>Explanation:</b> IT Employee Transfer from SDGE to SCG as of 2013.							
2012	Other	414	-5	0	4.3	CCTR Transf From 2100-3098.000	SHAO20170307142007590
<b>Explanation:</b> Enterprise server costs move to cost center 2100-3100. Cost center 2100-3098 has been retired.							
2012	Other	17	0	0	0.1	CCTR Transf From 2100-3098.000	SHAO20170307142623827
<b>Explanation:</b> Enterprise server costs move to cost center 2100-3100. Cost center 2100-3098 has been retired.							
2012	Other	52	2	0	0.0	CCTR Transf From 2100-3105.000	SHAO20170307134452877
<b>Explanation:</b> Storage Infrastructure costs move to cost center 2100-3100. Cost center 2100-3105 has been retired.							
2012	Other	32	0	0	0.3	CCTR Transf From 2100-3105.000	SHAO20170307135239380
<b>Explanation:</b> Storage Infrastructure costs move to cost center 2100-3100. Cost center 2100-3105 has been retired.							
2012	Other	0	0	0	0.1	CCTR Transf From 2100-3105.000	SHAO20170307135517430
<b>Explanation:</b> Storage Infrastructure costs move to cost center 2100-3100. Cost center 2100-3105 has been retired.							
<b>2012 Total</b>		<b>332</b>	<b>-12</b>	<b>0</b>	<b>2.8</b>		

2013 Other 30 0 0 0.3 CCTR Transf From 2100-3098.000 SHAO20170307142849583  
**Explanation:** Enterprise server costs move to cost center 2100-3100. Cost center 2100-3098 has been retired.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3100.000 - MIDDLEWARE AND INTERNET ENGINEERING

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2013	Other	13	0	0	0.2	CCTR Transf From 2100-3105.000	SHAO20170308142747357
<b>Explanation:</b> Storage Infrastructure costs move to cost center 2100-3100. Cost center 2100-3105 has been retired.							
<b>2013 Total</b>		<b>42</b>	<b>1</b>	<b>0</b>	<b>0.5</b>		
<b>2014 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2015 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2016 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		

*Note: Totals may include rounding differences.*



**Beginning of Workpaper**  
**2100-3106.000 - NETWORK/TELECOM SERVICES - SDG&E**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3106.000 - NETWORK/TELECOM SERVICES - SDG&E

**Activity Description:**

Provides system-wide leased lines for transmission of voice and data information for utilities and affiliates including circuits, trunks, long distance, remote access, and vendor costs for billing analysis.

**Forecast Explanations:**

**Labor - Base YR Rec**

No labor in this cost center

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Zero-Based**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		0	0	0	0	0	0	0	0	
Non-Labor		7,024	6,145	6,091	5,581	5,703	5,295	5,599	5,947	
NSE		0	0	0	0	0	0	0	0	
	<b>Total</b>	<b>7,024</b>	<b>6,145</b>	<b>6,091</b>	<b>5,581</b>	<b>5,703</b>	<b>5,295</b>	<b>5,599</b>	<b>5,947</b>	
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3106.000 - NETWORK/TELECOM SERVICES - SDG&E

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	482	0	482	0.0	0	482	0	482	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	5,221	0	5,221	0.0	0	4,813	0	4,813	0.0
<b>Total Incurred</b>	<b>0</b>	<b>5,703</b>	<b>0</b>	<b>5,703</b>	<b>0.0</b>	<b>0</b>	<b>5,295</b>	<b>0</b>	<b>5,295</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	63.59%	63.59%				63.59%	63.59%			
SEU	35.37%	35.37%				35.37%	35.37%			
CORP	1.04%	1.04%				1.04%	1.04%			
Unreg	0.00%	0.00%				0.00%	0.00%			

  

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	482	0	482	0.0	0	482	0	482	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	5,117	0	5,117	0.0	0	5,465	0	5,465	0.0
<b>Total Incurred</b>	<b>0</b>	<b>5,599</b>	<b>0</b>	<b>5,599</b>	<b>0.0</b>	<b>0</b>	<b>5,947</b>	<b>0</b>	<b>5,947</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	63.59%	63.59%				63.59%	63.59%			
SEU	35.37%	35.37%				35.37%	35.37%			
CORP	1.04%	1.04%				1.04%	1.04%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3106.000 - NETWORK/TELECOM SERVICES - SDG&E

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on the number of network sites used across each utility and Parent (corporate center). The use of network site counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

Calculations are based on the number of network sites used across each utility and Parent (corporate center). The use of network site counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

Calculations are based on the number of network sites used across each utility and Parent (corporate center). The use of network site counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

Calculations are based on the number of network sites used across each utility and Parent (corporate center). The use of network site counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3106.000 - NETWORK/TELECOM SERVICES - SDG&E

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	0	0	0	0	0	0	0	0	0
Non-Labor	Base YR Rec	5,703	5,703	5,703	-408	-104	244	5,295	5,599	5,947
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>5,703</b>	<b>5,703</b>	<b>5,703</b>	<b>-408</b>	<b>-104</b>	<b>244</b>	<b>5,295</b>	<b>5,599</b>	<b>5,947</b>
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:**

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>	
2017	Other	0	-408	0	-408	0.0	1-Sided Adj	SHAO20161201095441287	
<b>Explanation:</b>		Telecom contracts reduced by \$408k in 2017							
<b>2017 Total</b>		<b>0</b>	<b>-408</b>	<b>0</b>	<b>-408</b>	<b>0.0</b>			
2018	Other	0	-104	0	-104	0.0	1-Sided Adj	SHAO20161201095740663	
<b>Explanation:</b>		Telecom contracts reduced by \$104k in 2018							
<b>2018 Total</b>		<b>0</b>	<b>-104</b>	<b>0</b>	<b>-104</b>	<b>0.0</b>			
2019	Other	0	0	0	0	0.0	1-Sided Adj	SHAO20161201100100947	
<b>Explanation:</b>									
2019	Other	0	244	0	244	0.0	1-Sided Adj	SHAO20161201100344517	
<b>Explanation:</b>		Increase in telecom contracts by \$244k in 2019							
<b>2019 Total</b>		<b>0</b>	<b>244</b>	<b>0</b>	<b>244</b>	<b>0.0</b>			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3106.000 - NETWORK/TELECOM SERVICES - SDG&E

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	0	0	0	0
Non-Labor	6,561	5,842	5,890	5,491	5,703
NSE	0	0	0	0	0
<b>Total</b>	<b>6,561</b>	<b>5,842</b>	<b>5,890</b>	<b>5,491</b>	<b>5,703</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	6,561	5,842	5,890	5,491	5,703
NSE	0	0	0	0	0
<b>Total</b>	<b>6,561</b>	<b>5,842</b>	<b>5,890</b>	<b>5,491</b>	<b>5,703</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Escalation to 2016\$</b>					
Labor	0	0	0	0	0
Non-Labor	464	303	201	90	0
NSE	0	0	0	0	0
<b>Total</b>	<b>464</b>	<b>303</b>	<b>201</b>	<b>90</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	0	0	0	0	0
Non-Labor	7,024	6,145	6,091	5,581	5,703
NSE	0	0	0	0	0
<b>Total</b>	<b>7,024</b>	<b>6,145</b>	<b>6,091</b>	<b>5,581</b>	<b>5,703</b>
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

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3106.000 - NETWORK/TELECOM SERVICES - SDG&E

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3107.000 - ENTERPRISE OPERATIONS**



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3107.000 - ENTERPRISE OPERATIONS

**Activity Description:**

This group is responsible for operating processes, monitoring and maintaining of the Enterprise and Distributive delivery infrastructures. This operational support structure is in place to ensure business service levels are attained while being cost efficient. In addition, this organization is capable of identifying services outages and provide a resolution process for first and second level problem tiers.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		738	1,054	1,011	891	0	0	0	0	
Non-Labor		102	135	613	8	2	2	2	2	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>840</b>	<b>1,190</b>	<b>1,624</b>	<b>899</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	
FTE		7.7	10.5	10.3	3.5	0.0	0.0	0.0	0.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3107.000 - ENTERPRISE OPERATIONS

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	2	0	2	0.0	0	2	0	2	0.0
<b>Total Incurred</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0.0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	47.47%	47.47%				47.47%	47.47%			
SEU	48.28%	48.28%				48.28%	48.28%			
CORP	4.25%	4.25%				4.25%	4.25%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	2	0	2	0.0	0	2	0	2	0.0
<b>Total Incurred</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0.0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	47.47%	47.47%				47.47%	47.47%			
SEU	48.28%	48.28%				48.28%	48.28%			
CORP	4.25%	4.25%				4.25%	4.25%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3107.000 - ENTERPRISE OPERATIONS

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on the number of server counts used across each utility and Parent (corporate center). The use of server counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

Calculations are based on the number of server counts used across each utility and Parent (corporate center). The use of server counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

Calculations are based on the number of server counts used across each utility and Parent (corporate center). The use of server counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

Calculations are based on the number of server counts used across each utility and Parent (corporate center). The use of server counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3107.000 - ENTERPRISE OPERATIONS

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	0	0	0	0	0	0	0	0	0
Non-Labor	Base YR Rec	2	2	2	0	0	0	2	2	2
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>2</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>2</b>
FTE	Base YR Rec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3107.000 - ENTERPRISE OPERATIONS

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	899	865	843	760	0
Non-Labor	107	129	593	8	2
NSE	0	0	0	0	0
<b>Total</b>	<b>1,006</b>	<b>994</b>	<b>1,436</b>	<b>767</b>	<b>2</b>
FTE	9.6	9.0	8.7	3.0	0.0
<b>Adjustments (Nominal \$) **</b>					
Labor	-297	0	0	0	0
Non-Labor	-12	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-309</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	-3.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	602	865	843	760	0
Non-Labor	95	129	593	8	2
NSE	0	0	0	0	0
<b>Total</b>	<b>697</b>	<b>994</b>	<b>1,436</b>	<b>767</b>	<b>2</b>
FTE	6.6	9.0	8.7	3.0	0.0
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	87	137	135	117	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>87</b>	<b>137</b>	<b>135</b>	<b>117</b>	<b>0</b>
FTE	1.1	1.6	1.6	0.5	0.0
<b>Escalation to 2016\$</b>					
Labor	49	52	33	14	0
Non-Labor	7	7	20	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>55</b>	<b>59</b>	<b>54</b>	<b>15</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	738	1,054	1,011	891	0
Non-Labor	102	135	613	8	2
NSE	0	0	0	0	0
<b>Total</b>	<b>840</b>	<b>1,190</b>	<b>1,624</b>	<b>899</b>	<b>2</b>
FTE	7.7	10.6	10.3	3.5	0.0

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3107.000 - ENTERPRISE OPERATIONS

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-297	0	0	0	0
Non-Labor	-12	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-309</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	-3.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	-62	-3	0	-1.0	CCTR Transf To 2200-2464.000	SOMAHONY20161105165222457
<b>Explanation:</b> IT Employee Transfer from SDGE to SCG as of 2013.							
2012	Other	-236	-9	0	-2.0	CCTR Transf To 2200-2463.000	SOMAHONY20161105165520257
<b>Explanation:</b> IT Employee Transfer from SDGE to SCG as of 2013.							
<b>2012 Total</b>		<b>-297</b>	<b>-12</b>	<b>0</b>	<b>-3.0</b>		
<b>2013 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2014 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2015 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2016 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3334.000 - SERVER MANAGEMENT**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3334.000 - SERVER MANAGEMENT

**Activity Description:**

This Operations support group is responsible for providing 7/24 coverage and maintainability for distributive UNIX class servers at prime locations of RB, CP, SD Headquarters, MPK, and GCT. This group also has this same responsibility for remote locations, such as company Bases and Payment Offices.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Zero-Based**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		1,864	869	735	781	877	877	877	877	
Non-Labor		246	105	160	76	11	11	11	11	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>2,110</b>	<b>975</b>	<b>895</b>	<b>856</b>	<b>888</b>	<b>888</b>	<b>888</b>	<b>888</b>	
FTE		19.1	9.0	6.8	7.3	8.2	8.1	8.1	8.1	

*Note: Totals may include rounding differences.*



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3334.000 - SERVER MANAGEMENT

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	2	0	2	0.0	0	2	0	2	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	877	9	0	886	8.1	877	9	0	886	8.1
<b>Total Incurred</b>	<b>877</b>	<b>11</b>	<b>0</b>	<b>888</b>	<b>8.1</b>	<b>877</b>	<b>11</b>	<b>0</b>	<b>888</b>	<b>8.1</b>
<b>% Allocation</b>										
Retained	47.47%	47.47%				47.47%	47.47%			
SEU	48.28%	48.28%				48.28%	48.28%			
CORP	4.25%	4.25%				4.25%	4.25%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	2	0	2	0.0	0	2	0	2	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	877	9	0	886	8.1	877	9	0	886	8.1
<b>Total Incurred</b>	<b>877</b>	<b>11</b>	<b>0</b>	<b>888</b>	<b>8.1</b>	<b>877</b>	<b>11</b>	<b>0</b>	<b>888</b>	<b>8.1</b>
<b>% Allocation</b>										
Retained	47.47%	47.47%				47.47%	47.47%			
SEU	48.28%	48.28%				48.28%	48.28%			
CORP	4.25%	4.25%				4.25%	4.25%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3334.000 - SERVER MANAGEMENT

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on the number of server counts used across each utility and Parent (corporate center). The use of server counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

Calculations are based on the number of server counts used across each utility and Parent (corporate center). The use of server counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

Calculations are based on the number of server counts used across each utility and Parent (corporate center). The use of server counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

Calculations are based on the number of server counts used across each utility and Parent (corporate center). The use of server counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3334.000 - SERVER MANAGEMENT

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	877	877	877	0	0	0	877	877	877
Non-Labor	Base YR Rec	11	11	11	0	0	0	11	11	11
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>888</b>	<b>888</b>	<b>888</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>888</b>	<b>888</b>	<b>888</b>
FTE	Base YR Rec	8.1	8.1	8.1	0.0	0.0	0.0	8.1	8.1	8.1

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3334.000 - SERVER MANAGEMENT

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	720	658	613	665	752
Non-Labor	200	76	154	74	11
NSE	0	0	0	0	0
<b>Total</b>	<b>920</b>	<b>734</b>	<b>767</b>	<b>740</b>	<b>763</b>
FTE	7.3	7.0	5.8	6.2	6.9
<b>Adjustments (Nominal \$) **</b>					
Labor	800	55	0	0	0
Non-Labor	30	24	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>830</b>	<b>80</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	9.2	0.6	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	1,520	713	613	665	752
Non-Labor	230	100	154	74	11
NSE	0	0	0	0	0
<b>Total</b>	<b>1,750</b>	<b>814</b>	<b>767</b>	<b>740</b>	<b>763</b>
FTE	16.5	7.6	5.8	6.2	6.9
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	220	113	98	103	125
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>220</b>	<b>113</b>	<b>98</b>	<b>103</b>	<b>125</b>
FTE	2.7	1.3	1.0	1.1	1.3
<b>Escalation to 2016\$</b>					
Labor	123	43	24	13	0
Non-Labor	16	5	5	1	0
NSE	0	0	0	0	0
<b>Total</b>	<b>139</b>	<b>48</b>	<b>30</b>	<b>14</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	1,864	869	735	781	877
Non-Labor	246	105	160	76	11
NSE	0	0	0	0	0
<b>Total</b>	<b>2,110</b>	<b>975</b>	<b>895</b>	<b>856</b>	<b>888</b>
FTE	19.2	8.9	6.8	7.3	8.2

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3334.000 - SERVER MANAGEMENT

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	800	55	0	0	0
Non-Labor	30	24	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>830</b>	<b>80</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	9.2	0.6	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	554	7	0	7.1	CCTR Transf From 2100-3544.000	SHAO20170307165909470
<b>Explanation:</b> Wintel server infrastructure costs move to cost center 2100-3334. Cost center 2100-3544 has been retired.							
2012	Other	45	0	0	0.5	CCTR Transf From 2100-3544.000	SHAO20170307170035910
<b>Explanation:</b> Wintel server infrastructure costs move to cost center 2100-3334. Cost center 2100-3544 has been retired.							
2012	Other	0	0	0	0.0	CCTR Transf From 2100-3544.000	SHAO20170307170123630
<b>Explanation:</b> Wintel server infrastructure costs move to cost center 2100-3334. Cost center 2100-3544 has been retired.							
2012	Other	115	23	0	0.7	CCTR Transf From 2100-3335.000	SHAO20170307163449707
<b>Explanation:</b> Unix/Linux server infrastructure costs move to cost center 2100-3334. Cost center 2100-3335 has been retired.							
2012	Other	86	0	0	0.9	CCTR Transf From 2100-3335.000	SHAO20170307163521833
<b>Explanation:</b> Unix/Linux server infrastructure costs move to cost center 2100-3334. Cost center 2100-3335 has been retired.							
<b>2012 Total</b>		<b>800</b>	<b>30</b>	<b>0</b>	<b>9.2</b>		

2013	Other	29	4	0	0.4	CCTR Transf From 2100-3544.000	SHAO20170307170217083
<b>Explanation:</b> Wintel server infrastructure costs move to cost center 2100-3334. Cost center 2100-3544 has been retired.							
2013	Other	23	20	0	0.2	CCTR Transf From 2100-3335.000	SHAO20170307164607463
<b>Explanation:</b> Unix/Linux server infrastructure costs move to cost center 2100-3334. Cost center 2100-3335 has been retired.							
2013	Other	3	0	0	0.0	CCTR Transf From 2100-3335.000	SHAO20170307165459813
<b>Explanation:</b> Unix/Linux server infrastructure costs move to cost center 2100-3334. Cost center 2100-3335 has been retired.							

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3334.000 - SERVER MANAGEMENT

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2013	Other	1	0	0	0.0	CCTR Transf From 2100-3544.000	SHAO20170307170455150
<b>Explanation:</b> Wintel server infrastructure costs move to cost center 2100-3334. Cost center 2100-3544 has been retired.							
2013	Other	0	0	0	0.0	CCTR Transf From 2100-3544.000	SHAO20170307170614393
<b>Explanation:</b> Wintel server infrastructure costs move to cost center 2100-3334. Cost center 2100-3544 has been retired.							
2013	Other	0	0	0	0.0	CCTR Transf From 2100-3335.000	SHAO20170307165628970
<b>Explanation:</b> Unix/Linux server infrastructure costs move to cost center 2100-3334. Cost center 2100-3335 has been retired.							
<b>2013 Total</b>		<b>55</b>	<b>24</b>	<b>0</b>	<b>0.6</b>		
<b>2014 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2015 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2016 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3498.000 - INFRASTRUCTURE PROGRAM OFFICE**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3498.000 - INFRASTRUCTURE PROGRAM OFFICE

**Activity Description:**

The Infrastructure PMO provides project management and development for IT Related Projects enterprise wide.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		134	301	268	502	241	241	241	241	
Non-Labor		29	13	31	136	127	128	128	128	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>163</b>	<b>313</b>	<b>299</b>	<b>638</b>	<b>368</b>	<b>369</b>	<b>369</b>	<b>369</b>	
FTE		0.8	1.9	1.9	3.5	1.6	1.6	1.6	1.6	

*Note: Totals may include rounding differences.*



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3498.000 - INFRASTRUCTURE PROGRAM OFFICE

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	3	63	0	66	0.0	3	63	0	66	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	238	65	0	303	1.6	238	65	0	303	1.6
<b>Total Incurred</b>	<b>241</b>	<b>128</b>	<b>0</b>	<b>369</b>	<b>1.6</b>	<b>241</b>	<b>128</b>	<b>0</b>	<b>369</b>	<b>1.6</b>
<b>% Allocation</b>										
Retained	34.50%	34.50%				36.42%	36.42%			
SEU	61.91%	61.91%				59.94%	59.94%			
CORP	3.59%	3.59%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	3	63	0	66	0.0	3	63	0	66	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	238	65	0	303	1.6	238	65	0	303	1.6
<b>Total Incurred</b>	<b>241</b>	<b>128</b>	<b>0</b>	<b>369</b>	<b>1.6</b>	<b>241</b>	<b>128</b>	<b>0</b>	<b>369</b>	<b>1.6</b>
<b>% Allocation</b>										
Retained	36.42%	36.42%				36.42%	36.42%			
SEU	59.94%	59.94%				59.94%	59.94%			
CORP	3.64%	3.64%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3498.000 - INFRASTRUCTURE PROGRAM OFFICE

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on the number of LAN IDs used across each utility and Parent (corporate center). The use of LAN IDs is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

Calculations are based on the number of LAN IDs used across each utility and Parent (corporate center). The use of LAN IDs is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

Calculations are based on the number of LAN IDs used across each utility and Parent (corporate center). The use of LAN IDs is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

Calculations are based on the number of LAN IDs used across each utility and Parent (corporate center). The use of LAN IDs is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3498.000 - INFRASTRUCTURE PROGRAM OFFICE

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	241	241	241	0	0	0	241	241	241
Non-Labor	Base YR Rec	127	127	127	0	0	0	127	127	127
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>368</b>	<b>368</b>	<b>368</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>368</b>	<b>368</b>	<b>368</b>
FTE	Base YR Rec	1.6	1.6	1.6	0.0	0.0	0.0	1.6	1.6	1.6

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3498.000 - INFRASTRUCTURE PROGRAM OFFICE

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	220	247	223	427	207
Non-Labor	30	12	30	134	175
NSE	0	0	0	0	0
<b>Total</b>	<b>250</b>	<b>259</b>	<b>253</b>	<b>561</b>	<b>382</b>
FTE	1.7	1.7	1.6	3.0	1.4
<b>Adjustments (Nominal \$) **</b>					
Labor	-110	0	0	0	0
Non-Labor	-3	0	0	0	-48
NSE	0	0	0	0	0
<b>Total</b>	<b>-113</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-48</b>
FTE	-1.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	109	247	223	427	207
Non-Labor	27	12	30	134	127
NSE	0	0	0	0	0
<b>Total</b>	<b>136</b>	<b>259</b>	<b>253</b>	<b>561</b>	<b>334</b>
FTE	0.7	1.7	1.6	3.0	1.4
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	16	39	36	66	34
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>16</b>	<b>39</b>	<b>36</b>	<b>66</b>	<b>34</b>
FTE	0.1	0.3	0.3	0.5	0.2
<b>Escalation to 2016\$</b>					
Labor	9	15	9	8	0
Non-Labor	2	1	1	2	0
NSE	0	0	0	0	0
<b>Total</b>	<b>11</b>	<b>15</b>	<b>10</b>	<b>10</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	134	301	268	502	241
Non-Labor	29	13	31	136	127
NSE	0	0	0	0	0
<b>Total</b>	<b>163</b>	<b>313</b>	<b>299</b>	<b>638</b>	<b>368</b>
FTE	0.8	2.0	1.9	3.5	1.6

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3498.000 - INFRASTRUCTURE PROGRAM OFFICE

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-110	0	0	0	0
Non-Labor	-3	0	0	0	-48
NSE	0	0	0	0	0
<b>Total</b>	<b>-113</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-48</b>
FTE	-1.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	-110	-3	0	-1.0	CCTR Transf To 2200-2495.000	SOMAHONY20161105171121380

**Explanation:** IT Employee Transfer from SDGE to SCG as of 2013.

<b>2012 Total</b>	<b>-110</b>	<b>-3</b>	<b>0</b>	<b>-1.0</b>
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<b>2013 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>
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<b>2014 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>
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<b>2015 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>
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2016	Other	0	-48	0	0.0	CCTR Transf To 2100-8959.000	SOMAHONY20170310114409563
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**Explanation:** Transfer LTD costs to 1HR002

<b>2016 Total</b>	<b>0</b>	<b>-48</b>	<b>0</b>	<b>0.0</b>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3500.000 - IT NETWORK FIELD - LAN/WAN VOICE**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3500.000 - IT NETWORK FIELD - LAN/WAN VOICE

**Activity Description:**

This cost center performs contract management and administration and planning activities for the maintenance contracts associated with support for the Distributed Server Environment and Network systems, Scalable Platform Services, Client Technology & Depot Services, SempraHelp & IT Service Management. Also, performs management and administration of leased circuits contracts costs and Telephone invoices.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

NA

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		351	319	194	222	-5	0	0	0	
Non-Labor		99	16	3	1	1	1	1	1	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>450</b>	<b>336</b>	<b>197</b>	<b>223</b>	<b>-4</b>	<b>1</b>	<b>1</b>	<b>1</b>	
FTE		3.6	3.8	2.4	2.6	0.0	0.0	0.0	0.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3500.000 - IT NETWORK FIELD - LAN/WAN VOICE

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	1	0	1	0.0	0	1	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	-5	0	0	-5	-0.1	0	0	0	0	0.0
<b>Total Incurred</b>	<b>-5</b>	<b>1</b>	<b>0</b>	<b>-4</b>	<b>-0.1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	34.50%	34.50%				36.42%	36.42%			
SEU	61.91%	61.91%				59.94%	59.94%			
CORP	3.59%	3.59%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	1	0	1	0.0	0	1	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	0	0	0	0.0	0	0	0	0	0.0
<b>Total Incurred</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0.0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	36.42%	36.42%				36.42%	36.42%			
SEU	59.94%	59.94%				59.94%	59.94%			
CORP	3.64%	3.64%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3500.000 - IT NETWORK FIELD - LAN/WAN VOICE

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

LAN ID is the most representative determination for the allocation of systems maintenance contract costs to SDGE, SCG, and Parent. In addition, LAN ID is assigned specifically to the users at the respective companies and is the most efficient and streamlined method to accurately determine the use of services by the various companies. LAN IDs are assigned to employees and contractors. There is a unique Telephone device ID for every phone device used by the Companies and therefore, the Telephone device count is the most representative determination for the allocation of voice support costs to the Company. The Telephone devices and LAN ID use across companies are then measured on an staff work allocation basis accordingly to the basis of support they provide.

**Cost Center Allocation Percentage for 2017**

LAN ID is the most representative determination for the allocation of systems maintenance contract costs to SDGE, SCG, and Parent. In addition, LAN ID is assigned specifically to the users at the respective companies and is the most efficient and streamlined method to accurately determine the use of services by the various companies. LAN IDs are assigned to employees and contractors. There is a unique Telephone device ID for every phone device used by the Companies and therefore, the Telephone device count is the most representative determination for the allocation of voice support costs to the Company. The Telephone devices and LAN ID use across companies are then measured on an staff work allocation basis accordingly to the basis of support they provide.

**Cost Center Allocation Percentage for 2018**

LAN ID is the most representative determination for the allocation of systems maintenance contract costs to SDGE, SCG, and Parent. In addition, LAN ID is assigned specifically to the users at the respective companies and is the most efficient and streamlined method to accurately determine the use of services by the various companies. LAN IDs are assigned to employees and contractors. There is a unique Telephone device ID for every phone device used by the Companies and therefore, the Telephone device count is the most representative determination for the allocation of voice support costs to the Company. The Telephone devices and LAN ID use across companies are then measured on an staff work allocation basis accordingly to the basis of support they provide.

**Cost Center Allocation Percentage for 2019**

LAN ID is the most representative determination for the allocation of systems maintenance contract costs to SDGE, SCG, and Parent. In addition, LAN ID is assigned specifically to the users at the respective companies and is the most efficient and streamlined method to accurately determine the use of services by the various companies. LAN IDs are assigned to employees and contractors. There is a unique Telephone device ID for every phone device used by the Companies and therefore, the Telephone device count is the most representative determination for the allocation of voice support costs to the Company. The Telephone devices and LAN ID use across companies are then measured on an staff work allocation basis accordingly to the basis of support they provide.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3500.000 - IT NETWORK FIELD - LAN/WAN VOICE

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	-5	-5	-5	5	5	5	0	0	0
Non-Labor	Base YR Rec	1	1	1	0	0	0	1	1	1
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>-4</b>	<b>-4</b>	<b>-4</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>1</b>	<b>1</b>	<b>1</b>
FTE	Base YR Rec	-0.1	-0.1	-0.1	0.1	0.1	0.1	0.0	0.0	0.0

**Forecast Adjustment Details:**

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>	
2017	Other	5	0	0	5	0.1	1-Sided Adj	SOMAHONY20170309225619717	
<b>Explanation:</b>		Adjustment to bring labor forecast back to 0							
<b>2017 Total</b>		<b>5</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0.1</b>			
2018	Other	5	0	0	5	0.1	1-Sided Adj	SOMAHONY20170309225716540	
<b>Explanation:</b>		Adjustment to bring labor forecast back to 0							
<b>2018 Total</b>		<b>5</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0.1</b>			
2019	Other	5	0	0	5	0.1	1-Sided Adj	SOMAHONY20170309225733077	
<b>Explanation:</b>		Adjustment to bring labor forecast back to 0							
<b>2019 Total</b>		<b>5</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0.1</b>			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3500.000 - IT NETWORK FIELD - LAN/WAN VOICE

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	754	262	162	189	-4
Non-Labor	114	15	3	1	1
NSE	0	0	0	0	0
<b>Total</b>	<b>868</b>	<b>278</b>	<b>164</b>	<b>190</b>	<b>-4</b>
FTE	9.1	3.3	2.0	2.2	0.0
<b>Adjustments (Nominal \$) **</b>					
Labor	-468	0	0	0	0
Non-Labor	-21	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-489</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	-6.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	286	262	162	189	-4
Non-Labor	93	15	3	1	1
NSE	0	0	0	0	0
<b>Total</b>	<b>379</b>	<b>278</b>	<b>164</b>	<b>190</b>	<b>-4</b>
FTE	3.1	3.3	2.0	2.2	0.0
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	41	42	26	29	-1
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>41</b>	<b>42</b>	<b>26</b>	<b>29</b>	<b>-1</b>
FTE	0.5	0.6	0.4	0.4	0.0
<b>Escalation to 2016\$</b>					
Labor	23	16	6	4	0
Non-Labor	7	1	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>30</b>	<b>17</b>	<b>6</b>	<b>4</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	351	319	194	222	-5
Non-Labor	99	16	3	1	1
NSE	0	0	0	0	0
<b>Total</b>	<b>450</b>	<b>336</b>	<b>197</b>	<b>223</b>	<b>-4</b>
FTE	3.6	3.9	2.4	2.6	0.0

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3500.000 - IT NETWORK FIELD - LAN/WAN VOICE

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-468	0	0	0	0
Non-Labor	-21	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-489</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	-6.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	-468	-21	0	-6.0	CCTR Transf To 2200-2455.000	SOMAHONY20161103145708863

**Explanation:** IT Employee Transfer from SDGE to SCG as of 2013.

<b>2012 Total</b>		<b>-468</b>	<b>-21</b>	<b>0</b>	<b>-6.0</b>		
<b>2013 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2014 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2015 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2016 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3502.000 - ENTERPRISE COMMAND CENTER**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3502.000 - ENTERPRISE COMMAND CENTER

**Activity Description:**

The Enterprise command center organization provides 7/24 operation system-wide services to ensure network/telecom availability for all related business applications and services that are dependent upon voice, data, microwave, etc., category of communication services.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Zero-Based**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		1,990	1,938	1,787	1,517	1,812	1,812	1,812	1,812	
Non-Labor		242	70	69	223	275	275	275	275	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>2,231</b>	<b>2,008</b>	<b>1,856</b>	<b>1,740</b>	<b>2,087</b>	<b>2,087</b>	<b>2,087</b>	<b>2,087</b>	
FTE		22.9	22.4	19.5	14.4	17.0	17.0	17.0	17.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3502.000 - ENTERPRISE COMMAND CENTER

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	3	0	3	0.0	0	3	0	3	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	1,812	272	0	2,084	17.0	1,812	272	0	2,084	17.0
<b>Total Incurred</b>	<b>1,812</b>	<b>275</b>	<b>0</b>	<b>2,087</b>	<b>17.0</b>	<b>1,812</b>	<b>275</b>	<b>0</b>	<b>2,087</b>	<b>17.0</b>
<b>% Allocation</b>										
Retained	63.59%	63.59%				63.59%	63.59%			
SEU	35.37%	35.37%				35.37%	35.37%			
CORP	1.04%	1.04%				1.04%	1.04%			
Unreg	0.00%	0.00%				0.00%	0.00%			

  

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	3	0	3	0.0	0	3	0	3	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	1,812	272	0	2,084	17.0	1,812	272	0	2,084	17.0
<b>Total Incurred</b>	<b>1,812</b>	<b>275</b>	<b>0</b>	<b>2,087</b>	<b>17.0</b>	<b>1,812</b>	<b>275</b>	<b>0</b>	<b>2,087</b>	<b>17.0</b>
<b>% Allocation</b>										
Retained	63.59%	63.59%				63.59%	63.59%			
SEU	35.37%	35.37%				35.37%	35.37%			
CORP	1.04%	1.04%				1.04%	1.04%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3502.000 - ENTERPRISE COMMAND CENTER

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on the number of network sites used across each utility and Parent (corporate center). The use of network sites is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

Calculations are based on the number of network sites used across each utility and Parent (corporate center). The use of network sites is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

Calculations are based on the number of network sites used across each utility and Parent (corporate center). The use of network sites is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

Calculations are based on the number of network sites used across each utility and Parent (corporate center). The use of network sites is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

*Note: Totals may include rounding differences.*



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3502.000 - ENTERPRISE COMMAND CENTER

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	1,812	1,812	1,812	0	0	0	1,812	1,812	1,812
Non-Labor	Base YR Rec	275	275	275	0	0	0	275	275	275
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>2,087</b>	<b>2,087</b>	<b>2,087</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,087</b>	<b>2,087</b>	<b>2,087</b>
FTE	Base YR Rec	17.0	17.0	17.0	0.0	0.0	0.0	17.0	17.0	17.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3502.000 - ENTERPRISE COMMAND CENTER

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	1,720	1,590	1,490	1,293	1,554
Non-Labor	229	66	67	220	275
NSE	0	0	0	0	0
<b>Total</b>	<b>1,948</b>	<b>1,656</b>	<b>1,557</b>	<b>1,512</b>	<b>1,829</b>
FTE	20.7	19.1	16.5	12.3	14.4
<b>Adjustments (Nominal \$) **</b>					
Labor	-96	0	0	0	0
Non-Labor	-3	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-99</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	-1.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	1,623	1,590	1,490	1,293	1,554
Non-Labor	226	66	67	220	275
NSE	0	0	0	0	0
<b>Total</b>	<b>1,849</b>	<b>1,656</b>	<b>1,557</b>	<b>1,512</b>	<b>1,829</b>
FTE	19.7	19.1	16.5	12.3	14.4
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	235	252	238	200	258
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>235</b>	<b>252</b>	<b>238</b>	<b>200</b>	<b>258</b>
FTE	3.2	3.4	3.0	2.2	2.6
<b>Escalation to 2016\$</b>					
Labor	131	96	59	25	0
Non-Labor	16	3	2	4	0
NSE	0	0	0	0	0
<b>Total</b>	<b>147</b>	<b>99</b>	<b>61</b>	<b>28</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	1,990	1,938	1,787	1,517	1,812
Non-Labor	242	70	69	223	275
NSE	0	0	0	0	0
<b>Total</b>	<b>2,231</b>	<b>2,008</b>	<b>1,856</b>	<b>1,740</b>	<b>2,087</b>
FTE	22.9	22.5	19.5	14.5	17.0

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3502.000 - ENTERPRISE COMMAND CENTER

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-96	0	0	0	0
Non-Labor	-3	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-99</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	-1.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	-96	-3	0	-1.0	CCTR Transf To 2200-2456.000	SOMAHONY20161105171535010

**Explanation:** IT Employee Transfer from SDGE to SCG as of 2013.

<b>2012 Total</b>		<b>-96</b>	<b>-3</b>	<b>0</b>	<b>-1.0</b>		
<b>2013 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2014 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2015 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2016 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3683.000 - PROJECT IMPROVEMENT OFFICE-NCS**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3683.000 - PROJECT IMPROVEMENT OFFICE-NCS

**Activity Description:**

Preventive maintenance activities on network and telecom infrastructure (i.e. hardware, software, facilities, services). This cost center is responsible for the design and implementation of CI projects for Local Area and Wide Area networks and voice systems that link all company facilities.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Zero-Based**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		857	1,006	735	557	195	195	195	195	
Non-Labor		132	145	7	10	21	22	22	22	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>989</b>	<b>1,151</b>	<b>742</b>	<b>567</b>	<b>216</b>	<b>217</b>	<b>217</b>	<b>217</b>	
FTE		8.4	10.0	7.0	5.2	2.0	2.0	2.0	2.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3683.000 - PROJECT IMPROVEMENT OFFICE-NCS

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	1	0	1	0.0	0	1	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	195	21	0	216	2.0	195	21	0	216	2.0
<b>Total Incurred</b>	<b>195</b>	<b>22</b>	<b>0</b>	<b>217</b>	<b>2.0</b>	<b>195</b>	<b>22</b>	<b>0</b>	<b>217</b>	<b>2.0</b>
<b>% Allocation</b>										
Retained	47.47%	47.47%				47.47%	47.47%			
SEU	48.28%	48.28%				48.28%	48.28%			
CORP	4.25%	4.25%				4.25%	4.25%			
Unreg	0.00%	0.00%				0.00%	0.00%			

  

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	1	0	1	0.0	0	1	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	195	21	0	216	2.0	195	21	0	216	2.0
<b>Total Incurred</b>	<b>195</b>	<b>22</b>	<b>0</b>	<b>217</b>	<b>2.0</b>	<b>195</b>	<b>22</b>	<b>0</b>	<b>217</b>	<b>2.0</b>
<b>% Allocation</b>										
Retained	47.47%	47.47%				47.47%	47.47%			
SEU	48.28%	48.28%				48.28%	48.28%			
CORP	4.25%	4.25%				4.25%	4.25%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3683.000 - PROJECT IMPROVEMENT OFFICE-NCS

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on the number of server counts used across each utility and Parent (corporate center). The use of server counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

Calculations are based on the number of server counts used across each utility and Parent (corporate center). The use of server counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

Calculations are based on the number of server counts used across each utility and Parent (corporate center). The use of server counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

Calculations are based on the number of server counts used across each utility and Parent (corporate center). The use of server counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center..

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3683.000 - PROJECT IMPROVEMENT OFFICE-NCS

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	195	195	195	0	0	0	195	195	195
Non-Labor	Base YR Rec	21	21	21	0	0	0	21	21	21
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>216</b>	<b>216</b>	<b>216</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>216</b>	<b>216</b>	<b>216</b>
FTE	Base YR Rec	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3683.000 - PROJECT IMPROVEMENT OFFICE-NCS

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	699	825	613	475	168
Non-Labor	123	138	7	10	21
NSE	0	0	0	0	0
<b>Total</b>	<b>822</b>	<b>963</b>	<b>620</b>	<b>485</b>	<b>189</b>
FTE	7.1	8.5	6.0	4.4	1.7
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	699	825	613	475	168
Non-Labor	123	138	7	10	21
NSE	0	0	0	0	0
<b>Total</b>	<b>822</b>	<b>963</b>	<b>620</b>	<b>485</b>	<b>189</b>
FTE	7.1	8.5	6.0	4.4	1.7
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	101	131	98	73	28
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>101</b>	<b>131</b>	<b>98</b>	<b>73</b>	<b>28</b>
FTE	1.2	1.5	1.1	0.8	0.3
<b>Escalation to 2016\$</b>					
Labor	57	50	24	9	0
Non-Labor	9	7	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>65</b>	<b>57</b>	<b>24</b>	<b>9</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	857	1,006	735	557	195
Non-Labor	132	145	7	10	21
NSE	0	0	0	0	0
<b>Total</b>	<b>989</b>	<b>1,151</b>	<b>742</b>	<b>567</b>	<b>216</b>
FTE	8.3	10.0	7.1	5.2	2.0

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3683.000 - PROJECT IMPROVEMENT OFFICE-NCS

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3684.000 - SERVICE DELIVERY - NCS**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3684.000 - SERVICE DELIVERY - NCS

**Activity Description:**

Network and systems engineering, operations and maintenance activities to support the messaging and collaboration infrastructure, including E-mail, Instant Message, Conferencing and SharePoint services on a system-wide basis across Corporate Center, SDG&E, and SoCal Gas.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years	2012	2013	2014	2015	2016	2017	2018	2019		
Labor	1,993	621	846	973	663	663	663	663		
Non-Labor	748	132	12	177	104	105	105	105		
NSE	0	0	0	0	0	0	0	0		
<b>Total</b>	<b>2,741</b>	<b>752</b>	<b>858</b>	<b>1,150</b>	<b>767</b>	<b>768</b>	<b>768</b>	<b>768</b>		
FTE	20.7	6.0	7.8	9.9	7.0	6.9	6.9	6.9		

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3684.000 - SERVICE DELIVERY - NCS

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	7	0	7	0.0	0	7	0	7	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	663	98	0	761	6.9	663	98	0	761	6.9
<b>Total Incurred</b>	<b>663</b>	<b>105</b>	<b>0</b>	<b>768</b>	<b>6.9</b>	<b>663</b>	<b>105</b>	<b>0</b>	<b>768</b>	<b>6.9</b>
<b>% Allocation</b>										
Retained	34.50%	34.50%				36.42%	36.42%			
SEU	61.91%	61.91%				59.94%	59.94%			
CORP	3.59%	3.59%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	7	0	7	0.0	0	7	0	7	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	663	98	0	761	6.9	663	98	0	761	6.9
<b>Total Incurred</b>	<b>663</b>	<b>105</b>	<b>0</b>	<b>768</b>	<b>6.9</b>	<b>663</b>	<b>105</b>	<b>0</b>	<b>768</b>	<b>6.9</b>
<b>% Allocation</b>										
Retained	36.42%	36.42%				36.42%	36.42%			
SEU	59.94%	59.94%				59.94%	59.94%			
CORP	3.64%	3.64%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3684.000 - SERVICE DELIVERY - NCS

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	663	663	663	0	0	0	663	663	663
Non-Labor	Base YR Rec	104	104	104	0	0	0	104	104	104
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>767</b>	<b>767</b>	<b>767</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>767</b>	<b>767</b>	<b>767</b>
FTE	Base YR Rec	6.9	6.9	6.9	0.0	0.0	0.0	6.9	6.9	6.9

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3684.000 - SERVICE DELIVERY - NCS

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	1,239	307	709	829	569
Non-Labor	297	67	12	174	104
NSE	0	0	0	0	0
<b>Total</b>	<b>1,535</b>	<b>374</b>	<b>721</b>	<b>1,003</b>	<b>673</b>
FTE	14.3	3.3	6.6	8.4	5.9
<b>Adjustments (Nominal \$) **</b>					
Labor	387	203	-4	0	0
Non-Labor	402	58	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>789</b>	<b>261</b>	<b>-4</b>	<b>0</b>	<b>0</b>
FTE	3.5	1.8	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	1,626	509	705	829	569
Non-Labor	699	125	12	174	104
NSE	0	0	0	0	0
<b>Total</b>	<b>2,325</b>	<b>634</b>	<b>717</b>	<b>1,003</b>	<b>673</b>
FTE	17.8	5.1	6.6	8.4	5.9
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	236	81	113	128	94
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>236</b>	<b>81</b>	<b>113</b>	<b>128</b>	<b>94</b>
FTE	2.9	0.9	1.2	1.5	1.1
<b>Escalation to 2016\$</b>					
Labor	132	31	28	16	0
Non-Labor	49	6	0	3	0
NSE	0	0	0	0	0
<b>Total</b>	<b>181</b>	<b>37</b>	<b>28</b>	<b>19</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	1,993	621	846	973	663
Non-Labor	748	132	12	177	104
NSE	0	0	0	0	0
<b>Total</b>	<b>2,741</b>	<b>752</b>	<b>858</b>	<b>1,150</b>	<b>767</b>
FTE	20.7	6.0	7.8	9.9	7.0

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3684.000 - SERVICE DELIVERY - NCS

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	387	203	-4	0	0
Non-Labor	402	58	-0.167	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>789</b>	<b>261</b>	<b>-4</b>	<b>0</b>	<b>0</b>
FTE	3.5	1.8	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	5	0	0	0.0	CCTR Transf From 2100-4001.000	SOMAHONY20170308131435457
<b>Explanation:</b> Collaboration service costs transferred to 2100-3684.							
2012	Other	-64	-3	0	-1.0	CCTR Transf To 2200-2458.000	SOMAHONY20161105180014980
<b>Explanation:</b> IT Employee Transfer from SDGE to SCG as of 2013.							
2012	Other	562	411	0	5.5	CCTR Transf From 2100-4001.000	SOMAHONY20170308131514950
<b>Explanation:</b> Collaboration service costs transferred to 2100-3684.							
2012	Other	-50	-3	0	0.0	CCTR Transf To 2200-2470.000	SOMAHONY20161105180621890
<b>Explanation:</b> IT Employee Transfer from SDGE to SCG as of 2013.							
2012	Other	-66	-3	0	-1.0	CCTR Transf To 2200-2455.000	SOMAHONY20161105181741783
<b>Explanation:</b> IT Employee Transfer from SDGE to SCG as of 2013.							
<b>2012 Total</b>		<b>387</b>	<b>402</b>	<b>0</b>	<b>3.5</b>		
2013	Other	358	64	0	3.8	CCTR Transf From 2100-4001.000	SOMAHONY20170308131602510
<b>Explanation:</b> Collaboration service costs transferred to 2100-3684.							
2013	Other	-92	-3	0	-1.0	CCTR Transf To 2200-2460.000	SOMAHONY20161105175431487
<b>Explanation:</b> IT Employee Transfer from SDGE to SCG as of 2013.							
2013	Other	-64	-3	0	-1.0	CCTR Transf To 2200-2458.000	SOMAHONY20161105175617890
<b>Explanation:</b> IT Employee Transfer from SDGE to SCG as of 2013.							
<b>2013 Total</b>		<b>203</b>	<b>58</b>	<b>0</b>	<b>1.8</b>		

*Note: Totals may include rounding differences.*



San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3684.000 - SERVICE DELIVERY - NCS

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2014	Other	-4	0	0	0.0	CCTR Transf From 2100-4001.000	SOMAHONY20170308131701290
<b>Explanation:</b> Collaboration service costs transferred to 2100-3684.							
<b>2014 Total</b>		<b>-4</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2015 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2016 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3698.000 - SERVICE DEVELOPMENT PROGRAM MANAGEMENT**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3698.000 - SERVICE DEVELOPMENT PROGRAM MANAGEMENT

**Activity Description:**

This cost center supports the management and administration of various system-wide IT contracts and managed services.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Zero-Based**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		1,017	-11	410	368	292	292	292	292	
Non-Labor		42	2	508	469	1	1	1	1	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>1,059</b>	<b>-9</b>	<b>918</b>	<b>837</b>	<b>293</b>	<b>293</b>	<b>293</b>	<b>293</b>	
FTE		9.3	-0.1	2.7	2.6	2.6	2.6	2.6	2.6	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3698.000 - SERVICE DEVELOPMENT PROGRAM MANAGEMENT

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	292	1	0	293	2.6	292	1	0	293	2.6
<b>Total Incurred</b>	<b>292</b>	<b>1</b>	<b>0</b>	<b>293</b>	<b>2.6</b>	<b>292</b>	<b>1</b>	<b>0</b>	<b>293</b>	<b>2.6</b>
<b>% Allocation</b>										
Retained	49.38%	49.38%				60.00%	60.00%			
SEU	50.62%	50.62%				40.00%	40.00%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	292	1	0	293	2.6	292	1	0	293	2.6
<b>Total Incurred</b>	<b>292</b>	<b>1</b>	<b>0</b>	<b>293</b>	<b>2.6</b>	<b>292</b>	<b>1</b>	<b>0</b>	<b>293</b>	<b>2.6</b>
<b>% Allocation</b>										
Retained	60.00%	60.00%				60.00%	60.00%			
SEU	40.00%	40.00%				40.00%	40.00%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3698.000 - SERVICE DEVELOPMENT PROGRAM MANAGEMENT

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on the number of CPU used across each utility. The use of CPU utilization study is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

Calculations are based on the number of CPU used across each utility. The use of CPU utilization study is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

Calculations are based on the number of CPU used across each utility. The use of CPU utilization study is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

Calculations are based on the number of CPU used across each utility. The use of CPU utilization study is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3698.000 - SERVICE DEVELOPMENT PROGRAM MANAGEMENT

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	292	292	292	0	0	0	292	292	292
Non-Labor	Base YR Rec	1	1	1	0	0	0	1	1	1
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>293</b>	<b>293</b>	<b>293</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>293</b>	<b>293</b>	<b>293</b>
FTE	Base YR Rec	2.6	2.6	2.6	0.0	0.0	0.0	2.6	2.6	2.6

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3698.000 - SERVICE DEVELOPMENT PROGRAM MANAGEMENT

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	829	-9	342	313	251
Non-Labor	39	2	491	461	1
NSE	0	0	0	0	0
<b>Total</b>	<b>869</b>	<b>-7</b>	<b>833</b>	<b>775</b>	<b>252</b>
FTE	8.0	-0.1	2.3	2.2	2.2
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	829	-9	342	313	251
Non-Labor	39	2	491	461	1
NSE	0	0	0	0	0
<b>Total</b>	<b>869</b>	<b>-7</b>	<b>833</b>	<b>775</b>	<b>252</b>
FTE	8.0	-0.1	2.3	2.2	2.2
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	120	-1	55	48	42
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>120</b>	<b>-1</b>	<b>55</b>	<b>48</b>	<b>42</b>
FTE	1.3	0.0	0.4	0.4	0.4
<b>Escalation to 2016\$</b>					
Labor	67	-1	14	6	0
Non-Labor	3	0	17	8	0
NSE	0	0	0	0	0
<b>Total</b>	<b>70</b>	<b>0</b>	<b>30</b>	<b>14</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	1,017	-11	410	368	292
Non-Labor	42	2	508	469	1
NSE	0	0	0	0	0
<b>Total</b>	<b>1,059</b>	<b>-9</b>	<b>918</b>	<b>837</b>	<b>293</b>
FTE	9.3	-0.1	2.7	2.6	2.6

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3698.000 - SERVICE DEVELOPMENT PROGRAM MANAGEMENT

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*



**Beginning of Workpaper**  
**2100-3814.000 - DIRECTOR IT INFRASTRUCTURE**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3814.000 - DIRECTOR IT INFRASTRUCTURE

**Activity Description:**

This cost center includes the Director of IT Information Management. Activities include department level management for Customer Intelligence and Analytics, Business Intelligence, Enterprise Architecture, and other support areas.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		233	241	266	402	434	523	523	523	
Non-Labor		136	70	99	119	431	575	575	575	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>370</b>	<b>311</b>	<b>365</b>	<b>521</b>	<b>864</b>	<b>1,098</b>	<b>1,098</b>	<b>1,098</b>	
FTE		1.0	1.1	1.2	2.0	2.1	2.9	2.9	2.9	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3814.000 - DIRECTOR IT INFRASTRUCTURE

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	9	1	0	10	0.0	9	1	0	10	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	424	430	0	854	2.1	514	574	0	1,088	2.9
<b>Total Incurred</b>	<b>433</b>	<b>431</b>	<b>0</b>	<b>864</b>	<b>2.1</b>	<b>523</b>	<b>575</b>	<b>0</b>	<b>1,098</b>	<b>2.9</b>
<b>% Allocation</b>										
Retained	34.52%	34.52%				36.24%	36.24%			
SEU	61.91%	61.91%				60.13%	60.13%			
CORP	3.57%	3.57%				3.63%	3.63%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	9	1	0	10	0.0	9	1	0	10	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	514	574	0	1,088	2.9	514	574	0	1,088	2.9
<b>Total Incurred</b>	<b>523</b>	<b>575</b>	<b>0</b>	<b>1,098</b>	<b>2.9</b>	<b>523</b>	<b>575</b>	<b>0</b>	<b>1,098</b>	<b>2.9</b>
<b>% Allocation</b>										
Retained	36.24%	36.24%				36.24%	36.24%			
SEU	60.13%	60.13%				60.13%	60.13%			
CORP	3.63%	3.63%				3.63%	3.63%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

The use of a weighted average is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

The use of a weighted average is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

The use of a weighted average is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

The use of a weighted average is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3814.000 - DIRECTOR IT INFRASTRUCTURE

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	434	434	434	90	90	90	524	524	524
Non-Labor	Base YR Rec	431	431	431	144	144	144	575	575	575
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>864</b>	<b>864</b>	<b>864</b>	<b>234</b>	<b>234</b>	<b>234</b>	<b>1,098</b>	<b>1,098</b>	<b>1,098</b>
FTE	Base YR Rec	2.1	2.1	2.1	0.8	0.8	0.8	2.9	2.9	2.9

**Forecast Adjustment Details:**

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	0	134	0	134	0.0	1-Sided Adj	JKLONG20170308173259690	
<b>Explanation:</b>		Purchased Services for Sensitive Data Analytics							
2017	Other	90	10	0	100	0.8	1-Sided Adj	JKLONG20170308173554033	
<b>Explanation:</b>		Additional FTE needed for Data Analytics support. Assumed \$120K salary and 75% O&C split.							
<b>2017 Total</b>		<b>90</b>	<b>144</b>	<b>0</b>	<b>234</b>	<b>0.8</b>			
2018	Other	0	134	0	134	0.0	1-Sided Adj	JKLONG20170308173317753	
<b>Explanation:</b>		Purchased Services for Sensitive Data Analytics							
2018	Other	90	10	0	100	0.8	1-Sided Adj	JKLONG20170308173605693	
<b>Explanation:</b>		Additional FTE needed for Data Analytics support. Assumed \$120K salary and 75% O&C split.							
<b>2018 Total</b>		<b>90</b>	<b>144</b>	<b>0</b>	<b>234</b>	<b>0.8</b>			
2019	Other	0	134	0	134	0.0	1-Sided Adj	JKLONG20170308173332457	
<b>Explanation:</b>		Purchased Services for Sensitive Data Analytics							
2019	Other	90	10	0	100	0.8	1-Sided Adj	JKLONG20170308173617220	
<b>Explanation:</b>		Additional FTE needed for Data Analytics support. Assumed \$120K salary and 75% O&C split.							
<b>2019 Total</b>		<b>90</b>	<b>144</b>	<b>0</b>	<b>234</b>	<b>0.8</b>			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3814.000 - DIRECTOR IT INFRASTRUCTURE

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	190	198	222	343	372
Non-Labor	127	67	95	117	431
NSE	0	0	0	0	0
<b>Total</b>	<b>318</b>	<b>264</b>	<b>317</b>	<b>460</b>	<b>803</b>
FTE	0.9	0.9	1.0	1.7	1.8
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	190	198	222	343	372
Non-Labor	127	67	95	117	431
NSE	0	0	0	0	0
<b>Total</b>	<b>318</b>	<b>264</b>	<b>317</b>	<b>460</b>	<b>803</b>
FTE	0.9	0.9	1.0	1.7	1.8
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	28	31	35	53	62
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>28</b>	<b>31</b>	<b>35</b>	<b>53</b>	<b>62</b>
FTE	0.1	0.2	0.2	0.3	0.3
<b>Escalation to 2016\$</b>					
Labor	15	12	9	7	0
Non-Labor	9	3	3	2	0
NSE	0	0	0	0	0
<b>Total</b>	<b>24</b>	<b>15</b>	<b>12</b>	<b>8</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	233	241	266	402	434
Non-Labor	136	70	99	119	431
NSE	0	0	0	0	0
<b>Total</b>	<b>370</b>	<b>311</b>	<b>365</b>	<b>521</b>	<b>864</b>
FTE	1.0	1.1	1.2	2.0	2.1

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3814.000 - DIRECTOR IT INFRASTRUCTURE

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3824.000 - INFRAST PRGRM OFFICE**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3824.000 - INFRASTR PRGRM OFFICE

**Activity Description:**

This cost center provides enterprise-wide IT Compliance Management.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		399	214	391	532	552	552	552	552	
Non-Labor		153	15	9	109	345	185	195	206	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>552</b>	<b>229</b>	<b>400</b>	<b>641</b>	<b>897</b>	<b>737</b>	<b>747</b>	<b>758</b>	
FTE		3.0	1.6	3.3	4.5	4.5	4.5	4.5	4.5	

*Note: Totals may include rounding differences.*



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3824.000 - INFRASR PRGRM OFFICE

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	3	3	0	6	0.0	3	3	0	6	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	549	343	0	892	4.5	549	182	0	731	4.5
<b>Total Incurred</b>	<b>552</b>	<b>346</b>	<b>0</b>	<b>898</b>	<b>4.5</b>	<b>552</b>	<b>185</b>	<b>0</b>	<b>737</b>	<b>4.5</b>
<b>% Allocation</b>										
Retained	34.50%	34.50%				36.42%	36.42%			
SEU	61.91%	61.91%				59.94%	59.94%			
CORP	3.59%	3.59%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	3	3	0	6	0.0	3	3	0	6	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	549	192	0	741	4.5	549	203	0	752	4.5
<b>Total Incurred</b>	<b>552</b>	<b>195</b>	<b>0</b>	<b>747</b>	<b>4.5</b>	<b>552</b>	<b>206</b>	<b>0</b>	<b>758</b>	<b>4.5</b>
<b>% Allocation</b>										
Retained	36.42%	36.42%				36.42%	36.42%			
SEU	59.94%	59.94%				59.94%	59.94%			
CORP	3.64%	3.64%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3824.000 - INFRAST PRGRM OFFICE

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	552	552	552	0	0	0	552	552	552
Non-Labor	Base YR Rec	345	345	345	-161	-151	-140	184	194	205
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>897</b>	<b>897</b>	<b>897</b>	<b>-161</b>	<b>-151</b>	<b>-140</b>	<b>736</b>	<b>746</b>	<b>757</b>
FTE	Base YR Rec	4.5	4.5	4.5	0.0	0.0	0.0	4.5	4.5	4.5

**Forecast Adjustment Details:**

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	0	-161	0	-161	0.0	1-Sided Adj	JKLONG20161129102826080	
<b>Explanation:</b>		\$161K was removed from the baseline forecast due to an annual contract being paid twice in 2016. Contract escalations and new contracts were still included for 2018 and 2019.							
<b>2017 Total</b>		<b>0</b>	<b>-161</b>	<b>0</b>	<b>-161</b>	<b>0.0</b>			
2018	Other	0	-151	0	-151	0.0	1-Sided Adj	JKLONG20161129102854850	
<b>Explanation:</b>		\$161K was removed from the baseline forecast due to an annual contract being paid twice in 2016. Contract escalations and new contracts were still included for 2018 and 2019.							
<b>2018 Total</b>		<b>0</b>	<b>-151</b>	<b>0</b>	<b>-151</b>	<b>0.0</b>			
2019	Other	0	-140	0	-140	0.0	1-Sided Adj	JKLONG20161129102907043	
<b>Explanation:</b>		\$161K was removed from the baseline forecast due to an annual contract being paid twice in 2016. Contract escalations and new contracts were still included for 2018 and 2019.							
<b>2019 Total</b>		<b>0</b>	<b>-140</b>	<b>0</b>	<b>-140</b>	<b>0.0</b>			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3824.000 - INFRAST PRGRM OFFICE

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	325	175	326	453	474
Non-Labor	143	14	9	107	345
NSE	0	0	0	0	0
<b>Total</b>	<b>468</b>	<b>190</b>	<b>335</b>	<b>561</b>	<b>819</b>
FTE	2.6	1.3	2.7	3.8	3.8
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	325	175	326	453	474
Non-Labor	143	14	9	107	345
NSE	0	0	0	0	0
<b>Total</b>	<b>468</b>	<b>190</b>	<b>335</b>	<b>561</b>	<b>819</b>
FTE	2.6	1.3	2.7	3.8	3.8
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	47	28	52	70	79
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>47</b>	<b>28</b>	<b>52</b>	<b>70</b>	<b>79</b>
FTE	0.4	0.2	0.5	0.7	0.7
<b>Escalation to 2016\$</b>					
Labor	26	11	13	9	0
Non-Labor	10	1	0	2	0
NSE	0	0	0	0	0
<b>Total</b>	<b>36</b>	<b>11</b>	<b>13</b>	<b>10</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	399	214	391	532	552
Non-Labor	153	15	9	109	345
NSE	0	0	0	0	0
<b>Total</b>	<b>552</b>	<b>229</b>	<b>400</b>	<b>641</b>	<b>897</b>
FTE	3.0	1.5	3.2	4.5	4.5

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3824.000 - INFRAST PRGRM OFFICE

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3855.000 - CLINT SERVICES MAINTENANCE & SUPPORT**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3855.000 - CLINT SERVICES MAINTENANCE & SUPPORT

**Activity Description:**

This cost center performs system services on a system-wide basis across Corporate Center, SDG&E, and So Cal Gas.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		0	0	0	0	0	0	0	0	
Non-Labor		4,481	5,755	4,368	2,923	2	2	2	2	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>4,481</b>	<b>5,755</b>	<b>4,368</b>	<b>2,923</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3855.000 - CLINT SERVICES MAINTENANCE & SUPPORT

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	2	0	2	0.0	0	2	0	2	0.0
<b>Total Incurred</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0.0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	48.58%	48.58%				49.86%	49.86%			
SEU	50.35%	50.35%				49.07%	49.07%			
CORP	1.07%	1.07%				1.07%	1.07%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	2	0	2	0.0	0	2	0	2	0.0
<b>Total Incurred</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0.0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	49.86%	49.86%				49.86%	49.86%			
SEU	49.07%	49.07%				49.07%	49.07%			
CORP	1.07%	1.07%				1.07%	1.07%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3855.000 - CLINT SERVICES MAINTENANCE & SUPPORT

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on department weighted average. The use of department weighted average is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

Calculations are based on department weighted average. The use of department weighted average is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

Calculations are based on department weighted average. The use of department weighted average is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

Calculations are based on department weighted average. The use of department weighted average is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

*Note: Totals may include rounding differences.*



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3855.000 - CLINT SERVICES MAINTENANCE & SUPPORT

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	0	0	0	0	0	0	0	0	0
Non-Labor	Base YR Rec	2	2	2	0	0	0	2	2	2
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>2</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>2</b>
FTE	Base YR Rec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3855.000 - CLINT SERVICES MAINTENANCE & SUPPORT

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	0	0	0	0
Non-Labor	1,525	5,471	4,224	2,876	2
NSE	0	0	0	0	0
<b>Total</b>	<b>1,525</b>	<b>5,471</b>	<b>4,224</b>	<b>2,876</b>	<b>2</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	2,660	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>2,660</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	4,186	5,471	4,224	2,876	2
NSE	0	0	0	0	0
<b>Total</b>	<b>4,186</b>	<b>5,471</b>	<b>4,224</b>	<b>2,876</b>	<b>2</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Escalation to 2016\$</b>					
Labor	0	0	0	0	0
Non-Labor	296	284	144	47	0
NSE	0	0	0	0	0
<b>Total</b>	<b>296</b>	<b>284</b>	<b>144</b>	<b>47</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	0	0	0	0	0
Non-Labor	4,481	5,755	4,368	2,923	2
NSE	0	0	0	0	0
<b>Total</b>	<b>4,481</b>	<b>5,755</b>	<b>4,368</b>	<b>2,923</b>	<b>2</b>
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

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3855.000 - CLINT SERVICES MAINTENANCE & SUPPORT

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	2,660	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>2,660</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	0	2,660	0	0.0	CCTR Transf From 2100-3857.000	SOMAHONY20161105183727500

**Explanation:** Internal reorganizational changes to monitor contract costs. Moved costs to 2100-3855.

<b>2012 Total</b>		<b>0</b>	<b>2,660</b>	<b>0</b>	<b>0.0</b>		
<b>2013 Total</b>		0	0	0	0.0		
<b>2014 Total</b>		0	0	0	0.0		
<b>2015 Total</b>		0	0	0	0.0		
<b>2016 Total</b>		0	0	0	0.0		

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3856.000 - VOICE LEASED CIRCUITS**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3856.000 - VOICE LEASED CIRCUITS

**Activity Description:**

This Cost Center is for planning and payment of Voice circuits leasing costs associated with voice communication for the Company on a system-wide basis.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		0	0	0	0	0	0	0	0	
Non-Labor		462	1,291	1,309	838	2,328	867	919	974	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>462</b>	<b>1,291</b>	<b>1,309</b>	<b>838</b>	<b>2,328</b>	<b>867</b>	<b>919</b>	<b>974</b>	
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3856.000 - VOICE LEASED CIRCUITS

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	2,328	0	2,328	0.0	0	867	0	867	0.0
<b>Total Incurred</b>	<b>0</b>	<b>2,328</b>	<b>0</b>	<b>2,328</b>	<b>0.0</b>	<b>0</b>	<b>867</b>	<b>0</b>	<b>867</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	39.20%	39.20%				40.29%	40.29%			
SEU	45.13%	45.13%				49.56%	49.56%			
CORP	6.39%	6.39%				4.63%	4.63%			
Unreg	9.28%	9.28%				5.52%	5.52%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	919	0	919	0.0	0	974	0	974	0.0
<b>Total Incurred</b>	<b>0</b>	<b>919</b>	<b>0</b>	<b>919</b>	<b>0.0</b>	<b>0</b>	<b>974</b>	<b>0</b>	<b>974</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	40.29%	40.29%				40.29%	40.29%			
SEU	49.56%	49.56%				49.56%	49.56%			
CORP	4.63%	4.63%				4.63%	4.63%			
Unreg	5.52%	5.52%				5.52%	5.52%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3856.000 - VOICE LEASED CIRCUITS

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

The Voice Leased Circuit cost center costs are for leased contract costs for voice communications functions for Telecommunications device users at SDGE, SCG, Parent and Global Companies. There is a unique Telephone device ID for every phone device used by the Companies and therefore, the voice count is the most representative determination for the allocation of voice support costs to the Company.

**Cost Center Allocation Percentage for 2017**

The Voice Leased Circuit cost center costs are for leased contract costs for voice communications functions for Telecommunications device users at SDGE, SCG, Parent and Global Companies. There is a unique Telephone device ID for every phone device used by the Companies and therefore, the voice count is the most representative determination for the allocation of voice support costs to the Company.

**Cost Center Allocation Percentage for 2018**

The Voice Leased Circuit cost center costs are for leased contract costs for voice communications functions for Telecommunications device users at SDGE, SCG, Parent and Global Companies. There is a unique Telephone device ID for every phone device used by the Companies and therefore, the voice count is the most representative determination for the allocation of voice support costs to the Company.

**Cost Center Allocation Percentage for 2019**

The Voice Leased Circuit cost center costs are for leased contract costs for voice communications functions for Telecommunications device users at SDGE, SCG, Parent and Global Companies. There is a unique Telephone device ID for every phone device used by the Companies and therefore, the voice count is the most representative determination for the allocation of voice support costs to the Company.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3856.000 - VOICE LEASED CIRCUITS

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	0	0	0	0	0	0	0	0	0
Non-Labor	Base YR Rec	2,328	2,328	2,328	-1,461	-1,409	-1,354	867	919	974
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>2,328</b>	<b>2,328</b>	<b>2,328</b>	<b>-1,461</b>	<b>-1,409</b>	<b>-1,354</b>	<b>867</b>	<b>919</b>	<b>974</b>
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:**

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>	
2017	Other	0	-1,461	0	-1,461	0.0	1-Sided Adj	SOMAHONY20170308122043117	
<b>Explanation:</b>		Telecom contracts transfer to 2100-3884 after 2017 reorg.							
<b>2017 Total</b>		<b>0</b>	<b>-1,461</b>	<b>0</b>	<b>-1,461</b>	<b>0.0</b>			
2018	Other	0	-1,461	0	-1,461	0.0	1-Sided Adj	SOMAHONY20170308122116180	
<b>Explanation:</b>		Telecom contracts transfer to 2100-3884 after 2017 reorg.							
2018	Other	0	52	0	52	0.0	1-Sided Adj	SOMAHONY20170308122815907	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2018 Total</b>		<b>0</b>	<b>-1,409</b>	<b>0</b>	<b>-1,409</b>	<b>0.0</b>			
2019	Other	0	-1,461	0	-1,461	0.0	1-Sided Adj	SOMAHONY20170308122226210	
<b>Explanation:</b>		Telecom contracts transfer to 2100-3884 after 2017 reorg.							
2019	Other	0	107	0	107	0.0	1-Sided Adj	SOMAHONY20170308122836590	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2019 Total</b>		<b>0</b>	<b>-1,354</b>	<b>0</b>	<b>-1,354</b>	<b>0.0</b>			

Note: Totals may include rounding differences.



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Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3856.000 - VOICE LEASED CIRCUITS

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	0	0	0	0
Non-Labor	406	900	777	561	2,328
NSE	0	0	0	0	0
<b>Total</b>	<b>406</b>	<b>900</b>	<b>777</b>	<b>561</b>	<b>2,328</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	25	327	489	264	0
NSE	0	0	0	0	0
<b>Total</b>	<b>25</b>	<b>327</b>	<b>489</b>	<b>264</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	431	1,228	1,266	825	2,328
NSE	0	0	0	0	0
<b>Total</b>	<b>431</b>	<b>1,228</b>	<b>1,266</b>	<b>825</b>	<b>2,328</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Escalation to 2016\$</b>					
Labor	0	0	0	0	0
Non-Labor	30	64	43	14	0
NSE	0	0	0	0	0
<b>Total</b>	<b>30</b>	<b>64</b>	<b>43</b>	<b>14</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	0	0	0	0	0
Non-Labor	462	1,291	1,309	838	2,328
NSE	0	0	0	0	0
<b>Total</b>	<b>462</b>	<b>1,291</b>	<b>1,309</b>	<b>838</b>	<b>2,328</b>
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

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3856.000 - VOICE LEASED CIRCUITS

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	25	327	489	264	0
NSE	0	0	0	0	0
<b>Total</b>	<b>25</b>	<b>327</b>	<b>489</b>	<b>264</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	0	25	0	0.0	CCTR Transf From 2100-3859.000	SOMAHONY20170308125048773
<b>Explanation:</b>		SDGE Personal Owned Device Allowance Costs transferred to 2100-3856.					
<b>2012 Total</b>		<b>0</b>	<b>25</b>	<b>0</b>	<b>0.0</b>		
2013	Other	0	327	0	0.0	CCTR Transf From 2100-3859.000	SOMAHONY20170308125124853
<b>Explanation:</b>		SDGE Personal Owned Device Allowance Costs transferred to 2100-3856.					
<b>2013 Total</b>		<b>0</b>	<b>327</b>	<b>0</b>	<b>0.0</b>		
2014	Other	0	489	0	0.0	CCTR Transf From 2100-3859.000	SOMAHONY20170308125159123
<b>Explanation:</b>		SDGE Personal Owned Device Allowance Costs transferred to 2100-3856.					
<b>2014 Total</b>		<b>0</b>	<b>489</b>	<b>0</b>	<b>0.0</b>		
2015	Other	0	264	0	0.0	CCTR Transf From 2100-3859.000	SOMAHONY20170308125438277
<b>Explanation:</b>		SDGE Personal Owned Device Allowance Costs transferred to 2100-3856.					
<b>2015 Total</b>		<b>0</b>	<b>264</b>	<b>0</b>	<b>0.0</b>		
<b>2016 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3884.000 - MGD SVC VOICE ENTERP**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3884.000 - MGD SVC VOICE ENTERP

**Activity Description:**

This Cost Center is for the monthly vendor payments for the managed services of system-wide Voice and call recording support costs, excluding SCG contracts.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		0	0	0	0	0	0	0	0	
Non-Labor		0	934	848	840	832	2,133	2,261	2,397	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>0</b>	<b>934</b>	<b>848</b>	<b>840</b>	<b>832</b>	<b>2,133</b>	<b>2,261</b>	<b>2,397</b>	
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
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Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3884.000 - MGD SVC VOICE ENTERP

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	-4	0	-4	0.0	0	-4	0	-4	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	836	0	836	0.0	0	2,137	0	2,137	0.0
<b>Total Incurred</b>	<b>0</b>	<b>832</b>	<b>0</b>	<b>832</b>	<b>0.0</b>	<b>0</b>	<b>2,133</b>	<b>0</b>	<b>2,133</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	40.28%	40.28%				40.29%	40.29%			
SEU	49.75%	49.75%				49.56%	49.56%			
CORP	4.63%	4.63%				4.63%	4.63%			
Unreg	5.34%	5.34%				5.52%	5.52%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	-4	0	-4	0.0	0	-4	0	-4	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	2,265	0	2,265	0.0	0	2,401	0	2,401	0.0
<b>Total Incurred</b>	<b>0</b>	<b>2,261</b>	<b>0</b>	<b>2,261</b>	<b>0.0</b>	<b>0</b>	<b>2,397</b>	<b>0</b>	<b>2,397</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	40.29%	40.29%				40.29%	40.29%			
SEU	49.56%	49.56%				49.56%	49.56%			
CORP	4.63%	4.63%				4.63%	4.63%			
Unreg	5.52%	5.52%				5.52%	5.52%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3884.000 - MGD SVC VOICE ENTERP

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

This cost center costs are for Voice Managed Services that support voice communications functions for Telecommunications device users at SDGE, Parent and Global Companies. There is a unique Telephone device ID for every phone device used by the Companies and therefore, the Telephone device count is the most representative determination for the allocation of voice support costs to the Company. SCG costs are charged to a separate and dedicated SCG cost center. The Telephone devices count across companies will be measured on an annual basis at the end of the fiscal year and changed accordingly for the next fiscal year if company usage changes.

**Cost Center Allocation Percentage for 2017**

This cost center costs are for Voice Managed Services that support voice communications functions for Telecommunications device users at SDGE, Parent and Global Companies. There is a unique Telephone device ID for every phone device used by the Companies and therefore, the Telephone device count is the most representative determination for the allocation of voice support costs to the Company. SCG costs are charged to a separate and dedicated SCG cost center. The Telephone devices count across companies will be measured on an annual basis at the end of the fiscal year and changed accordingly for the next fiscal year if company usage changes.

**Cost Center Allocation Percentage for 2018**

This cost center costs are for Voice Managed Services that support voice communications functions for Telecommunications device users at SDGE, Parent and Global Companies. There is a unique Telephone device ID for every phone device used by the Companies and therefore, the Telephone device count is the most representative determination for the allocation of voice support costs to the Company. SCG costs are charged to a separate and dedicated SCG cost center. The Telephone devices count across companies will be measured on an annual basis at the end of the fiscal year and changed accordingly for the next fiscal year if company usage changes.

**Cost Center Allocation Percentage for 2019**

This cost center costs are for Voice Managed Services that support voice communications functions for Telecommunications device users at SDGE, Parent and Global Companies. There is a unique Telephone device ID for every phone device used by the Companies and therefore, the Telephone device count is the most representative determination for the allocation of voice support costs to the Company. SCG costs are charged to a separate and dedicated SCG cost center. The Telephone devices count across companies will be measured on an annual basis at the end of the fiscal year and changed accordingly for the next fiscal year if company usage changes.

*Note: Totals may include rounding differences.*

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Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3884.000 - MGD SVC VOICE ENTERP

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	0	0	0	0	0	0	0	0	0
Non-Labor	Base YR Rec	832	832	832	1,301	1,429	1,565	2,133	2,261	2,397
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>832</b>	<b>832</b>	<b>832</b>	<b>1,301</b>	<b>1,429</b>	<b>1,565</b>	<b>2,133</b>	<b>2,261</b>	<b>2,397</b>
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	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	0	1,461	0	1,461	0.0	1-Sided Adj	SOMAHONY20170308123549473	
<b>Explanation:</b>		Contracts transferred from 2100-3856 due to reorg.							
2017	Other	0	-160	0	-160	0.0	1-Sided Adj	SOMAHONY20170308123742080	
<b>Explanation:</b>		Non-recurring payment removed							
<b>2017 Total</b>		<b>0</b>	<b>1,301</b>	<b>0</b>	<b>1,301</b>	<b>0.0</b>			
2018	Other	0	128	0	128	0.0	1-Sided Adj	SOMAHONY20170310010651610	
<b>Explanation:</b>		Contract escalations and new contracts							
2018	Other	0	1,461	0	1,461	0.0	1-Sided Adj	SOMAHONY20170308123607100	
<b>Explanation:</b>		Contracts transferred from 2100-3856 due to reorg.							
2018	Other	0	-160	0	-160	0.0	1-Sided Adj	SOMAHONY20170308123800640	
<b>Explanation:</b>		Non-recurring payment removed							
<b>2018 Total</b>		<b>0</b>	<b>1,429</b>	<b>0</b>	<b>1,429</b>	<b>0.0</b>			
2019	Other	0	264	0	264	0.0	1-Sided Adj	SOMAHONY20170310010729087	
<b>Explanation:</b>		Contract escalations and new contracts							
2019	Other	0	1,461	0	1,461	0.0	1-Sided Adj	SOMAHONY20170308123628750	
<b>Explanation:</b>		Contracts transferred from 2100-3856 due to reorg.							

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3884.000 - MGD SVC VOICE ENTERP

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj_Type</u>	<u>RefID</u>
2019	Other	0	-160	0	-160	0.0	1-Sided Adj	SOMAHONY20170308123813860
<b>Explanation:</b>		Non-recurring payment removed						
<b>2019 Total</b>		<b>0</b>	<b>1,565</b>	<b>0</b>	<b>1,565</b>	<b>0.0</b>		

*Note: Totals may include rounding differences.*



San Diego Gas & Electric Company  
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Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3884.000 - MGD SVC VOICE ENTERP

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	0	0	0	0
Non-Labor	0	888	820	826	832
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>888</b>	<b>820</b>	<b>826</b>	<b>832</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	888	820	826	832
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>888</b>	<b>820</b>	<b>826</b>	<b>832</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Escalation to 2016\$</b>					
Labor	0	0	0	0	0
Non-Labor	0	46	28	14	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>46</b>	<b>28</b>	<b>14</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	934	848	840	832
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>934</b>	<b>848</b>	<b>840</b>	<b>832</b>
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

Note: Totals may include rounding differences.

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Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3884.000 - MGD SVC VOICE ENTERP

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3885.000 - VOICE ENTERP SUPPORT**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3885.000 - VOICE ENTERP SUPPORT

**Activity Description:**

This Cost Center supports the managed services of Enterprise Voice support costs, Customer Contact Centers Voice and Computer Telephony Integration support costs and the Enterprise and Customer Contact Centers call recording support costs.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		245	543	444	416	418	418	418	418	
Non-Labor		8	6	2	8	85	85	85	85	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>253</b>	<b>549</b>	<b>446</b>	<b>424</b>	<b>502</b>	<b>503</b>	<b>503</b>	<b>503</b>	
FTE		2.8	4.9	4.2	3.9	3.2	3.2	3.2	3.2	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3885.000 - VOICE ENTERP SUPPORT

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	3	0	3	0.0	0	3	0	3	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	418	82	0	500	3.2	418	82	0	500	3.2
<b>Total Incurred</b>	<b>418</b>	<b>85</b>	<b>0</b>	<b>503</b>	<b>3.2</b>	<b>418</b>	<b>85</b>	<b>0</b>	<b>503</b>	<b>3.2</b>
<b>% Allocation</b>										
Retained	40.28%	40.28%				40.29%	40.29%			
SEU	49.75%	49.75%				49.56%	49.56%			
CORP	4.63%	4.63%				4.63%	4.63%			
Unreg	5.34%	5.34%				5.52%	5.52%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	3	0	3	0.0	0	3	0	3	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	418	82	0	500	3.2	418	82	0	500	3.2
<b>Total Incurred</b>	<b>418</b>	<b>85</b>	<b>0</b>	<b>503</b>	<b>3.2</b>	<b>418</b>	<b>85</b>	<b>0</b>	<b>503</b>	<b>3.2</b>
<b>% Allocation</b>										
Retained	40.29%	40.29%				40.29%	40.29%			
SEU	49.56%	49.56%				49.56%	49.56%			
CORP	4.63%	4.63%				4.63%	4.63%			
Unreg	5.52%	5.52%				5.52%	5.52%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3885.000 - VOICE ENTERP SUPPORT

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

This cost center costs are for Voice Managed Services that support voice communications functions for Telecommunications device users at SDGE, SCG, Parent and Global Companies. There is a unique Telephone device ID for every phone device used by the Companies and therefore, the Telephone device count is the most representative determination for the allocation of voice support costs to the Company.

**Cost Center Allocation Percentage for 2017**

This cost center costs are for Voice Managed Services that support voice communications functions for Telecommunications device users at SDGE, SCG, Parent and Global Companies. There is a unique Telephone device ID for every phone device used by the Companies and therefore, the Telephone device count is the most representative determination for the allocation of voice support costs to the Company.

**Cost Center Allocation Percentage for 2018**

This cost center costs are for Voice Managed Services that support voice communications functions for Telecommunications device users at SDGE, SCG, Parent and Global Companies. There is a unique Telephone device ID for every phone device used by the Companies and therefore, the Telephone device count is the most representative determination for the allocation of voice support costs to the Company.

**Cost Center Allocation Percentage for 2019**

This cost center costs are for Voice Managed Services that support voice communications functions for Telecommunications device users at SDGE, SCG, Parent and Global Companies. There is a unique Telephone device ID for every phone device used by the Companies and therefore, the Telephone device count is the most representative determination for the allocation of voice support costs to the Company.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3885.000 - VOICE ENTERP SUPPORT

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	418	418	418	0	0	0	418	418	418
Non-Labor	Base YR Rec	85	85	85	0	0	0	85	85	85
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>502</b>	<b>502</b>	<b>502</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>502</b>	<b>502</b>	<b>502</b>
FTE	Base YR Rec	3.2	3.2	3.2	0.0	0.0	0.0	3.2	3.2	3.2

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3885.000 - VOICE ENTERP SUPPORT

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	367	370	355	358
Non-Labor	0	4	2	8	85
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>372</b>	<b>372</b>	<b>363</b>	<b>443</b>
FTE	0.0	3.2	3.7	3.3	2.7
<b>Adjustments (Nominal \$) **</b>					
Labor	200	78	0	0	0
Non-Labor	7	1	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>207</b>	<b>79</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	2.4	1.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	200	445	370	355	358
Non-Labor	7	6	2	8	85
NSE	0	0	0	0	0
<b>Total</b>	<b>207</b>	<b>451</b>	<b>372</b>	<b>363</b>	<b>443</b>
FTE	2.4	4.2	3.7	3.3	2.7
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	29	71	59	55	59
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>29</b>	<b>71</b>	<b>59</b>	<b>55</b>	<b>59</b>
FTE	0.4	0.7	0.7	0.6	0.5
<b>Escalation to 2016\$</b>					
Labor	16	27	15	7	0
Non-Labor	1	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>17</b>	<b>27</b>	<b>15</b>	<b>7</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	245	543	444	416	418
Non-Labor	8	6	2	8	85
NSE	0	0	0	0	0
<b>Total</b>	<b>253</b>	<b>549</b>	<b>446</b>	<b>424</b>	<b>502</b>
FTE	2.8	4.9	4.4	3.9	3.2

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3885.000 - VOICE ENTERP SUPPORT

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	200	78	0	0	0
Non-Labor	7	1	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>207</b>	<b>79</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	2.4	1.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	200	7	0	2.4	CCTR Transf From 2100-4003.000	SHAO20170308140053513
<b>Explanation:</b>		IT Communication costs move to cost center 2100-3885. Cost center 2100-4003 has been retired.					
2012	Other	0	0	0	0.0	CCTR Transf From 2100-4003.000	SHAO20170308140125233
<b>Explanation:</b>		IT Communication costs move to cost center 2100-3885. Cost center 2100-4003 has been retired.					
<b>2012 Total</b>		<b>200</b>	<b>7</b>	<b>0</b>	<b>2.4</b>		
2013	Other	78	1	0	1.0	CCTR Transf From 2100-4003.000	SHAO20170308140206340
<b>Explanation:</b>		IT Communication costs move to cost center 2100-3885. Cost center 2100-4003 has been retired.					
<b>2013 Total</b>		<b>78</b>	<b>1</b>	<b>0</b>	<b>1.0</b>		
<b>2014 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2015 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2016 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3888.000 - IT PORTFOLIO MANAGEMENT**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3888.000 - IT PORTFOLIO MANAGEMENT

**Activity Description:**

This cost center manages Client Technology Support and Solutions, SempraHelp & IT Service Management, and IT Communications system-wide.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		0	326	234	223	63	63	63	63	
Non-Labor		0	18	39	16	4	5	5	5	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>0</b>	<b>343</b>	<b>272</b>	<b>240</b>	<b>67</b>	<b>68</b>	<b>68</b>	<b>68</b>	
FTE		0.0	2.5	2.1	2.0	0.8	0.9	0.9	0.9	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3888.000 - IT PORTFOLIO MANAGEMENT

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	1	0	1	0.0	0	1	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	63	4	0	67	0.9	63	4	0	67	0.9
<b>Total Incurred</b>	<b>63</b>	<b>5</b>	<b>0</b>	<b>68</b>	<b>0.9</b>	<b>63</b>	<b>5</b>	<b>0</b>	<b>68</b>	<b>0.9</b>
<b>% Allocation</b>										
Retained	34.50%	34.50%				36.42%	36.42%			
SEU	61.91%	61.91%				59.94%	59.94%			
CORP	3.59%	3.59%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	1	0	1	0.0	0	1	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	63	4	0	67	0.9	63	4	0	67	0.9
<b>Total Incurred</b>	<b>63</b>	<b>5</b>	<b>0</b>	<b>68</b>	<b>0.9</b>	<b>63</b>	<b>5</b>	<b>0</b>	<b>68</b>	<b>0.9</b>
<b>% Allocation</b>										
Retained	36.42%	36.42%				36.42%	36.42%			
SEU	59.94%	59.94%				59.94%	59.94%			
CORP	3.64%	3.64%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3888.000 - IT PORTFOLIO MANAGEMENT

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	63	63	63	0	0	0	63	63	63
Non-Labor	Base YR Rec	4	4	4	0	0	0	4	4	4
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>67</b>	<b>67</b>	<b>67</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>67</b>	<b>67</b>	<b>67</b>
FTE	Base YR Rec	0.9	0.9	0.9	0.0	0.0	0.0	0.9	0.9	0.9

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3888.000 - IT PORTFOLIO MANAGEMENT

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	267	195	190	54
Non-Labor	0	17	37	16	4
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>284</b>	<b>232</b>	<b>206</b>	<b>58</b>
FTE	0.0	2.1	1.8	1.7	0.7
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	267	195	190	54
Non-Labor	0	17	37	16	4
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>284</b>	<b>232</b>	<b>206</b>	<b>58</b>
FTE	0.0	2.1	1.8	1.7	0.7
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	42	31	29	9
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>42</b>	<b>31</b>	<b>29</b>	<b>9</b>
FTE	0.0	0.4	0.3	0.3	0.1
<b>Escalation to 2016\$</b>					
Labor	0	16	8	4	0
Non-Labor	0	1	1	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>17</b>	<b>9</b>	<b>4</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	0	326	234	223	63
Non-Labor	0	18	39	16	4
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>343</b>	<b>272</b>	<b>240</b>	<b>67</b>
FTE	0.0	2.5	2.1	2.0	0.8

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3888.000 - IT PORTFOLIO MANAGEMENT

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3900.000 - IT PORTFOLIO MANAGEMENT**



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3900.000 - IT PORTFOLIO MANAGEMENT

**Activity Description:**

This cost center includes the PMO Director and her administrative support. The IT PMO & QA Director provides project management and development for IT Related Projects enterprise wide, as well as documentation for all business case and concepts. Also, project management for several SDGE funded projects.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		0	93	237	244	255	255	255	255	
Non-Labor		0	7	132	38	33	33	33	33	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>0</b>	<b>100</b>	<b>370</b>	<b>282</b>	<b>288</b>	<b>288</b>	<b>288</b>	<b>288</b>	
FTE		0.0	0.6	1.5	2.1	2.0	2.0	2.0	2.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3900.000 - IT PORTFOLIO MANAGEMENT

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	1	0	1	0.0	0	1	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	255	32	0	287	2.0	255	32	0	287	2.0
<b>Total Incurred</b>	<b>255</b>	<b>33</b>	<b>0</b>	<b>288</b>	<b>2.0</b>	<b>255</b>	<b>33</b>	<b>0</b>	<b>288</b>	<b>2.0</b>
<b>% Allocation</b>										
Retained	55.66%	55.66%				55.66%	55.66%			
SEU	43.50%	43.50%				43.50%	43.50%			
CORP	0.84%	0.84%				0.84%	0.84%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	1	0	1	0.0	0	1	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	255	32	0	287	2.0	255	32	0	287	2.0
<b>Total Incurred</b>	<b>255</b>	<b>33</b>	<b>0</b>	<b>288</b>	<b>2.0</b>	<b>255</b>	<b>33</b>	<b>0</b>	<b>288</b>	<b>2.0</b>
<b>% Allocation</b>										
Retained	55.66%	55.66%				55.66%	55.66%			
SEU	43.50%	43.50%				43.50%	43.50%			
CORP	0.84%	0.84%				0.84%	0.84%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on a weighted average of the department's cost allocations. This is appropriate as this cost center manages the performance of all cost centers within the IT PMO department.

**Cost Center Allocation Percentage for 2017**

Calculations are based on a weighted average of the department's cost allocations. This is appropriate as this cost center manages the performance of all cost centers within the IT PMO department.

**Cost Center Allocation Percentage for 2018**

Calculations are based on a weighted average of the department's cost allocations. This is appropriate as this cost center manages the performance of all cost centers within the IT PMO department.

**Cost Center Allocation Percentage for 2019**

Calculations are based on a weighted average of the department's cost allocations. This is appropriate as this cost center manages the performance of all cost centers within the IT PMO department.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3900.000 - IT PORTFOLIO MANAGEMENT

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	255	255	255	0	0	0	255	255	255
Non-Labor	Base YR Rec	33	33	33	0	0	0	33	33	33
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>288</b>	<b>288</b>	<b>288</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>288</b>	<b>288</b>	<b>288</b>
FTE	Base YR Rec	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
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Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3900.000 - IT PORTFOLIO MANAGEMENT

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	76	198	208	218
Non-Labor	0	6	128	38	33
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>83</b>	<b>326</b>	<b>245</b>	<b>252</b>
FTE	0.0	0.5	1.3	1.8	1.7
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	76	198	208	218
Non-Labor	0	6	128	38	33
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>83</b>	<b>326</b>	<b>245</b>	<b>252</b>
FTE	0.0	0.5	1.3	1.8	1.7
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	12	32	32	36
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>12</b>	<b>32</b>	<b>32</b>	<b>36</b>
FTE	0.0	0.1	0.2	0.3	0.3
<b>Escalation to 2016\$</b>					
Labor	0	5	8	4	0
Non-Labor	0	0	4	1	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>5</b>	<b>12</b>	<b>5</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	0	93	237	244	255
Non-Labor	0	7	132	38	33
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>100</b>	<b>370</b>	<b>282</b>	<b>288</b>
FTE	0.0	0.6	1.5	2.1	2.0

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
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Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3900.000 - IT PORTFOLIO MANAGEMENT

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3916.000 - BI & ANALYTICS ENGINEERING-SAS CONTRACTS**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3916.000 - BI & ANALYTICS ENGINEERING-SAS CONTRACTS

**Activity Description:**

This cost center provides maintenance and enhancement support for system wide database administration.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		0	0	0	0	0	0	0	0	
Non-Labor		0	0	3,189	3,147	4,045	4,288	4,545	4,818	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>0</b>	<b>0</b>	<b>3,189</b>	<b>3,147</b>	<b>4,045</b>	<b>4,288</b>	<b>4,545</b>	<b>4,818</b>	
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3916.000 - BI & ANALYTICS ENGINEERING-SAS CONTRACTS

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	4,045	0	4,045	0.0	0	4,288	0	4,288	0.0
<b>Total Incurred</b>	<b>0</b>	<b>4,045</b>	<b>0</b>	<b>4,045</b>	<b>0.0</b>	<b>0</b>	<b>4,288</b>	<b>0</b>	<b>4,288</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	34.50%	34.50%				36.42%	36.42%			
SEU	61.91%	61.91%				59.94%	59.94%			
CORP	3.59%	3.59%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	4,545	0	4,545	0.0	0	4,818	0	4,818	0.0
<b>Total Incurred</b>	<b>0</b>	<b>4,545</b>	<b>0</b>	<b>4,545</b>	<b>0.0</b>	<b>0</b>	<b>4,818</b>	<b>0</b>	<b>4,818</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	36.42%	36.42%				36.42%	36.42%			
SEU	59.94%	59.94%				59.94%	59.94%			
CORP	3.64%	3.64%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

Note: Totals may include rounding differences.



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3916.000 - BI & ANALYTICS ENGINEERING-SAS CONTRACTS

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	0	0	0	0	0	0	0	0	0
Non-Labor	Base YR Rec	4,045	4,045	4,045	243	500	773	4,288	4,545	4,818
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>4,045</b>	<b>4,045</b>	<b>4,045</b>	<b>243</b>	<b>500</b>	<b>773</b>	<b>4,288</b>	<b>4,545</b>	<b>4,818</b>
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	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	0	243	0	243	0.0	1-Sided Adj	JKLONG20161129100503837	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2017 Total</b>		<b>0</b>	<b>243</b>	<b>0</b>	<b>243</b>	<b>0.0</b>			
2018	Other	0	500	0	500	0.0	1-Sided Adj	JKLONG20161129100618040	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2018 Total</b>		<b>0</b>	<b>500</b>	<b>0</b>	<b>500</b>	<b>0.0</b>			
2019	Other	0	773	0	773	0.0	1-Sided Adj	JKLONG20161129100642097	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2019 Total</b>		<b>0</b>	<b>773</b>	<b>0</b>	<b>773</b>	<b>0.0</b>			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3916.000 - BI & ANALYTICS ENGINEERING-SAS CONTRACTS

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	3,084	3,096	4,045
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>3,084</b>	<b>3,096</b>	<b>4,045</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	3,084	3,096	4,045
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>3,084</b>	<b>3,096</b>	<b>4,045</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Escalation to 2016\$</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	105	51	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>105</b>	<b>51</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	3,189	3,147	4,045
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>3,189</b>	<b>3,147</b>	<b>4,045</b>
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

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3916.000 - BI & ANALYTICS ENGINEERING-SAS CONTRACTS

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3921.000 - IT&OTI CONTRACTS SS**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3921.000 - IT&OTI CONTRACTS SS

**Activity Description:**

This cost center will contain all Computing Infrastructure contract costs that are shared between SDGE, SCG, and the Parent. These contracts support system-wide resources and benefit the utilities and parent.

**Forecast Explanations:**

**Labor - Base YR Rec**

There is no labor in this cost center

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		0	0	0	0	0	0	0	0	
Non-Labor		14,966	10,518	12,611	10,835	9,812	10,401	10,436	10,438	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>14,966</b>	<b>10,518</b>	<b>12,611</b>	<b>10,835</b>	<b>9,812</b>	<b>10,401</b>	<b>10,436</b>	<b>10,438</b>	
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3921.000 - IT&OTI CONTRACTS SS

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	9,812	0	9,812	0.0	0	10,401	0	10,401	0.0
<b>Total Incurred</b>	<b>0</b>	<b>9,812</b>	<b>0</b>	<b>9,812</b>	<b>0.0</b>	<b>0</b>	<b>10,401</b>	<b>0</b>	<b>10,401</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	48.58%	48.58%				49.86%	49.86%			
SEU	50.35%	50.35%				49.07%	49.07%			
CORP	1.07%	1.07%				1.07%	1.07%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	10,436	0	10,436	0.0	0	10,438	0	10,438	0.0
<b>Total Incurred</b>	<b>0</b>	<b>10,436</b>	<b>0</b>	<b>10,436</b>	<b>0.0</b>	<b>0</b>	<b>10,438</b>	<b>0</b>	<b>10,438</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	49.86%	49.86%				49.86%	49.86%			
SEU	49.07%	49.07%				49.07%	49.07%			
CORP	1.07%	1.07%				1.07%	1.07%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3921.000 - IT&OTI CONTRACTS SS

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on department weighted average. The use of department weighted average is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

Calculations are based on department weighted average. The use of department weighted average is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

Calculations are based on department weighted average. The use of department weighted average is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

Calculations are based on department weighted average. The use of department weighted average is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3921.000 - IT&OTI CONTRACTS SS

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	0	0	0	0	0	0	0	0	0
Non-Labor	Base YR Rec	9,812	9,812	9,812	589	624	626	10,401	10,436	10,438
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>9,812</b>	<b>9,812</b>	<b>9,812</b>	<b>589</b>	<b>624</b>	<b>626</b>	<b>10,401</b>	<b>10,436</b>	<b>10,438</b>
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	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	0	589	0	589	0.0	1-Sided Adj	SHAO20161201135947210	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2017 Total</b>		<b>0</b>	<b>589</b>	<b>0</b>	<b>589</b>	<b>0.0</b>			
2018	Other	0	624	0	624	0.0	1-Sided Adj	SHAO20161201140012413	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2018 Total</b>		<b>0</b>	<b>624</b>	<b>0</b>	<b>624</b>	<b>0.0</b>			
2019	Other	0	626	0	626	0.0	1-Sided Adj	SHAO20161201140026540	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2019 Total</b>		<b>0</b>	<b>626</b>	<b>0</b>	<b>626</b>	<b>0.0</b>			

Note: Totals may include rounding differences.



San Diego Gas & Electric Company  
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Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3921.000 - IT&OTI CONTRACTS SS

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	11,567	10,899	9,812
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>11,567</b>	<b>10,899</b>	<b>9,812</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	13,979	10,000	628	-240	0
NSE	0	0	0	0	0
<b>Total</b>	<b>13,979</b>	<b>10,000</b>	<b>628</b>	<b>-240</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	13,979	10,000	12,195	10,660	9,812
NSE	0	0	0	0	0
<b>Total</b>	<b>13,979</b>	<b>10,000</b>	<b>12,195</b>	<b>10,660</b>	<b>9,812</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Escalation to 2016\$</b>					
Labor	0	0	0	0	0
Non-Labor	988	519	416	176	0
NSE	0	0	0	0	0
<b>Total</b>	<b>988</b>	<b>519</b>	<b>416</b>	<b>176</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	0	0	0	0	0
Non-Labor	14,966	10,518	12,611	10,835	9,812
NSE	0	0	0	0	0
<b>Total</b>	<b>14,966</b>	<b>10,518</b>	<b>12,611</b>	<b>10,835</b>	<b>9,812</b>
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

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
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Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3921.000 - IT&OTI CONTRACTS SS

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	13,979	10,000	628	-240	0
NSE	0	0	0	0	0
<b>Total</b>	<b>13,979</b>	<b>10,000</b>	<b>628</b>	<b>-240</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	0	6,331	0	0.0	CCTR Transf From 2100-3495.000	SHAO20170307151839290
<b>Explanation:</b>		CI Compute contract costs move to cost center 2100-3921. Cost center 2100-3495 has been retired.					
2012	Other	0	1,111	0	0.0	CCTR Transf From 2100-3501.000	SHAO20170307105113923
<b>Explanation:</b>		CI network contract costs move to cost center 2100-3921. Cost center 2100-3501 has been retired.					
2012	Other	0	6,179	0	0.0	CCTR Transf From 2100-3494.000	SHAO20170307144523580
<b>Explanation:</b>		CI Compute contract costs move to cost center 2100-3921. Cost center 2100-3494 has been retired.					
2012	Other	0	358	0	0.0	CCTR Transf From 2100-3494.000	SHAO20170307145946197
<b>Explanation:</b>		CI Compute contract costs move to cost center 2100-3921. Cost center 2100-3494 has been retired.					
<b>2012 Total</b>		<b>0</b>	<b>13,979</b>	<b>0</b>	<b>0.0</b>		
2013	Other	0	1,066	0	0.0	CCTR Transf From 2100-3501.000	SHAO20170307110017820
<b>Explanation:</b>		CI network contract costs move to cost center 2100-3921. Cost center 2100-3501 has been retired.					
2013	Other	0	3,232	0	0.0	CCTR Transf From 2100-3494.000	SHAO20170307150318727
<b>Explanation:</b>		CI Compute contract costs move to cost center 2100-3921. Cost center 2100-3494 has been retired.					
2013	Other	0	5,599	0	0.0	CCTR Transf From 2100-3495.000	SHAO20170307153952407
<b>Explanation:</b>		CI Compute contract costs move to cost center 2100-3921. Cost center 2100-3495 has been retired.					
2013	Other	0	102	0	0.0	CCTR Transf From 2100-3495.000	SHAO20170307154044593
<b>Explanation:</b>		CI Compute contract costs move to cost center 2100-3921. Cost center 2100-3495 has been retired.					
<b>2013 Total</b>		<b>0</b>	<b>10,000</b>	<b>0</b>	<b>0.0</b>		

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
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Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3921.000 - IT&OTI CONTRACTS SS

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
2014	Other	0	263	0	0.0	CCTR Transf From 2100-3501.000	SHAO20170307110048367
<b>Explanation:</b> CI network contract costs move to cost center 2100-3921. Cost center 2100-3501 has been retired.							
2014	Other	0	-120	0	0.0	CCTR Transf From 2100-3494.000	SHAO20170307150524873
<b>Explanation:</b> CI Compute contract costs move to cost center 2100-3921. Cost center 2100-3494 has been retired.							
2014	Other	0	466	0	0.0	CCTR Transf From 2100-3495.000	SHAO20170307154521377
<b>Explanation:</b> CI Compute contract costs move to cost center 2100-3921. Cost center 2100-3495 has been retired.							
2014	Other	0	20	0	0.0	CCTR Transf From 2100-3495.000	SHAO20170307154820740
<b>Explanation:</b> CI Compute contract costs move to cost center 2100-3921. Cost center 2100-3495 has been retired.							
<b>2014 Total</b>		<b>0</b>	<b>628</b>	<b>0</b>	<b>0.0</b>		
2015	Other	0	-240	0	0.0	CCTR Transf From 2100-3501.000	SHAO20170307110223947
<b>Explanation:</b> CI network contract costs move to cost center 2100-3921. Cost center 2100-3501 has been retired.							
<b>2015 Total</b>		<b>0</b>	<b>-240</b>	<b>0</b>	<b>0.0</b>		
<b>2016 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		

Note: Totals may include rounding differences.

**Beginning of Workpaper**  
**2100-3924.000 - BI & ANALYTICS OPS-SAP CONTRACTS**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3924.000 - BI & ANALYTICS OPS-SAP CONTRACTS

**Activity Description:**

This cost center provides contract support for the SAP mainframe application contract.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		0	0	0	0	0	0	0	0	
Non-Labor		0	0	899	1,080	1,233	1,307	1,385	1,468	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>0</b>	<b>0</b>	<b>899</b>	<b>1,080</b>	<b>1,233</b>	<b>1,307</b>	<b>1,385</b>	<b>1,468</b>	
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3924.000 - BI & ANALYTICS OPS-SAP CONTRACTS

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	1,233	0	1,233	0.0	0	1,307	0	1,307	0.0
<b>Total Incurred</b>	<b>0</b>	<b>1,233</b>	<b>0</b>	<b>1,233</b>	<b>0.0</b>	<b>0</b>	<b>1,307</b>	<b>0</b>	<b>1,307</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	34.02%	34.02%				34.29%	34.29%			
SEU	62.21%	62.21%				61.59%	61.59%			
CORP	3.77%	3.77%				4.12%	4.12%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	1,385	0	1,385	0.0	0	1,468	0	1,468	0.0
<b>Total Incurred</b>	<b>0</b>	<b>1,385</b>	<b>0</b>	<b>1,385</b>	<b>0.0</b>	<b>0</b>	<b>1,468</b>	<b>0</b>	<b>1,468</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	34.29%	34.29%				34.29%	34.29%			
SEU	61.59%	61.59%				61.59%	61.59%			
CORP	4.12%	4.12%				4.12%	4.12%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

The use of SAP ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

The use of SAP ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

The use of SAP ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

The use of SAP ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3924.000 - BI & ANALYTICS OPS-SAP CONTRACTS

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	0	0	0	0	0	0	0	0	0
Non-Labor	Base YR Rec	1,233	1,233	1,233	74	152	235	1,307	1,385	1,468
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>1,233</b>	<b>1,233</b>	<b>1,233</b>	<b>74</b>	<b>152</b>	<b>235</b>	<b>1,307</b>	<b>1,385</b>	<b>1,468</b>
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	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	0	74	0	74	0.0	1-Sided Adj	JKLONG20161129100908167	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2017 Total</b>		<b>0</b>	<b>74</b>	<b>0</b>	<b>74</b>	<b>0.0</b>			
2018	Other	0	152	0	152	0.0	1-Sided Adj	JKLONG20161129100930977	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2018 Total</b>		<b>0</b>	<b>152</b>	<b>0</b>	<b>152</b>	<b>0.0</b>			
2019	Other	0	235	0	235	0.0	1-Sided Adj	JKLONG20161129100952597	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2019 Total</b>		<b>0</b>	<b>235</b>	<b>0</b>	<b>235</b>	<b>0.0</b>			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3924.000 - BI & ANALYTICS OPS-SAP CONTRACTS

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	870	1,063	1,233
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>870</b>	<b>1,063</b>	<b>1,233</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	870	1,063	1,233
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>870</b>	<b>1,063</b>	<b>1,233</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Escalation to 2016\$</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	30	17	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>17</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	899	1,080	1,233
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>899</b>	<b>1,080</b>	<b>1,233</b>
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

Note: Totals may include rounding differences.



San Diego Gas & Electric Company  
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Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3924.000 - BI & ANALYTICS OPS-SAP CONTRACTS

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3926.000 - IT Communications**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3926.000 - IT Communications

**Activity Description:**

This cost center provides contract support for the SAS mainframe application contracts.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		0	0	0	0	0	0	0	0	
Non-Labor		0	0	249	518	162	172	182	193	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>0</b>	<b>0</b>	<b>249</b>	<b>518</b>	<b>162</b>	<b>172</b>	<b>182</b>	<b>193</b>	
FTE		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3926.000 - IT Communications

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	162	0	162	0.0	0	172	0	172	0.0
<b>Total Incurred</b>	<b>0</b>	<b>162</b>	<b>0</b>	<b>162</b>	<b>0.0</b>	<b>0</b>	<b>172</b>	<b>0</b>	<b>172</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	55.66%	55.66%				34.78%	34.78%			
SEU	43.50%	43.50%				65.22%	65.22%			
CORP	0.84%	0.84%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	0	0	0	0.0	0	0	0	0	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	0	182	0	182	0.0	0	193	0	193	0.0
<b>Total Incurred</b>	<b>0</b>	<b>182</b>	<b>0</b>	<b>182</b>	<b>0.0</b>	<b>0</b>	<b>193</b>	<b>0</b>	<b>193</b>	<b>0.0</b>
<b>% Allocation</b>										
Retained	34.78%	34.78%				34.78%	34.78%			
SEU	65.22%	65.22%				65.22%	65.22%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on a weighted average of the department's cost allocations. This is appropriate as this cost center manages the performance of all cost centers within the IT PMO department.

**Cost Center Allocation Percentage for 2017**

The use of SAS ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

The use of SAS ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3926.000 - IT Communications

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	0	0	0	0	0	0	0	0	0
Non-Labor	Base YR Rec	162	162	162	10	20	31	172	182	193
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>162</b>	<b>162</b>	<b>162</b>	<b>10</b>	<b>20</b>	<b>31</b>	<b>172</b>	<b>182</b>	<b>193</b>
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:**

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>	
2017	Other	0	10	0	10	0.0	1-Sided Adj	JKLONG20161129101149847	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2017 Total</b>		<b>0</b>	<b>10</b>	<b>0</b>	<b>10</b>	<b>0.0</b>			
2018	Other	0	20	0	20	0.0	1-Sided Adj	JKLONG20161129101231777	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2018 Total</b>		<b>0</b>	<b>20</b>	<b>0</b>	<b>20</b>	<b>0.0</b>			
2019	Other	0	31	0	31	0.0	1-Sided Adj	JKLONG20161129101251430	
<b>Explanation:</b>		Contract escalations and new contracts							
<b>2019 Total</b>		<b>0</b>	<b>31</b>	<b>0</b>	<b>31</b>	<b>0.0</b>			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3926.000 - IT Communications

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	241	509	162
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>241</b>	<b>509</b>	<b>162</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	241	509	162
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>241</b>	<b>509</b>	<b>162</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Escalation to 2016\$</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	8	8	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>8</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	249	518	162
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>249</b>	<b>518</b>	<b>162</b>
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

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3926.000 - IT Communications

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3954.000 - IT TELECOM PMO**



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3954.000 - IT TELECOM PMO

**Activity Description:**

The Telecom PMO provides project management and development for IT Telecom Related Projects enterprise wide.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		0	0	0	56	87	87	87	87	
Non-Labor		0	0	0	1	1	2	2	2	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>57</b>	<b>88</b>	<b>89</b>	<b>89</b>	<b>89</b>	
FTE		0.0	0.0	0.0	0.5	0.7	0.7	0.7	0.7	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3954.000 - IT TELECOM PMO

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	1	0	1	0.0	0	1	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	87	1	0	88	0.7	87	1	0	88	0.7
<b>Total Incurred</b>	<b>87</b>	<b>2</b>	<b>0</b>	<b>89</b>	<b>0.7</b>	<b>87</b>	<b>2</b>	<b>0</b>	<b>89</b>	<b>0.7</b>
<b>% Allocation</b>										
Retained	34.50%	34.50%				36.42%	36.42%			
SEU	61.91%	61.91%				59.94%	59.94%			
CORP	3.59%	3.59%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	1	0	1	0.0	0	1	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	87	1	0	88	0.7	87	1	0	88	0.7
<b>Total Incurred</b>	<b>87</b>	<b>2</b>	<b>0</b>	<b>89</b>	<b>0.7</b>	<b>87</b>	<b>2</b>	<b>0</b>	<b>89</b>	<b>0.7</b>
<b>% Allocation</b>										
Retained	36.42%	36.42%				36.42%	36.42%			
SEU	59.94%	59.94%				59.94%	59.94%			
CORP	3.64%	3.64%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3954.000 - IT TELECOM PMO

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on the number of LAN IDs used across each utility and Parent (corporate center). The use of LAN IDs is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

Calculations are based on the number of LAN IDs used across each utility and Parent (corporate center). The use of LAN IDs is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

Calculations are based on the number of LAN IDs used across each utility and Parent (corporate center). The use of LAN IDs is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

Calculations are based on the number of LAN IDs used across each utility and Parent (corporate center). The use of LAN IDs is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3954.000 - IT TELECOM PMO

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	87	87	87	0	0	0	87	87	87
Non-Labor	Base YR Rec	1	1	1	0	0	0	1	1	1
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>88</b>	<b>88</b>	<b>88</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>88</b>	<b>88</b>	<b>88</b>
FTE	Base YR Rec	0.7	0.7	0.7	0.0	0.0	0.0	0.7	0.7	0.7

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3954.000 - IT TELECOM PMO

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	0	0	47	74
Non-Labor	0	0	0	1	1
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>49</b>	<b>76</b>
FTE	0.0	0.0	0.0	0.4	0.6
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	0	0	0	47	74
Non-Labor	0	0	0	1	1
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>49</b>	<b>76</b>
FTE	0.0	0.0	0.0	0.4	0.6
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	0	0	0	7	12
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>12</b>
FTE	0.0	0.0	0.0	0.1	0.1
<b>Escalation to 2016\$</b>					
Labor	0	0	0	1	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	0	0	0	56	87
Non-Labor	0	0	0	1	1
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>57</b>	<b>88</b>
FTE	0.0	0.0	0.0	0.5	0.7

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3954.000 - IT TELECOM PMO

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3975.000 - SDGE NETWORK ENGINEERING**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3975.000 - SDGE NETWORK ENGINEERING

**Activity Description:**

Responsible for IT Network Engineering services at both SDG&E and the Parent. Preventive maintenance activities on network infrastructure (i.e. hardware, software, facilities, services).

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		512	1	0	0	152	152	152	152	
Non-Labor		29	0	0	0	122	123	123	123	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>541</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>274</b>	<b>275</b>	<b>275</b>	<b>275</b>	
FTE		0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	

*Note: Totals may include rounding differences.*



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3975.000 - SDGE NETWORK ENGINEERING

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	1	0	0	1	0.0	1	0	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	151	123	0	274	1.4	151	123	0	274	1.4
<b>Total Incurred</b>	<b>152</b>	<b>123</b>	<b>0</b>	<b>275</b>	<b>1.4</b>	<b>152</b>	<b>123</b>	<b>0</b>	<b>275</b>	<b>1.4</b>
<b>% Allocation</b>										
Retained	63.59%	63.59%				63.59%	63.59%			
SEU	35.37%	35.37%				35.37%	35.37%			
CORP	1.04%	1.04%				1.04%	1.04%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	1	0	0	1	0.0	1	0	0	1	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	151	123	0	274	1.4	151	123	0	274	1.4
<b>Total Incurred</b>	<b>152</b>	<b>123</b>	<b>0</b>	<b>275</b>	<b>1.4</b>	<b>152</b>	<b>123</b>	<b>0</b>	<b>275</b>	<b>1.4</b>
<b>% Allocation</b>										
Retained	63.59%	63.59%				63.59%	63.59%			
SEU	35.37%	35.37%				35.37%	35.37%			
CORP	1.04%	1.04%				1.04%	1.04%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3975.000 - SDGE NETWORK ENGINEERING

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Calculations are based on the number of network sites used across each utility and Parent (corporate center). The use of network site counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

Calculations are based on the number of network sites used across each utility and Parent (corporate center). The use of network site counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

Calculations are based on the number of network sites used across each utility and Parent (corporate center). The use of network site counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

Calculations are based on the number of network sites used across each utility and Parent (corporate center). The use of network site counts is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3975.000 - SDGE NETWORK ENGINEERING

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	152	152	152	0	0	0	152	152	152
Non-Labor	Base YR Rec	122	122	122	0	0	0	122	122	122
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>274</b>	<b>274</b>	<b>274</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>274</b>	<b>274</b>	<b>274</b>
FTE	Base YR Rec	1.4	1.4	1.4	0.0	0.0	0.0	1.4	1.4	1.4

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
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Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: B. Infrastructure  
Category-Sub: 1. Infrastructure  
Cost Center: 2100-3975.000 - SDGE NETWORK ENGINEERING

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	0	0	0	0	130
Non-Labor	0	0	0	0	122
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>253</b>
FTE	0.0	0.0	0.0	0.0	1.2
<b>Adjustments (Nominal \$) **</b>					
Labor	417	1	0	0	0
Non-Labor	27	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>444</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	417	1	0	0	130
Non-Labor	27	0	0	0	122
NSE	0	0	0	0	0
<b>Total</b>	<b>444</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>253</b>
FTE	0.0	0.0	0.0	0.0	1.2
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	60	0	0	0	22
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>60</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>22</b>
FTE	0.0	0.0	0.0	0.0	0.2
<b>Escalation to 2016\$</b>					
Labor	34	0	0	0	0
Non-Labor	2	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>36</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	512	1	0	0	152
Non-Labor	29	0	0	0	122
NSE	0	0	0	0	0
<b>Total</b>	<b>541</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>274</b>
FTE	0.0	0.0	0.0	0.0	1.4

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: B. Infrastructure  
 Category-Sub: 1. Infrastructure  
 Cost Center: 2100-3975.000 - SDGE NETWORK ENGINEERING

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	417	0.704	0	0	0
Non-Labor	27	0.055	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>444</b>	<b>0.759</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	414	27	0	0.0	CCTR Transf From 2100-3843.000	SHAO20170307111918643
<b>Explanation:</b>		Network Integration costs move to cost center 2100-3975. Cost center 2100-3843 has been retired.					
2012	Other	3	0	0	0.0	CCTR Transf From 2100-3843.000	SHAO20170307112148130
<b>Explanation:</b>		Network Integration costs move to cost center 2100-3975. Cost center 2100-3843 has been retired.					
<b>2012 Total</b>		<b>417</b>	<b>27</b>	<b>0</b>	<b>0.0</b>		
2013	Other	1	0	0	0.0	CCTR Transf From 2100-3843.000	SHAO20170307130404217
<b>Explanation:</b>		Network Integration costs move to cost center 2100-3975. Cost center 2100-3843 has been retired.					
<b>2013 Total</b>		<b>1</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2014 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2015 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		
<b>2016 Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>		

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Cost Center: VARIOUS

**Summary for Category: C. IT Support**

	In 2016\$ (000) Incurred Costs			
	Adjusted-Recorded	Adjusted-Forecast		
	2016	2017	2018	2019
Labor	2,796	2,850	2,850	2,850
Non-Labor	1,755	1,368	1,368	1,368
NSE	0	0	0	0
<b>Total</b>	<b>4,551</b>	<b>4,218</b>	<b>4,218</b>	<b>4,218</b>
FTE	28.3	29.1	29.1	29.1

**Cost Centers belonging to this Category:**

**2100-3161.000 CHIEF ADMIN OFFICER**

Labor	485	485	485	485
Non-Labor	110	110	110	110
NSE	0	0	0	0
<b>Total</b>	<b>595</b>	<b>595</b>	<b>595</b>	<b>595</b>
FTE	2.0	2.0	2.0	2.0

**2100-3317.000 IT ACCOUNT MANAGEMENT**

Labor	78	78	78	78
Non-Labor	593	593	593	593
NSE	0	0	0	0
<b>Total</b>	<b>671</b>	<b>671</b>	<b>671</b>	<b>671</b>
FTE	1.0	1.0	1.0	1.0

**2100-3699.000 CUSTOMER ANALYTICS SYSTEM**

Labor	291	291	291	291
Non-Labor	195	195	195	195
NSE	0	0	0	0
<b>Total</b>	<b>486</b>	<b>486</b>	<b>486</b>	<b>486</b>
FTE	2.0	2.0	2.0	2.0

**2100-3713.000 FIELD FORCE PROGRAM DELIVERY TEAM**

Labor	29	29	29	29
Non-Labor	25	25	25	25
NSE	0	0	0	0
<b>Total</b>	<b>54</b>	<b>54</b>	<b>54</b>	<b>54</b>
FTE	0.2	0.2	0.2	0.2

**2100-3733.000 SVP & CITO**

Labor	460	460	460	460
Non-Labor	781	384	384	384
NSE	0	0	0	0
<b>Total</b>	<b>1,241</b>	<b>844</b>	<b>844</b>	<b>844</b>
FTE	1.7	1.7	1.7	1.7

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
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Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Cost Center: VARIOUS

In 2016\$ (000) Incurred Costs			
Adjusted-Recorded	Adjusted-Forecast		
2016	2017	2018	2019

**2100-3807.000 ENTERPRISE FINANCIAL & OPS SOLUTION**

Labor	129	129	129	129
Non-Labor	22	22	22	22
NSE	0	0	0	0
<b>Total</b>	<b>151</b>	<b>151</b>	<b>151</b>	<b>151</b>
FTE	0.9	0.9	0.9	0.9

**2100-3842.000 IT ASSOCIATE PROGRAM**

Labor	1,324	1,378	1,378	1,378
Non-Labor	29	39	39	39
NSE	0	0	0	0
<b>Total</b>	<b>1,353</b>	<b>1,417</b>	<b>1,417</b>	<b>1,417</b>
FTE	20.5	21.3	21.3	21.3

*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3161.000 - CHIEF ADMIN OFFICER**



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3161.000 - CHIEF ADMIN OFFICER

**Activity Description:**

Salary and expenses of the Chief Admin Officer and his assistant.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		474	480	480	474	485	485	485	485	
Non-Labor		762	350	191	213	110	111	111	111	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>1,236</b>	<b>830</b>	<b>671</b>	<b>686</b>	<b>595</b>	<b>596</b>	<b>596</b>	<b>596</b>	
FTE		2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3161.000 - CHIEF ADMIN OFFICER

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	5	0	5	0.0	0	5	0	5	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	485	106	0	591	2.0	485	106	0	591	2.0
<b>Total Incurred</b>	<b>485</b>	<b>111</b>	<b>0</b>	<b>596</b>	<b>2.0</b>	<b>485</b>	<b>111</b>	<b>0</b>	<b>596</b>	<b>2.0</b>
<b>% Allocation</b>										
Retained	49.19%	49.19%				46.38%	46.38%			
SEU	50.81%	50.81%				53.62%	53.62%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	5	0	5	0.0	0	5	0	5	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	485	106	0	591	2.0	485	106	0	591	2.0
<b>Total Incurred</b>	<b>485</b>	<b>111</b>	<b>0</b>	<b>596</b>	<b>2.0</b>	<b>485</b>	<b>111</b>	<b>0</b>	<b>596</b>	<b>2.0</b>
<b>% Allocation</b>										
Retained	46.38%	46.38%				46.38%	46.38%			
SEU	53.62%	53.62%				53.62%	53.62%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

The CA Utility Multi-Factor allocation is appropriate based on the equal weighting of: operating revenues; operation expenses; gross noncurrent assets; and, FTE's for each utility.

**Cost Center Allocation Percentage for 2017**

The CA Utility Multi-Factor allocation is appropriate based on the equal weighting of: operating revenues; operation expenses; gross noncurrent assets; and, FTE's for each utility.

**Cost Center Allocation Percentage for 2018**

The CA Utility Multi-Factor allocation is appropriate based on the equal weighting of: operating revenues; operation expenses; gross noncurrent assets; and, FTE's for each utility.

**Cost Center Allocation Percentage for 2019**

The CA Utility Multi-Factor allocation is appropriate based on the equal weighting of: operating revenues; operation expenses; gross noncurrent assets; and, FTE's for each utility.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3161.000 - CHIEF ADMIN OFFICER

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	485	485	485	0	0	0	485	485	485
Non-Labor	Base YR Rec	110	110	110	0	0	0	110	110	110
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>595</b>	<b>595</b>	<b>595</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>595</b>	<b>595</b>	<b>595</b>
FTE	Base YR Rec	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Category-Sub: 1. IT Support  
Cost Center: 2100-3161.000 - CHIEF ADMIN OFFICER

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	387	394	401	404	416
Non-Labor	712	332	185	209	110
NSE	0	0	0	0	0
<b>Total</b>	<b>1,098</b>	<b>726</b>	<b>585</b>	<b>613</b>	<b>526</b>
FTE	1.8	1.8	1.7	1.7	1.7
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	387	394	401	404	416
Non-Labor	712	332	185	209	110
NSE	0	0	0	0	0
<b>Total</b>	<b>1,098</b>	<b>726</b>	<b>585</b>	<b>613</b>	<b>526</b>
FTE	1.8	1.8	1.7	1.7	1.7
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	56	62	64	62	69
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>56</b>	<b>62</b>	<b>64</b>	<b>62</b>	<b>69</b>
FTE	0.3	0.3	0.3	0.3	0.3
<b>Escalation to 2016\$</b>					
Labor	31	24	16	8	0
Non-Labor	50	17	6	3	0
NSE	0	0	0	0	0
<b>Total</b>	<b>82</b>	<b>41</b>	<b>22</b>	<b>11</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	474	480	480	474	485
Non-Labor	762	350	191	213	110
NSE	0	0	0	0	0
<b>Total</b>	<b>1,236</b>	<b>830</b>	<b>671</b>	<b>686</b>	<b>595</b>
FTE	2.1	2.1	2.0	2.0	2.0

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3161.000 - CHIEF ADMIN OFFICER

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3317.000 - IT ACCOUNT MANAGEMENT**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3317.000 - IT ACCOUNT MANAGEMENT

**Activity Description:**

IT Training works with IT organizations and project teams to meet the challenge of rapidly changing technology by providing the training and tools necessary to increase employees' knowledge and skills, while encouraging professional development and success.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		313	280	58	76	78	78	78	78	
Non-Labor		611	356	254	383	593	594	594	594	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>924</b>	<b>635</b>	<b>312</b>	<b>459</b>	<b>671</b>	<b>672</b>	<b>672</b>	<b>672</b>	
FTE		3.5	3.0	0.7	1.1	1.1	1.0	1.0	1.0	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3317.000 - IT ACCOUNT MANAGEMENT

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	7	0	7	0.0	0	7	0	7	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	78	587	0	665	1.0	78	587	0	665	1.0
<b>Total Incurred</b>	<b>78</b>	<b>594</b>	<b>0</b>	<b>672</b>	<b>1.0</b>	<b>78</b>	<b>594</b>	<b>0</b>	<b>672</b>	<b>1.0</b>
<b>% Allocation</b>										
Retained	34.50%	34.50%				36.42%	36.42%			
SEU	61.91%	61.91%				59.94%	59.94%			
CORP	3.59%	3.59%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	7	0	7	0.0	0	7	0	7	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	78	587	0	665	1.0	78	587	0	665	1.0
<b>Total Incurred</b>	<b>78</b>	<b>594</b>	<b>0</b>	<b>672</b>	<b>1.0</b>	<b>78</b>	<b>594</b>	<b>0</b>	<b>672</b>	<b>1.0</b>
<b>% Allocation</b>										
Retained	36.42%	36.42%				36.42%	36.42%			
SEU	59.94%	59.94%				59.94%	59.94%			
CORP	3.64%	3.64%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Category-Sub: 1. IT Support  
Cost Center: 2100-3317.000 - IT ACCOUNT MANAGEMENT

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

The allocations are supported by the rationale that IT Training activities of this cost center are available to all employees at SDG&E, SoCalGas, and Corporate Center. Further, since the training is provided by Information Technology, it is assumed that only employees with LAN access will utilize the service.

**Cost Center Allocation Percentage for 2017**

The allocations are supported by the rationale that IT Training activities of this cost center are available to all employees at SDG&E, SoCalGas, and Corporate Center. Further, since the training is provided by Information Technology, it is assumed that only employees with LAN access will utilize the service.

**Cost Center Allocation Percentage for 2018**

The allocations are supported by the rationale that IT Training activities of this cost center are available to all employees at SDG&E, SoCalGas, and Corporate Center. Further, since the training is provided by Information Technology, it is assumed that only employees with LAN access will utilize the service.

**Cost Center Allocation Percentage for 2019**

The allocations are supported by the rationale that IT Training activities of this cost center are available to all employees at SDG&E, SoCalGas, and Corporate Center. Further, since the training is provided by Information Technology, it is assumed that only employees with LAN access will utilize the service.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3317.000 - IT ACCOUNT MANAGEMENT

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	78	78	78	0	0	0	78	78	78
Non-Labor	Base YR Rec	593	593	593	0	0	0	593	593	593
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>671</b>	<b>671</b>	<b>671</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>671</b>	<b>671</b>	<b>671</b>
FTE	Base YR Rec	1.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Category-Sub: 1. IT Support  
Cost Center: 2100-3317.000 - IT ACCOUNT MANAGEMENT

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	255	230	48	65	66
Non-Labor	571	338	245	377	593
NSE	0	0	0	0	0
<b>Total</b>	<b>826</b>	<b>568</b>	<b>294</b>	<b>442</b>	<b>660</b>
FTE	3.0	2.6	0.6	0.9	0.9
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	255	230	48	65	66
Non-Labor	571	338	245	377	593
NSE	0	0	0	0	0
<b>Total</b>	<b>826</b>	<b>568</b>	<b>294</b>	<b>442</b>	<b>660</b>
FTE	3.0	2.6	0.6	0.9	0.9
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	37	36	8	10	11
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>37</b>	<b>36</b>	<b>8</b>	<b>10</b>	<b>11</b>
FTE	0.5	0.4	0.1	0.2	0.2
<b>Escalation to 2016\$</b>					
Labor	21	14	2	1	0
Non-Labor	40	18	8	6	0
NSE	0	0	0	0	0
<b>Total</b>	<b>61</b>	<b>31</b>	<b>10</b>	<b>7</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	313	280	58	76	78
Non-Labor	611	356	254	383	593
NSE	0	0	0	0	0
<b>Total</b>	<b>924</b>	<b>635</b>	<b>312</b>	<b>459</b>	<b>671</b>
FTE	3.5	3.0	0.7	1.1	1.1

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3317.000 - IT ACCOUNT MANAGEMENT

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3699.000 - CUSTOMER ANALYTICS SYSTEM**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3699.000 - CUSTOMER ANALYTICS SYSTEM

**Activity Description:**

This cost center provides leadership in establishing policies, strategies, and architectural framework that help guide technology adoptions and alignment with the overall business. It develops awareness and statements of direction for emerging technology opportunities to enable key business strategies and goals.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		531	357	206	271	291	291	291	291	
Non-Labor		203	-42	84	53	195	195	195	195	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>734</b>	<b>315</b>	<b>290</b>	<b>324</b>	<b>486</b>	<b>486</b>	<b>486</b>	<b>486</b>	
FTE		3.1	2.5	1.4	2.0	2.1	2.1	2.1	2.1	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3699.000 - CUSTOMER ANALYTICS SYSTEM

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	9	1	0	10	0.1	9	1	0	10	0.1
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	282	194	0	476	2.0	282	194	0	476	2.0
<b>Total Incurred</b>	<b>291</b>	<b>195</b>	<b>0</b>	<b>486</b>	<b>2.1</b>	<b>291</b>	<b>195</b>	<b>0</b>	<b>486</b>	<b>2.1</b>
<b>% Allocation</b>										
Retained	34.50%	34.50%				36.42%	36.42%			
SEU	61.91%	61.91%				59.94%	59.94%			
CORP	3.59%	3.59%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	9	1	0	10	0.1	9	1	0	10	0.1
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	282	194	0	476	2.0	282	194	0	476	2.0
<b>Total Incurred</b>	<b>291</b>	<b>195</b>	<b>0</b>	<b>486</b>	<b>2.1</b>	<b>291</b>	<b>195</b>	<b>0</b>	<b>486</b>	<b>2.1</b>
<b>% Allocation</b>										
Retained	36.42%	36.42%				36.42%	36.42%			
SEU	59.94%	59.94%				59.94%	59.94%			
CORP	3.64%	3.64%				3.64%	3.64%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2017**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2018**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

**Cost Center Allocation Percentage for 2019**

The use of LAN ID count is appropriate as it accurately represents the allocation of time and resources between affiliates for this cost center.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3699.000 - CUSTOMER ANALYTICS SYSTEM

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	291	291	291	0	0	0	291	291	291
Non-Labor	Base YR Rec	195	195	195	0	0	0	195	195	195
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>486</b>	<b>486</b>	<b>486</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>486</b>	<b>486</b>	<b>486</b>
FTE	Base YR Rec	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0	2.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.



San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Category-Sub: 1. IT Support  
Cost Center: 2100-3699.000 - CUSTOMER ANALYTICS SYSTEM

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	545	293	172	231	256
Non-Labor	196	-40	81	52	195
NSE	0	0	0	0	0
<b>Total</b>	<b>740</b>	<b>253</b>	<b>253</b>	<b>283</b>	<b>451</b>
FTE	3.8	2.0	1.2	1.7	1.8
<b>Adjustments (Nominal \$) **</b>					
Labor	-112	0	0	0	-6
Non-Labor	-6	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-118</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-6</b>
FTE	-1.0	0.0	0.0	0.0	-0.1
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	433	293	172	231	250
Non-Labor	190	-40	81	52	195
NSE	0	0	0	0	0
<b>Total</b>	<b>622</b>	<b>253</b>	<b>253</b>	<b>283</b>	<b>445</b>
FTE	2.8	2.0	1.2	1.7	1.7
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	63	46	27	36	41
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>63</b>	<b>46</b>	<b>27</b>	<b>36</b>	<b>41</b>
FTE	0.4	0.4	0.2	0.3	0.3
<b>Escalation to 2016\$</b>					
Labor	35	18	7	4	0
Non-Labor	13	-2	3	1	0
NSE	0	0	0	0	0
<b>Total</b>	<b>48</b>	<b>16</b>	<b>10</b>	<b>5</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	531	357	206	271	291
Non-Labor	203	-42	84	53	195
NSE	0	0	0	0	0
<b>Total</b>	<b>734</b>	<b>315</b>	<b>290</b>	<b>324</b>	<b>486</b>
FTE	3.2	2.4	1.4	2.0	2.0

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3699.000 - CUSTOMER ANALYTICS SYSTEM

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	-112	0	0	0	-6
Non-Labor	-6	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>-118</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-6</b>
FTE	-1.0	0.0	0.0	0.0	-0.1

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	-112	-6	0	-1.0	CCTR Transf To 2200-2470.000	SOMAHONY20161105182218297

**Explanation:** IT Employee Transfer from SDGE to SCG as of 2013.

<b>2012 Total</b>	<b>-112</b>	<b>-6</b>	<b>0</b>	<b>-1.0</b>
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<b>2013 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>
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<b>2014 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>
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<b>2015 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>
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2016	Other	-6	0	0	-0.1	1-Sided Adj	SOMAHONY20170309231832647
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**Explanation:** CIS Strategy Initiative costs removed

<b>2016 Total</b>	<b>-6</b>	<b>0</b>	<b>0</b>	<b>-0.1</b>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3713.000 - FIELD FORCE PROGRAM DELIVERY TEAM**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3713.000 - FIELD FORCE PROGRAM DELIVERY TEAM

**Activity Description:**

This cost center is a part of the Project Management Office (PMO) dedicated to the build of IT Assets. It specifically manages the programing and coding for the various capital application builds.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		502	523	33	14	29	29	29	29	
Non-Labor		55	41	119	239	25	26	26	26	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>556</b>	<b>564</b>	<b>153</b>	<b>253</b>	<b>55</b>	<b>55</b>	<b>55</b>	<b>55</b>	
FTE		4.8	5.0	0.2	0.0	0.2	0.2	0.2	0.2	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3713.000 - FIELD FORCE PROGRAM DELIVERY TEAM

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	3	2	0	5	0.0	3	2	0	5	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	26	24	0	50	0.2	26	24	0	50	0.2
<b>Total Incurred</b>	<b>29</b>	<b>26</b>	<b>0</b>	<b>55</b>	<b>0.2</b>	<b>29</b>	<b>26</b>	<b>0</b>	<b>55</b>	<b>0.2</b>
<b>% Allocation</b>										
Retained	51.50%	51.50%				75.15%	75.15%			
SEU	48.50%	48.50%				24.85%	24.85%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	3	2	0	5	0.0	3	2	0	5	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	26	24	0	50	0.2	26	24	0	50	0.2
<b>Total Incurred</b>	<b>29</b>	<b>26</b>	<b>0</b>	<b>55</b>	<b>0.2</b>	<b>29</b>	<b>26</b>	<b>0</b>	<b>55</b>	<b>0.2</b>
<b>% Allocation</b>										
Retained	75.15%	75.15%				75.15%	75.15%			
SEU	24.85%	24.85%				24.85%	24.85%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

The percentage calculation assumptions are based on the capital projects which are assigned to this PMO and then weighted by each individual asset's allocation.

**Cost Center Allocation Percentage for 2017**

The percentage calculation assumptions are based on the capital projects which are assigned to this PMO and then weighted by each individual asset's allocation.

**Cost Center Allocation Percentage for 2018**

The percentage calculation assumptions are based on the capital projects which are assigned to this PMO and then weighted by each individual asset's allocation.

**Cost Center Allocation Percentage for 2019**

The percentage calculation assumptions are based on the capital projects which are assigned to this PMO and then weighted by each individual asset's allocation.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3713.000 - FIELD FORCE PROGRAM DELIVERY TEAM

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	29	29	29	0	0	0	29	29	29
Non-Labor	Base YR Rec	25	25	25	0	0	0	25	25	25
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>55</b>	<b>55</b>	<b>55</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>55</b>	<b>55</b>	<b>55</b>
FTE	Base YR Rec	0.2	0.2	0.2	0.0	0.0	0.0	0.2	0.2	0.2

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

SDG&E/INFORMATION TECHNOLOGY/Exh No:SDG&E-24-WP-R/Witness: C. Olmsted

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3713.000 - FIELD FORCE PROGRAM DELIVERY TEAM

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	9	29	28	12	25
Non-Labor	26	14	115	235	25
NSE	0	0	0	0	0
<b>Total</b>	<b>35</b>	<b>43</b>	<b>143</b>	<b>247</b>	<b>51</b>
FTE	0.1	0.2	0.2	0.1	0.2
<b>Adjustments (Nominal \$) **</b>					
Labor	400	400	0	0	0
Non-Labor	25	25	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>425</b>	<b>425</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	4.0	4.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	409	429	28	12	25
Non-Labor	51	39	115	235	25
NSE	0	0	0	0	0
<b>Total</b>	<b>460</b>	<b>468</b>	<b>143</b>	<b>247</b>	<b>51</b>
FTE	4.1	4.2	0.2	0.1	0.2
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	59	68	4	2	4
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>59</b>	<b>68</b>	<b>4</b>	<b>2</b>	<b>4</b>
FTE	0.7	0.7	0.0	0.0	0.0
<b>Escalation to 2016\$</b>					
Labor	33	26	1	0	0
Non-Labor	4	2	4	4	0
NSE	0	0	0	0	0
<b>Total</b>	<b>37</b>	<b>28</b>	<b>5</b>	<b>4</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	502	523	33	14	29
Non-Labor	55	41	119	239	25
NSE	0	0	0	0	0
<b>Total</b>	<b>556</b>	<b>564</b>	<b>153</b>	<b>253</b>	<b>55</b>
FTE	4.8	4.9	0.2	0.1	0.2

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3713.000 - FIELD FORCE PROGRAM DELIVERY TEAM

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	400	400	0	0	0
Non-Labor	25	25	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>425</b>	<b>425</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	4.0	4.0	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	400	25	0	4.0	1-Sided Adj	SOMAHONY20170223204532307

**Explanation:** Transfer of CPD costs from 11T003 to 2100-3713 as part of IT reorganization.

<b>2012 Total</b>	<b>400</b>	<b>25</b>	<b>0</b>	<b>4.0</b>
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2013	Other	400	25	0	4.0	1-Sided Adj	SOMAHONY20170223204441493
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**Explanation:** Transfer of CPD costs from 11T003 to 2100-3713 as part of IT reorganization.

<b>2013 Total</b>	<b>400</b>	<b>25</b>	<b>0</b>	<b>4.0</b>
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<b>2014 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>
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<b>2015 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>
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<b>2016 Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0</b>
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*Note: Totals may include rounding differences.*



**Beginning of Workpaper**  
**2100-3733.000 - SVP & CITO**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3733.000 - SVP & CITO

**Activity Description:**

The SVP and CITO cost center contains the Officer, his support staff, and related expenses necessary to manage the entire IT organization.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		698	766	1,367	-187	460	460	460	460	
Non-Labor		531	695	278	301	781	384	384	384	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>1,229</b>	<b>1,461</b>	<b>1,645</b>	<b>114</b>	<b>1,241</b>	<b>844</b>	<b>844</b>	<b>844</b>	
FTE		3.1	3.4	1.7	1.7	1.7	1.7	1.7	1.7	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Category-Sub: 1. IT Support  
Cost Center: 2100-3733.000 - SVP & CITO

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
<b>Directly Retained</b>	3	87	0	90	0.0	3	87	0	90	0.0
<b>Directly Allocated</b>	0	0	0	0	0.0	0	0	0	0	0.0
<b>Subj. To % Alloc.</b>	457	694	0	1,151	1.7	457	297	0	754	1.7
<b>Total Incurred</b>	<b>460</b>	<b>781</b>	<b>0</b>	<b>1,241</b>	<b>1.7</b>	<b>460</b>	<b>384</b>	<b>0</b>	<b>844</b>	<b>1.7</b>
<b>% Allocation</b>										
Retained	48.09%	48.09%				47.95%	47.95%			
SEU	49.94%	49.94%				50.01%	50.01%			
CORP	1.78%	1.78%				1.80%	1.80%			
Unreg	0.19%	0.19%				0.24%	0.24%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
<b>Directly Retained</b>	3	87	0	90	0.0	3	87	0	90	0.0
<b>Directly Allocated</b>	0	0	0	0	0.0	0	0	0	0	0.0
<b>Subj. To % Alloc.</b>	457	297	0	754	1.7	457	297	0	754	1.7
<b>Total Incurred</b>	<b>460</b>	<b>384</b>	<b>0</b>	<b>844</b>	<b>1.7</b>	<b>460</b>	<b>384</b>	<b>0</b>	<b>844</b>	<b>1.7</b>
<b>% Allocation</b>										
Retained	47.95%	47.95%				47.95%	47.95%			
SEU	50.01%	50.01%				50.01%	50.01%			
CORP	1.80%	1.80%				1.80%	1.80%			
Unreg	0.24%	0.24%				0.24%	0.24%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Category-Sub: 1. IT Support  
Cost Center: 2100-3733.000 - SVP & CITO

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

The SVP cost center supports all cost centers within the organization so a weighted average was used in determining the allocation percentages. A weighted average of all cost centers against 2015 actual spend was used to calculate the percentages for this cost center.

**Cost Center Allocation Percentage for 2017**

The SVP cost center supports all cost centers within the organization so a weighted average was used in determining the allocation percentages. A weighted average of all cost centers against 2016 actual spend was used to calculate the percentages for this cost center.

**Cost Center Allocation Percentage for 2018**

The SVP cost center supports all cost centers within the organization so a weighted average was used in determining the allocation percentages. A weighted average of all cost centers against 2016 actual spend was used to calculate the percentages for this cost center.

**Cost Center Allocation Percentage for 2019**

The SVP cost center supports all cost centers within the organization so a weighted average was used in determining the allocation percentages. A weighted average of all cost centers against 2016 actual spend was used to calculate the percentages for this cost center.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Category-Sub: 1. IT Support  
Cost Center: 2100-3733.000 - SVP & CITO

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	460	460	460	0	0	0	460	460	460
Non-Labor	Base YR Rec	781	781	781	-397	-397	-397	384	384	384
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>1,241</b>	<b>1,241</b>	<b>1,241</b>	<b>-397</b>	<b>-397</b>	<b>-397</b>	<b>844</b>	<b>844</b>	<b>844</b>
FTE	Base YR Rec	1.7	1.7	1.7	0.0	0.0	0.0	1.7	1.7	1.7

**Forecast Adjustment Details:**

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	0	-397	0	-397	0.0	1-Sided Adj	SOMAHONY20161122112101033	
<b>Explanation:</b>		\$397k transferred to 2100-3916							
<b>2017 Total</b>		<b>0</b>	<b>-397</b>	<b>0</b>	<b>-397</b>	<b>0.0</b>			
2018	Other	0	-397	0	-397	0.0	1-Sided Adj	SOMAHONY20161122112123907	
<b>Explanation:</b>		\$397k transferred to 2100-3916							
<b>2018 Total</b>		<b>0</b>	<b>-397</b>	<b>0</b>	<b>-397</b>	<b>0.0</b>			
2019	Other	0	-397	0	-397	0.0	1-Sided Adj	SOMAHONY20161122112157573	
<b>Explanation:</b>		\$397k transferred to 2100-3916							
<b>2019 Total</b>		<b>0</b>	<b>-397</b>	<b>0</b>	<b>-397</b>	<b>0.0</b>			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Category-Sub: 1. IT Support  
Cost Center: 2100-3733.000 - SVP & CITO

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	373	339	1,142	-159	394
Non-Labor	204	244	361	296	781
NSE	0	0	0	0	0
<b>Total</b>	<b>578</b>	<b>583</b>	<b>1,503</b>	<b>137</b>	<b>1,176</b>
FTE	1.7	1.2	1.4	1.4	1.4
<b>Adjustments (Nominal \$) **</b>					
Labor	196	290	-2	0	0
Non-Labor	291	416	-92	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>487</b>	<b>706</b>	<b>-95</b>	<b>0</b>	<b>0</b>
FTE	1.0	1.7	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	569	629	1,140	-159	394
Non-Labor	496	660	269	296	781
NSE	0	0	0	0	0
<b>Total</b>	<b>1,065</b>	<b>1,289</b>	<b>1,408</b>	<b>137</b>	<b>1,176</b>
FTE	2.7	2.9	1.4	1.4	1.4
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	83	100	182	-25	65
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>83</b>	<b>100</b>	<b>182</b>	<b>-25</b>	<b>65</b>
FTE	0.4	0.5	0.3	0.3	0.3
<b>Escalation to 2016\$</b>					
Labor	46	38	45	-3	0
Non-Labor	35	34	9	5	0
NSE	0	0	0	0	0
<b>Total</b>	<b>81</b>	<b>72</b>	<b>54</b>	<b>2</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	698	766	1,367	-187	460
Non-Labor	531	695	278	301	781
NSE	0	0	0	0	0
<b>Total</b>	<b>1,229</b>	<b>1,461</b>	<b>1,645</b>	<b>114</b>	<b>1,241</b>
FTE	3.1	3.4	1.7	1.7	1.7

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Category-Sub: 1. IT Support  
Cost Center: 2100-3733.000 - SVP & CITO

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	196	290	-2	0	0
Non-Labor	291	416	-92	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>487</b>	<b>706</b>	<b>-95</b>	<b>0</b>	<b>0</b>
FTE	1.0	1.7	0.0	0.0	0.0

**Detail of Adjustments to Recorded:**

Year	Adj Group	Labor	NLbr	NSE	FTE	Adj Type	RefID
2012	Other	0	-83	0	0.0	CCTR Transf From 2100-3064.000	SOMAHONY20170308145605567
<b>Explanation:</b> VP IT costs transferred to 2100-3733.							
2012	Other	0	0	0	0.0	CCTR Transf From 2100-3064.000	SOMAHONY20170308145626163
<b>Explanation:</b> VP IT costs transferred to 2100-3733.							
2012	Other	196	375	0	1.0	CCTR Transf From 2100-3064.000	SOMAHONY20170308145700393
<b>Explanation:</b> VP IT costs transferred to 2100-3733.							
<b>2012 Total</b>		<b>196</b>	<b>291</b>	<b>0</b>	<b>1.0</b>		
2013	Other	0	-62	0	0.0	CCTR Transf From 2100-3064.000	SOMAHONY20170308145817437
<b>Explanation:</b> VP IT costs transferred to 2100-3733.							
2013	Other	290	478	0	1.7	CCTR Transf From 2100-3064.000	SOMAHONY20170308145857580
<b>Explanation:</b> VP IT costs transferred to 2100-3733.							
<b>2013 Total</b>		<b>290</b>	<b>416</b>	<b>0</b>	<b>1.7</b>		
2014	Other	0	-54	0	0.0	CCTR Transf From 2100-3064.000	SOMAHONY20170308150026927
<b>Explanation:</b> VP IT costs transferred to 2100-3733.							
2014	Other	0	-54	0	0.0	CCTR Transf From 2100-3064.000	SOMAHONY20170308150116617
<b>Explanation:</b> VP IT costs transferred to 2100-3733.							
2014	Other	-2	16	0	0.0	CCTR Transf From 2100-3064.000	SOMAHONY20170308150247640
<b>Explanation:</b> VP IT costs transferred to 2100-3733.							

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3733.000 - SVP & CITO

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
<b>2014 Total</b>		-2	-92	0	0.0		
<b>2015 Total</b>		0	0	0	0.0		
<b>2016 Total</b>		0	0	0	0.0		

*Note: Totals may include rounding differences.*



**Beginning of Workpaper**  
**2100-3807.000 - ENTERPRISE FINANCIAL & OPS SOLUTION**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3807.000 - ENTERPRISE FINANCIAL & OPS SOLUTION

**Activity Description:**

This cost center is a part of the Project Management Office (PMO) dedicated to the build of IT Assets. This cost center supports all activities on the various level of the project life cycle during application development.

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		190	8	20	17	129	129	129	129	
Non-Labor		262	590	411	64	22	21	21	21	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>452</b>	<b>598</b>	<b>431</b>	<b>81</b>	<b>151</b>	<b>150</b>	<b>150</b>	<b>150</b>	
FTE		1.5	0.0	0.1	0.1	0.9	0.9	0.9	0.9	

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3807.000 - ENTERPRISE FINANCIAL & OPS SOLUTION

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	9	-5	0	4	0.1	9	-5	0	4	0.1
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	120	26	0	146	0.8	120	26	0	146	0.8
<b>Total Incurred</b>	<b>129</b>	<b>21</b>	<b>0</b>	<b>150</b>	<b>0.9</b>	<b>129</b>	<b>21</b>	<b>0</b>	<b>150</b>	<b>0.9</b>
<b>% Allocation</b>										
Retained	53.82%	53.82%				48.42%	48.42%			
SEU	46.18%	46.18%				50.41%	50.41%			
CORP	0.00%	0.00%				1.17%	1.17%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	9	-5	0	4	0.1	9	-5	0	4	0.1
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	120	26	0	146	0.8	120	26	0	146	0.8
<b>Total Incurred</b>	<b>129</b>	<b>21</b>	<b>0</b>	<b>150</b>	<b>0.9</b>	<b>129</b>	<b>21</b>	<b>0</b>	<b>150</b>	<b>0.9</b>
<b>% Allocation</b>										
Retained	48.42%	48.42%				48.42%	48.42%			
SEU	50.41%	50.41%				50.41%	50.41%			
CORP	1.17%	1.17%				1.17%	1.17%			
Unreg	0.00%	0.00%				0.00%	0.00%			

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

The percentage calculation assumptions are based on the capital projects which are assigned to this PMO and then weighted by each individual asset 's allocation.

**Cost Center Allocation Percentage for 2017**

The percentage calculation assumptions are based on the capital projects which are assigned to this PMO and then weighted by each individual asset 's allocation.

**Cost Center Allocation Percentage for 2018**

The percentage calculation assumptions are based on the capital projects which are assigned to this PMO and then weighted by each individual asset 's allocation.

**Cost Center Allocation Percentage for 2019**

The percentage calculation assumptions are based on the capital projects which are assigned to this PMO and then weighted by each individual asset 's allocation.

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3807.000 - ENTERPRISE FINANCIAL & OPS SOLUTION

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	129	129	129	0	0	0	129	129	129
Non-Labor	Base YR Rec	22	22	22	0	0	0	22	22	22
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>151</b>	<b>151</b>	<b>151</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>151</b>	<b>151</b>	<b>151</b>
FTE	Base YR Rec	0.9	0.9	0.9	0.0	0.0	0.0	0.9	0.9	0.9

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3807.000 - ENTERPRISE FINANCIAL & OPS SOLUTION

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	155	6	17	14	110
Non-Labor	245	561	397	63	22
NSE	0	0	0	0	0
<b>Total</b>	<b>400</b>	<b>568</b>	<b>414</b>	<b>77</b>	<b>132</b>
FTE	1.3	0.0	0.1	0.1	0.7
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	155	6	17	14	110
Non-Labor	245	561	397	63	22
NSE	0	0	0	0	0
<b>Total</b>	<b>400</b>	<b>568</b>	<b>414</b>	<b>77</b>	<b>132</b>
FTE	1.3	0.0	0.1	0.1	0.7
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	23	1	3	2	18
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>23</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>18</b>
FTE	0.2	0.0	0.0	0.0	0.1
<b>Escalation to 2016\$</b>					
Labor	13	0	1	0	0
Non-Labor	17	29	14	1	0
NSE	0	0	0	0	0
<b>Total</b>	<b>30</b>	<b>29</b>	<b>14</b>	<b>1</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	190	8	20	17	129
Non-Labor	262	590	411	64	22
NSE	0	0	0	0	0
<b>Total</b>	<b>452</b>	<b>598</b>	<b>431</b>	<b>81</b>	<b>151</b>
FTE	1.5	0.0	0.1	0.1	0.8

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
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Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3807.000 - ENTERPRISE FINANCIAL & OPS SOLUTION

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

**Beginning of Workpaper**  
**2100-3842.000 - IT ASSOCIATE PROGRAM**

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3842.000 - IT ASSOCIATE PROGRAM

**Activity Description:**

This cost center provides 2 unique services - (1) The IT Associate Program provides a structured environment for new IT employees to become familiar with the SEu IT division's activities and systems, and perform related assignments by rotating among various SEu IT departments; (2) SEu IT Summer Intern Program

**Forecast Explanations:**

**Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**Non-Labor - Base YR Rec**

This method is most appropriate because the base year most accurately represents the current state of the IT workpapers. Historical costs have fluctuated between various workgroups as a result of either internal organizational changes, transfers of responsibilities, or shifting of cost drivers from one area of the IT department to another.

**NSE - Base YR Rec**

N/A

**Summary of Results:**

		In 2016\$ (000) Incurred Costs								
		Adjusted-Recorded					Adjusted-Forecast			
Years		2012	2013	2014	2015	2016	2017	2018	2019	
Labor		147	1,059	500	737	1,324	1,378	1,378	1,378	
Non-Labor		13	13	14	41	29	39	39	39	
NSE		0	0	0	0	0	0	0	0	
<b>Total</b>		<b>160</b>	<b>1,072</b>	<b>514</b>	<b>778</b>	<b>1,353</b>	<b>1,417</b>	<b>1,417</b>	<b>1,417</b>	
FTE		2.3	13.0	7.2	11.2	20.4	21.3	21.3	21.3	

*Note: Totals may include rounding differences.*



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Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3842.000 - IT ASSOCIATE PROGRAM

**Cost Center Allocations (Incurred Costs):**

	2016 Adjusted-Recorded					2017 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	3	0	3	0.0	0	3	0	3	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	1,324	26	0	1,350	20.5	1,378	36	0	1,414	21.3
<b>Total Incurred</b>	<b>1,324</b>	<b>29</b>	<b>0</b>	<b>1,353</b>	<b>20.5</b>	<b>1,378</b>	<b>39</b>	<b>0</b>	<b>1,417</b>	<b>21.3</b>
<b>% Allocation</b>										
Retained	35.79%	35.79%				37.80%	37.80%			
SEU	64.21%	64.21%				62.20%	62.20%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

	2018 Adjusted-Forecast					2019 Adjusted-Forecast				
	Labor	Non-Labor	NSE	Total	FTE	Labor	Non-Labor	NSE	Total	FTE
Directly Retained	0	3	0	3	0.0	0	3	0	3	0.0
Directly Allocated	0	0	0	0	0.0	0	0	0	0	0.0
Subj. To % Alloc.	1,378	36	0	1,414	21.3	1,378	36	0	1,414	21.3
<b>Total Incurred</b>	<b>1,378</b>	<b>39</b>	<b>0</b>	<b>1,417</b>	<b>21.3</b>	<b>1,378</b>	<b>39</b>	<b>0</b>	<b>1,417</b>	<b>21.3</b>
<b>% Allocation</b>										
Retained	37.80%	37.80%				37.80%	37.80%			
SEU	62.20%	62.20%				62.20%	62.20%			
CORP	0.00%	0.00%				0.00%	0.00%			
Unreg	0.00%	0.00%				0.00%	0.00%			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Category-Sub: 1. IT Support  
Cost Center: 2100-3842.000 - IT ASSOCIATE PROGRAM

**Cost Center Allocation Percentage Drivers/Methodology:**

**Cost Center Allocation Percentage for 2016**

Costs will be allocated based on employees with LAN access at SDG&E & SCG. The allocations are supported by the rationale that the 2 sub-groups in this cost center provide services to all IT organizations at SEu. Further, since the support provided by this group touches all IT systems and, in turn, all employees within SEu, with LAN access, will benefit from the services.

**Cost Center Allocation Percentage for 2017**

Costs will be allocated based on employees with LAN access at SDG&E & SCG. The allocations are supported by the rationale that the 2 sub-groups in this cost center provide services to all IT organizations at SEu. Further, since the support provided by this group touches all IT systems and, in turn, all employees within SEu, with LAN access, will benefit from the services.

**Cost Center Allocation Percentage for 2018**

Costs will be allocated based on employees with LAN access at SDG&E & SCG. The allocations are supported by the rationale that the 2 sub-groups in this cost center provide services to all IT organizations at SEu. Further, since the support provided by this group touches all IT systems and, in turn, all employees within SEu, with LAN access, will benefit from the services.

**Cost Center Allocation Percentage for 2019**

Costs will be allocated based on employees with LAN access at SDG&E & SCG. The allocations are supported by the rationale that the 2 sub-groups in this cost center provide services to all IT organizations at SEu. Further, since the support provided by this group touches all IT systems and, in turn, all employees within SEu, with LAN access, will benefit from the services.

*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
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Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3842.000 - IT ASSOCIATE PROGRAM

**Summary of Adjustments to Forecast:**

In 2016 \$(000) Incurred Costs										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2017	2018	2019	2017	2018	2019	2017	2018	2019
Labor	Base YR Rec	1,324	1,324	1,324	54	54	54	1,378	1,378	1,378
Non-Labor	Base YR Rec	29	29	29	10	10	10	39	39	39
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>1,353</b>	<b>1,353</b>	<b>1,353</b>	<b>64</b>	<b>64</b>	<b>64</b>	<b>1,417</b>	<b>1,417</b>	<b>1,417</b>
FTE	Base YR Rec	20.5	20.5	20.5	0.8	0.8	0.8	21.3	21.3	21.3

**Forecast Adjustment Details:**

Year	Adj Group	Labor	NLbr	NSE	Total	FTE	Adj Type	RefID	
2017	Other	54	10	0	64	0.8	1-Sided Adj	MHOM20171114163518957	
<b>Explanation:</b>		1 IT Associate will be hired in 2017. Assumes 83% O&C ratio and \$65k average salary plus \$10k for NL costs.							
<b>2017 Total</b>		<b>54</b>	<b>10</b>	<b>0</b>	<b>64</b>	<b>0.8</b>			
2018	Other	54	10	0	64	0.8	1-Sided Adj	MHOM20171114163854350	
<b>Explanation:</b>		\$54k Labor and \$10k NL added for IT associate hired in 2017.							
<b>2018 Total</b>		<b>54</b>	<b>10</b>	<b>0</b>	<b>64</b>	<b>0.8</b>			
2019	Other	54	10	0	64	0.8	1-Sided Adj	MHOM20171114164212953	
<b>Explanation:</b>		\$54k Labor and \$10k NL added for IT associate hired in 2017.							
<b>2019 Total</b>		<b>54</b>	<b>10</b>	<b>0</b>	<b>64</b>	<b>0.8</b>			

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted  
Category: C. IT Support  
Category-Sub: 1. IT Support  
Cost Center: 2100-3842.000 - IT ASSOCIATE PROGRAM

**Determination of Adjusted-Recorded (Incurred Costs):**

	2012 (\$000)	2013 (\$000)	2014 (\$000)	2015 (\$000)	2016 (\$000)
<b>Recorded (Nominal \$)*</b>					
Labor	120	869	417	628	1,135
Non-Labor	12	12	13	40	29
NSE	0	0	0	0	0
<b>Total</b>	<b>132</b>	<b>881</b>	<b>430</b>	<b>668</b>	<b>1,164</b>
FTE	2.0	11.0	6.1	9.5	17.3
<b>Adjustments (Nominal \$) **</b>					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Nominal \$)</b>					
Labor	120	869	417	628	1,135
Non-Labor	12	12	13	40	29
NSE	0	0	0	0	0
<b>Total</b>	<b>132</b>	<b>881</b>	<b>430</b>	<b>668</b>	<b>1,164</b>
FTE	2.0	11.0	6.1	9.5	17.3
<b>Vacation &amp; Sick (Nominal \$)</b>					
Labor	17	138	67	97	188
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>17</b>	<b>138</b>	<b>67</b>	<b>97</b>	<b>188</b>
FTE	0.3	1.9	1.1	1.7	3.1
<b>Escalation to 2016\$</b>					
Labor	10	52	17	12	0
Non-Labor	1	1	0	1	0
NSE	0	0	0	0	0
<b>Total</b>	<b>11</b>	<b>53</b>	<b>17</b>	<b>13</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0
<b>Recorded-Adjusted (Constant 2016\$)</b>					
Labor	147	1,059	500	737	1,324
Non-Labor	13	13	14	41	29
NSE	0	0	0	0	0
<b>Total</b>	<b>160</b>	<b>1,072</b>	<b>514</b>	<b>778</b>	<b>1,353</b>
FTE	2.3	12.9	7.2	11.2	20.4

\* After company-wide exclusions of Non-GRC costs

\*\* Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Note: Totals may include rounding differences.

San Diego Gas & Electric Company  
 2019 GRC - REVISED  
 Shared Services Workpapers

Area: INFORMATION TECHNOLOGY  
 Witness: Christopher R. Olmsted  
 Category: C. IT Support  
 Category-Sub: 1. IT Support  
 Cost Center: 2100-3842.000 - IT ASSOCIATE PROGRAM

**Summary of Adjustments to Recorded:**

In Nominal \$ (000) Incurred Costs					
Years	2012	2013	2014	2015	2016
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
FTE	0.0	0.0	0.0	0.0	0.0

<u>Year</u>	<u>Adj Group</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>	<u>RefID</u>
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*Note: Totals may include rounding differences.*

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted

**Appendix A: List of Non-Shared Cost Centers**

<b>Cost Center</b>	<b>Sub</b>	<b>Description</b>
2100-0027	000	DIRECTOR CUSTOMER SERVICE & STAFF
2100-0460	000	IT LVC FOR BUDGET USE ONLY
2100-3070	000	CLIENT SERVICES & ENTERPRISE SUPPORT DIR
2100-3078	000	SDG&E CUTOMER OPERATIONS SERVICES
2100-3081	000	SDGE CISCO SERVICE ORDER & FIN SUPPLY
2100-3084	000	CISCO BILLING & REVENUE
2100-3085	000	SDGE CUSTOMER CARE PROJECT
2100-3086	000	CUSTOMER ENGAGEMENT SERVICES
2100-3087	000	SDG&E APPLICATION SERVICES - DIR
2100-3093	000	GIS-SDGE
2100-3094	000	ELECT OPS & SMART GRID
2100-3172	000	IT INVENTORY
2100-3315	000	PROCESS IMPROVEMENT
2100-3339	000	IT CSC DEPOT
2100-3624	000	SDGE METER DATA SERVICES
2100-3644	000	OPEX ASSET MANAGEMENT GIS
2100-3645	000	OPEX 20/20 IT INFRASTRUCTURE
2100-3647	000	PROJECT MANAGEMENT OFFICE FOR OPEX 20/20
2100-3648	000	FIELD WMS - MAINTENANCE AND INSPECTION
2100-3653	000	OPEX 20/20 ASSET MANAGEMENT ETC
2100-3669	000	ESS IMPLEMT SUPPORT
2100-3682	000	SE/SDGE NETWORK ENGINEERING
2100-3686	000	OPEX PMO IMPEMENTATION SUPPORT
2100-3688	000	OPEX 20/20 SMART GRID OMS/DMS
2100-3689	000	OPEX 20/20 SMART GRID CBM
2100-3690	000	CUSTOMER CARE ICE SELF SERVICE
2100-3697	000	GRID MODERNIZATION - PMO
2100-3700	000	SMART METER IT SERVICES
2100-3772	000	ESS MOBILE APPS
2100-3803	000	SMART PRICING IT SERVICES
2100-3816	000	SDGE APPS SVCS
2100-3820	000	ESS MOBILE APPS
2100-3823	000	IT APPLICATION SOUTH PMO
2100-3829	000	CUSTOMER CONTACT SERVICE DELIVERY-SDGE
2100-3837	000	CUSTOMER OPERATIONS TECHNOLOGY
2100-3849	000	TRANSPORT INFRASTRUCTURE
2100-3886	000	SDG&E SYST INTEGRA
2100-3887	000	SDG&E APPS CONTRACTS
2100-3901	000	IT BUSINESS MANAGEMENT
2100-3915	000	UTILITY OPS/FINCL CONTRACTS-SDGE
2100-3917	000	SDGE COMPUCOM CONTRACT SERVICE
2100-3920	000	IT&OTI CONTRACTS NSS
2100-3923	000	BI&ANA OPS-INF CONT
2100-3935	000	IT QUALITY ASSURANCE
2100-3956	000	MAINFRAME CONTRACTS SDG&E

San Diego Gas & Electric Company  
2019 GRC - REVISED  
Non-Shared Service Workpapers

Area: INFORMATION TECHNOLOGY  
Witness: Christopher R. Olmsted

**Appendix A: List of Non-Shared Cost Centers**

<b>Cost Center</b>	<b>Sub</b>	<b>Description</b>
2100-4025	000	GRID COMMUNICATIONS PMO
2100-4030	000	RELEASE & ENVIRONMENT MGMT