

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

Application No. 14-11-003

Exhibit No.: (SDG&E-06-CWP-R)

REVISED CAPITAL WORKPAPERS TO
PREPARED DIRECT TESTIMONY
OF RAYMOND K. STANFORD
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

MARCH 2015



**2016 General Rate Case - REVISED
INDEX OF WORKPAPERS**

Exhibit SDG&E-06-CWP-R - GAS TRANSMISSION

DOCUMENT	PAGE
Overall Summary For Exhibit No. SDG&E-06-CWP-R	1
Category: A. New Pipelines (BC 4X1)	2
..00411A - NRG JOINT-VENTURE UEG AT CARLSBAD	3
..00411B - NEW PIPELINES - BLANKET W.O. PROJECTS	8
..00411C - NEW TRANSMISSION PIPELINES - BILLED CAPITAL	13
Category: B. Replacements (BC 4X2)	18
..004120 - GT PL REPLACE/EXTERNAL DRIVEN	19
Category: C. Relocations (BC 4X3 4X4)	28
..004130 - GT PL RELOC-FWAY/EXTERNAL DRIVEN	29
..004140 - GT PL RELOC-FRAN/PRV ROW/EXTERNAL DRIVEN	37
Category: D. Compressor Stations (BC 4X5)	45
..004150 - COMPRESSOR STATIONS	46
Category: E. Cathodic Protection (BC 4X6)	55
..004160 - GT CATHODIC PROTECTION/EXTERNAL DRIVEN	56
Category: F. Land Rights (BC 417)	64
..004170 - GAS TRANSMISSION - LAND RIGHTS	65
Category: G. M&R Stations (BC 418)	73
..004180 - M&R STATIONS	74
Category: H. Capital Tools (BC 436)	84
..004360 - GT CAPITAL TOOLS / QUALITY-ECON DRIVEN	85
Category: I. Local Engineering Pool (BC 903)	93
..009030 - LOCAL ENGINEERING POOL - GT POOL	94

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

Overall Summary For Exhibit No. SDG&E-06-CWP-R

Area:	GAS TRANSMISSION
Witness:	Raymond K. Stanford

In 2013 \$ (000)			
Adjusted-Forecast			
	2014	2015	2016
A. New Pipelines (BC 4X1)	210	592	1,012
B. Replacements (BC 4X2)	1,213	680	680
C. Relocations (BC 4X3 4X4)	474	474	474
D. Compressor Stations (BC 4X5)	3,127	3,127	3,127
E. Cathodic Protection (BC 4X6)	241	262	262
F. Land Rights (BC 417)	500	0	0
G. M&R Stations (BC 418)	1,184	1,184	1,184
H. Capital Tools (BC 436)	130	130	130
I. Local Engineering Pool (BC 903)	133	133	133
Total	7,212	6,582	7,002

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Category: A. New Pipelines (BC 4X1)
Workpaper: VARIOUS

Summary for Category: A. New Pipelines (BC 4X1)

	In 2013\$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	0	111	247	391
Non-Labor	0	99	345	621
NSE	0	0	0	0
Total	0	210	592	1,012
FTE	0.0	1.8	4.5	7.6

00411A NRG Joint-venture UEG at Carlsbad

Labor	0	36	180	324
Non-Labor	0	69	345	621
NSE	0	0	0	0
Total	0	105	525	945
FTE	0.0	0.8	3.8	6.9

00411B New Pipelines - Blanket W.O. projects

Labor	0	8	0	0
Non-Labor	0	30	0	0
NSE	0	0	0	0
Total	0	38	0	0
FTE	0.0	0.3	0.0	0.0

00411C New Transmission Pipelines - Billed Capital

Labor	0	67	67	67
Non-Labor	0	0	0	0
NSE	0	0	0	0
Total	0	67	67	67
FTE	0.0	0.7	0.7	0.7

Note: Totals may include rounding differences.

Beginning of Workpaper Group
00411A - NRG Joint-venture UEG at Carlsbad

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00411.0
 Category: A. New Pipelines (BC 4X1)
 Category-Sub: 1. NRG Joint-venture UEG at Carlsbad
 Workpaper Group: 00411A - NRG Joint-venture UEG at Carlsbad

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

Forecast Method		Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016
Years									
Labor	Zero-Based	0	0	0	0	0	36	180	324
Non-Labor	Zero-Based	0	0	0	0	0	69	345	621
NSE	Zero-Based	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	105	525	945
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.8	3.8	6.9

Business Purpose:

Acquire new electrical peaking capability through a joint venture with NRG Energy Corp.

Physical Description:

Install new Transmission mains and service lines to serve a new UEG peaker plant in Carlsbad, CA. The plant will be a 588-MW peaking plant.

Project Justification:

Closing the San Onofre generating plant, which accounted for approx. 20% of SDGE's power supply, and the looming shutdown of several power plants that use once-through cooling has left SDG&E searching for new power supply. This is an opportunity for NRG to fill some of the power needs for the region. SDG&E has agreed to buy power from the new plant as long as it is a peaker. The new plant will help SDG&E replace its share of the 2,150-MW San Onofre nuclear plant which was permanently shut down in summer of 2013.

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00411.0
Category: A. New Pipelines (BC 4X1)
Category-Sub: 1. NRG Joint-venture UEG at Carlsbad
Workpaper Group: 00411A - NRG Joint-venture UEG at Carlsbad

Forecast Methodology:

Labor - Zero-Based

Labor content is calculated at the average content of the last five years of recorded costs in this BC.

Non-Labor - Zero-Based

Non-labor costs are typically for materials, construction equipment and contract labor. Such costs are estimated by experienced pipeline construction management personnel using reference to recent pipeline construction projects of similar scope, pipe size and construction environment.

NSE - Zero-Based

None,

**Beginning of Workpaper Sub Details for
Workpaper Group 00411A**

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00411.0
 Category: A. New Pipelines (BC 4X1)
 Category-Sub: 1. NRG Joint-venture UEG at Carlsbad
 Workpaper Group: 00411A - Gas Storage - Compressor Stations - Goleta - Units #2 and #3 Overhauls
 Workpaper Detail: 00411A.001 - NRG Joint-venture UEG at Carlsbad
 In-Service Date: 09/30/2016
 Description:

Gas Transmission - New pipelines

Forecast In 2013 \$(000)				
	Years	2014	2015	2016
Labor		36	180	324
Non-Labor		69	345	621
NSE		0	0	0
	Total	105	525	945
FTE		0.8	3.8	6.9

Note: Totals may include rounding differences.

Beginning of Workpaper Group
00411B - New Pipelines - Blanket W.O. projects

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00411.0
 Category: A. New Pipelines (BC 4X1)
 Category-Sub: 2. New Pipelines - Blanket W.O. projects
 Workpaper Group: 00411B - New Pipelines - Blanket W.O. projects

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

Forecast Method		Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016
Years									
Labor	Zero-Based	0	0	0	0	0	8	0	0
Non-Labor	Zero-Based	0	0	0	0	0	30	0	0
NSE	Zero-Based	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	38	0	0
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Business Purpose:

This Budget Code includes costs associated with the design and installation of new transmission pipelines to serve new customer loads and/or to improve the ability to move natural gas to points of critical need at adequate pressure. Includes costs planned in Budget Categories 401, 411, and 421 for "blanket" smaller projects not qualifying for an individual work paper

Physical Description:

New pipeline projects include planning, design, permitting, material acquisition, construction, commissioning and impact mitigation for new pipelines and associated valves, fittings, pressure regulating stations and service lines. Projects can range in size and magnitude from a few feet to many miles of large diameter pipeline through urban, suburban, rural or remote terrain within SDG&E's service territory.

Project Justification:

New pipelines are extended to customers in accordance with tariff rules approved by the CPUC. Costs for 2014 shown on this work paper are based on the average of the most recent five years' recorded expenditures including collected amounts applied to direct costs.

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00411.0
Category: A. New Pipelines (BC 4X1)
Category-Sub: 2. New Pipelines - Blanket W.O. projects
Workpaper Group: 00411B - New Pipelines - Blanket W.O. projects

Forecast Methodology:

Labor - Zero-Based

The labor portion of total direct project costs is derived as a percentage of costs in this BC over the last five recorded years.

Non-Labor - Zero-Based

Non-labor costs are typically for materials, construction equipment and contract labor. Such costs are estimated by experienced pipeline construction management personnel using reference to recent pipeline construction projects of similar scope, pipe size and construction environment.

NSE - Zero-Based

None. These are pipeline-related projects.

**Beginning of Workpaper Sub Details for
Workpaper Group 00411B**

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00411.0
 Category: A. New Pipelines (BC 4X1)
 Category-Sub: 2. New Pipelines - Blanket W.O. projects
 Workpaper Group: 00411B - Gas Storage - Compressor Stations - Blanket projects
 Workpaper Detail: 00411B.001 - New Pipelines - Blanket W.O. projects
 In-Service Date: Not Applicable
 Description:

Gas Transmission - New Pipelines

Forecast In 2013 \$(000)				
	Years	2014	2015	2016
Labor		8	0	0
Non-Labor		30	0	0
NSE		0	0	0
	Total	38	0	0
FTE		0.3	0.0	0.0

Note: Totals may include rounding differences.

Beginning of Workpaper Group
00411C - New Transmission Pipelines - Billed Capital

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00411.0
 Category: A. New Pipelines (BC 4X1)
 Category-Sub: 3. New Transmission Pipelines - Billed Capital
 Workpaper Group: 00411C - New Transmission Pipelines - Billed Capital

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

Forecast Method		Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016
Years									
Labor	Zero-Based	0	0	0	0	0	67	67	67
Non-Labor	Zero-Based	0	0	0	0	0	0	0	0
NSE	Zero-Based	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	67	67	67
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7

Business Purpose:

Provide for payment for non-shared engineering and planning services provided to SDG&E by SoCalGas' engineering department.

Physical Description:

These are payments for billings sent to SDG&E by SoCalGas in compliance with merger requirements.

Project Justification:

Comply with merger requirements and agreements imposed during the merger of the parent companies of the two utilities.

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00411.0
Category: A. New Pipelines (BC 4X1)
Category-Sub: 3. New Transmission Pipelines - Billed Capital
Workpaper Group: 00411C - New Transmission Pipelines - Billed Capital

Forecast Methodology:

Labor - Zero-Based

Planned according to the last five years of recorded activity in this BC.

Non-Labor - Zero-Based

Planned according to the last five years of recorded activity in this BC.

NSE - Zero-Based

Does not apply. Labor only.

**Beginning of Workpaper Sub Details for
Workpaper Group 00411C**

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00411.0
 Category: A. New Pipelines (BC 4X1)
 Category-Sub: 3. New Transmission Pipelines - Billed Capital
 Workpaper Group: 00411C - New Transmission Pipelines - Billed Capital
 Workpaper Detail: 00411C.001 - New Transmission Pipelines - Billed Capital

In-Service Date: Not Applicable

Description:

Gas Transmission - New Pipelines

Forecast In 2013 \$(000)				
	Years	<u>2014</u>	<u>2015</u>	<u>2016</u>
Labor		67	67	67
Non-Labor		0	0	0
NSE		0	0	0
	Total	67	67	67
FTE		0.7	0.7	0.7

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Category: B. Replacements (BC 4X2)
Workpaper: 004120

Summary for Category: B. Replacements (BC 4X2)

	In 2013\$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	69	96	47	47
Non-Labor	1,157	1,117	633	633
NSE	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	1,226	1,213	680	680
FTE	0.7	0.9	0.5	0.5

004120 GT PL REPLACE/EXTERNAL DRIVEN

Labor	69	96	47	47
Non-Labor	1,157	1,117	633	633
NSE	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	1,226	1,213	680	680
FTE	0.7	0.9	0.5	0.5

Note: Totals may include rounding differences.

Beginning of Workpaper Group
004120 - GT PL REPLACE/EXTERNAL DRIVEN

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00412.0
 Category: B. Replacements (BC 4X2)
 Category-Sub: 1. Replacements
 Workpaper Group: 004120 - GT PL REPLACE/EXTERNAL DRIVEN

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

Forecast Method		Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016
Years									
Labor	Zero-Based	78	46	29	12	69	96	47	47
Non-Labor	Zero-Based	1,359	397	165	82	1,157	1,117	633	633
NSE	Zero-Based	0	0	0	0	0	0	0	0
Total		1,436	443	194	94	1,226	1,213	680	680
FTE	Zero-Based	0.8	0.5	0.2	0.1	0.7	0.9	0.5	0.5

Business Purpose:

This Budget Code includes costs associated with the design and installation of transmission pipeline replacements. Typically, transmission pipelines are replaced due to either condition of existing pipeline or hazardous condition affecting the existing pipeline location. Pipelines with a history of leakage, poor coating, or that are difficult to cathodically protect are routinely evaluated for possible replacement. Not included on this work paper is the cost impact of D.O.T. pipeline integrity requirements found in CFR 49, Part 192, Subpart O.

Physical Description:

Projects in this Budget Code include the cost to plan, design, permit, acquire materials, construct, commission and mitigate impacts for the replacement of pipeline, fittings, valves and associated pressure regulating stations and service lines. Multiple projects are completed each year ranging in size and magnitude from a few feet to several miles of replacement. Projects can involve difficult and hazardous access with many logistical challenges caused by weather or physical terrain.

Project Justification:

The estimate for 2014 comes from the operations area of the company and people familiar with local projects, none of which qualify for separate work paper treatment. The estimates for 2015 and 2016 are based on an average of the most recent 5 years of recorded costs and on the experience and judgment of local pipeline people with knowledge of trends in construction costs and materials performance. Costs in this budget category over the past five years have averaged 70% collectible.

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00412.0
Category: B. Replacements (BC 4X2)
Category-Sub: 1. Replacements
Workpaper Group: 004120 - GT PL REPLACE/EXTERNAL DRIVEN

Forecast Methodology:

Labor - Zero-Based

2014 is from Transmission Operations' 5-yr capital plan. 2015 and 2016 are 5-yr average.

Non-Labor - Zero-Based

2014 is from Transmission Operations' 5-yr capital plan. 2015 and 2016 are 5-yr average.

NSE - Zero-Based

None.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00412.0
 Category: B. Replacements (BC 4X2)
 Category-Sub: 1. Replacements
 Workpaper Group: 004120 - GT PL REPLACE/EXTERNAL DRIVEN

Adjustments to Forecast

In 2013 \$ (000)										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Zero-Based	96	47	47	0	0	0	96	47	47
Non-Labor	Zero-Based	1,117	633	633	0	0	0	1,117	633	633
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		1,213	680	680	0	0	0	1,213	680	680
FTE	Zero-Based	0.9	0.5	0.5	0.0	0.0	0.0	0.9	0.5	0.5

Forecast Adjustment Details

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

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00412.0
Category: B. Replacements (BC 4X2)
Category-Sub: 1. Replacements
Workpaper Group: 004120 - GT PL REPLACE/EXTERNAL DRIVEN

Determination of Adjusted-Recorded:

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	55	34	24	11	59
Non-Labor	-164	-345	153	63	109
NSE	0	0	0	0	0
Total	-110	-311	177	74	168
FTE	0.7	0.4	0.2	0.1	0.6
Adjustments (Nominal \$)**					
Labor	0	0	0	0	0
Non-Labor	1,271	682	0	19	1,048
NSE	0	0	0	0	0
Total	1,271	682	0	19	1,048
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	55	34	24	11	59
Non-Labor	1,106	337	153	82	1,157
NSE	0	0	0	0	0
Total	1,161	371	177	93	1,216
FTE	0.7	0.4	0.2	0.1	0.6
Vacation & Sick (Nominal \$)					
Labor	8	5	4	2	9
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	8	5	4	2	9
FTE	0.1	0.1	0.0	0.0	0.1
Escalation to 2013\$					
Labor	14	7	2	0	0
Non-Labor	252	60	12	0	0
NSE	0	0	0	0	0
Total	267	67	14	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	78	46	29	12	69
Non-Labor	1,359	397	165	82	1,157
NSE	0	0	0	0	0
Total	1,436	443	194	94	1,226
FTE	0.8	0.5	0.2	0.1	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
2016 GRC - REVISED
Capital Workpapers

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00412.0
 Category: B. Replacements (BC 4X2)
 Category-Sub: 1. Replacements
 Workpaper Group: 004120 - GT PL REPLACE/EXTERNAL DRIVEN

Adjustments to Recorded:

		In Nominal \$(000)				
Years		2009	2010	2011	2012	2013
Labor		0	0	0	0	0
Non-Labor		1,271	682	0	19	1,048
NSE		0	0	0	0	0
Total		1,271	682	0	19	1,048
FTE		0.0	0.0	0.0	0.0	0.0

Detail of Adjustments to Recorded in Nominal \$:

Year/Explanation	Labor	NLbr	NSE	Total	FTE	RefID
2009	0	1,271	0	1,271	0.0	TPMJW20131121155743877
Removed negative CIAC amounts to show actual SDGE expenditure. (Per GRC prodedural guidance.)						
2009 Total	0	1,271	0	1,271	0.0	
2010	0	682	0	682	0.0	TPMJW20131121155827090
Removed negative CIAC amounts to show actual SDGE expenditure. (Per GRC prodedural guidance.)						
2010 Total	0	682	0	682	0.0	
2011 Total	0	0	0	0	0.0	
2012	0	19	0	19	0.0	TPMJW20131121155906203
Removed negative CIAC amounts to show actual SDGE expenditure. (Per GRC prodedural guidance.)						
2012 Total	0	19	0	19	0.0	
2013	0	1,048	0	1,048	0.0	TPMJW20140218153112097
Removed negative CIAC amounts per case Mgt.						
2013 Total	0	1,048	0	1,048	0.0	

Note: Totals may include rounding differences.

**Beginning of Workpaper Sub Details for
Workpaper Group 004120**

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00412.0
 Category: B. Replacements (BC 4X2)
 Category-Sub: 1. Replacements
 Workpaper Group: 004120 - GT Stor Wells / Externally Driven
 Workpaper Detail: 004120.001 - Gas Transmission Line Replacements - non-PIP Collectible portion
 In-Service Date: Not Applicable
 Description:

Gas Transmission - Non-PIP Pipeline replacements.

Forecast In 2013 \$(000)				
	Years	<u>2014</u>	<u>2015</u>	<u>2016</u>
Labor		67	33	33
Non-Labor		782	443	443
NSE		0	0	0
	Total	849	476	476
FTE		0.7	0.4	0.4

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00412.0
 Category: B. Replacements (BC 4X2)
 Category-Sub: 1. Replacements
 Workpaper Group: 004120 - GT Stor Wells / Externally Driven
 Workpaper Detail: 004120.002 - Gas Transmission Line Replacements - Non-Collectible Portion
 In-Service Date: Not Applicable
 Description:

Gas Transmission - Non-PIP Pipeline replacements.

Forecast In 2013 \$(000)				
	Years	<u>2014</u>	<u>2015</u>	<u>2016</u>
Labor		29	14	14
Non-Labor		335	190	190
NSE		0	0	0
	Total	364	204	204
FTE		0.2	0.1	0.1

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Category: C. Relocations (BC 4X3 4X4)
Workpaper: VARIOUS

Summary for Category: C. Relocations (BC 4X3 4X4)

	In 2013\$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	0	15	15	15
Non-Labor	0	459	459	459
NSE	0	0	0	0
Total	0	474	474	474
FTE	0.0	0.1	0.1	0.1

004130 GT PL RELOC-FWAY/EXTERNAL DRIVEN

Labor	0	0	0	0
Non-Labor	0	298	298	298
NSE	0	0	0	0
Total	0	298	298	298
FTE	0.0	0.0	0.0	0.0

004140 GT PL RELOC-FRAN/PRV ROW/EXTERNAL DRIVEN

Labor	0	15	15	15
Non-Labor	0	161	161	161
NSE	0	0	0	0
Total	0	176	176	176
FTE	0.0	0.1	0.1	0.1

Note: Totals may include rounding differences.

Beginning of Workpaper Group
004130 - GT PL RELOC-FWAY/EXTERNAL DRIVEN

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00413.0
 Category: C. Relocations (BC 4X3 4X4)
 Category-Sub: 1. GT PL RELOC-FWAY/EXTERNAL DRIVEN
 Workpaper Group: 004130 - GT PL RELOC-FWAY/EXTERNAL DRIVEN

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

Forecast Method		Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016
	Years								
Labor	5-YR Average	0	0	0	0	0	0	0	0
Non-Labor	5-YR Average	914	105	186	288	0	298	298	298
NSE	5-YR Average	0	0	0	0	0	0	0	0
	Total	914	105	186	288	0	298	298	298
FTE	5-YR Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Business Purpose:

This Budget Code includes costs associated with pipeline and associated facility relocations necessitated by CalTrans construction projects.

Physical Description:

Relocate and replace pipelines and related facilities found to be in conflict with Cal Trans construction projects. Individual projects will vary from less than \$10,000 to as high as multiple hundreds of thousands of dollars.

Project Justification:

To meet operating, right of way, and franchise agreement requirements. Ongoing projects with Cal Trans are not always known during the annual budgeting process. Throughout the year, SDG&E is required to relocate pipelines during the same year they are being submitted to SDG&E. Costs are driven by safety and regulatory compliance as well as contractual requirements.

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00413.0
Category: C. Relocations (BC 4X3 4X4)
Category-Sub: 1. GT PL RELOC-FWAY/EXTERNAL DRIVEN
Workpaper Group: 004130 - GT PL RELOC-FWAY/EXTERNAL DRIVEN

Forecast Methodology:

Labor - 5-YR Average

Planned years are estimated at 5-yr averages. Labor is broken out according to the dollar ratio during the most recent five recorded years.

Non-Labor - 5-YR Average

Planned years are estimated at 5-yr averages. Non-Labor is broken out according to the dollar ratio during the most recent five recorded years.

NSE - 5-YR Average

None.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00413.0
 Category: C. Relocations (BC 4X3 4X4)
 Category-Sub: 1. GT PL RELOC-FWAY/EXTERNAL DRIVEN
 Workpaper Group: 004130 - GT PL RELOC-FWAY/EXTERNAL DRIVEN

Adjustments to Forecast

In 2013 \$ (000)										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	5-YR Average	0	0	0	0	0	0	0	0	0
Non-Labor	5-YR Average	298	298	298	0	0	0	298	298	298
NSE	5-YR Average	0	0	0	0	0	0	0	0	0
Total		298	298	298	0	0	0	298	298	298
FTE	5-YR Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Forecast Adjustment Details

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

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00413.0
 Category: C. Relocations (BC 4X3 4X4)
 Category-Sub: 1. GT PL RELOC-FWAY/EXTERNAL DRIVEN
 Workpaper Group: 004130 - GT PL RELOC-FWAY/EXTERNAL DRIVEN

Determination of Adjusted-Recorded:

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	0	0
Non-Labor	0	89	25	141	0
NSE	0	0	0	0	0
Total	0	89	25	141	0
FTE	0.0	0.0	0.0	0.0	0.0
Adjustments (Nominal \$)**					
Labor	0	0	0	0	0
Non-Labor	744	0	148	148	0
NSE	0	0	0	0	0
Total	744	0	148	148	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	0	0	0	0	0
Non-Labor	744	89	173	289	0
NSE	0	0	0	0	0
Total	744	89	173	289	0
FTE	0.0	0.0	0.0	0.0	0.0
Vacation & Sick (Nominal \$)					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Escalation to 2013\$					
Labor	0	0	0	0	0
Non-Labor	170	16	13	-1	0
NSE	0	0	0	0	0
Total	170	16	13	-1	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	0	0	0	0	0
Non-Labor	914	105	186	288	0
NSE	0	0	0	0	0
Total	914	105	186	288	0
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
2016 GRC - REVISED
Capital Workpapers

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00413.0
 Category: C. Relocations (BC 4X3 4X4)
 Category-Sub: 1. GT PL RELOC-FWAY/EXTERNAL DRIVEN
 Workpaper Group: 004130 - GT PL RELOC-FWAY/EXTERNAL DRIVEN

Adjustments to Recorded:

In Nominal \$(000)					
Years	2009	2010	2011	2012	2013
Labor	0	0	0	0	0
Non-Labor	744	0	148	148	0
NSE	0	0	0	0	0
Total	744	0	148	148	0
FTE	0.0	0.0	0.0	0.0	0.0

Detail of Adjustments to Recorded in Nominal \$:

Year/Explanation	Labor	NLbr	NSE	Total	FTE	RefID
2009	0	744	0	744	0.0	TPMJW20131121161303923
This is a recalculation from GRID BW for this BC by cost element showing using net of debits and CIAC negatives.						
2009 Total	0	744	0	744	0.0	
2010 Total	0	0	0	0	0.0	
2011	0	148	0	148	0.0	TPMJW20140218153931477
Removed negative CIAC amount per case Mgt.						
2011 Total	0	148	0	148	0.0	
2012	0	0	0	0	0.0	TPMJW20131121161449867
Restored original amount.						
	0	148	0	148	0.0	TPMJW20131121162223353
Removes negative CIAC amounts to show actual SDGE expenditures. (Per GRC procedural guidance.)						
2012 Total	0	148	0	148	0.0	
2013 Total	0	0	0	0	0.0	

Note: Totals may include rounding differences.

**Beginning of Workpaper Sub Details for
Workpaper Group 004130**

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00413.0
 Category: C. Relocations (BC 4X3 4X4)
 Category-Sub: 1. GT PL RELOC-FWAY/EXTERNAL DRIVEN
 Workpaper Group: 004130 - GT Stor Pipelines / Externally Driven
 Workpaper Detail: 004130.001 - Gas Transmission Line Relocations due to Freeway projects.
 In-Service Date: Not Applicable
 Description:

Forecast In 2013 \$(000)					
Years		2014	2015	2016	
Labor		0	0	0	
Non-Labor		298	298	298	
NSE		0	0	0	
	Total	298	298	298	
FTE		0.0	0.0	0.0	

Note: Totals may include rounding differences.

Beginning of Workpaper Group
004140 - GT PL RELOC-FRAN/PRV ROW/EXTERNAL DRIVEN

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00414.0
 Category: C. Relocations (BC 4X3 4X4)
 Category-Sub: 2. GT PL RELOC-FRAN/PRV ROW/EXTERNAL DRIVEN
 Workpaper Group: 004140 - GT PL RELOC-FRAN/PRV ROW/EXTERNAL DRIVEN

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

Forecast Method		Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016
Years									
Labor	Zero-Based	0	0	15	0	0	15	15	15
Non-Labor	Zero-Based	0	0	160	9	0	161	161	161
NSE	Zero-Based	0	0	0	0	0	0	0	0
Total		0	0	175	8	0	176	176	176
FTE	Zero-Based	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1

Business Purpose:

This Budget Code includes costs associated with the modification and relocation of transmission pipelines to accommodate planned private property development, municipal public works and street improvement projects, and other work required due to right-of-way agreements, contract and franchise requirements.

Physical Description:

This Budget Code contains forecasts for a number of pipeline relocation projects required to meet the regulatory requirements or contract clauses of operating, right of way, franchise, and 3rd party developer agreements. Specific projects with cities and developers are not always clear during the annual budgeting process. These projects can range in magnitude from less than one hundred feet of pipe to accommodate a storm drain or sewer installation to several miles of relocated pipe, fittings, valves and appurtenances needed to accommodate residential development over large tracts of previously undeveloped land throughout our service territory. Throughout the year, SDG&E can be required to relocate pipelines during the same year the request is received by SDG&E due to the immediate needs of third party developers or municipal agencies.

Individual projects in this budget code can vary in cost from less than \$10,000 to as high as several hundreds of thousands of dollars.

Project Justification:

Pipelines are relocated according to the requirements of municipal franchises and property developers. Some are collectible and others are not, usually depending on rights of way or franchise content.

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00414.0
Category: C. Relocations (BC 4X3 4X4)
Category-Sub: 2. GT PL RELOC-FRAN/PRV ROW/EXTERNAL DRIVEN
Workpaper Group: 004140 - GT PL RELOC-FRAN/PRV ROW/EXTERNAL DRIVEN

Forecast Methodology:

Labor - Zero-Based

Activity in this BC varies considerably over the years. This forecast repeats the experience in 2011, the most recent year in which there has been activity over the last five years. Labor is a repeat of the 2011 content.

Non-Labor - Zero-Based

Activity in this BC varies considerably over the years. This forecast repeats the experience in 2011, the most recent year in which there has been activity over the last five years. Non-labor is a repeat of the 2011 content.

NSE - Zero-Based

None.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00414.0
 Category: C. Relocations (BC 4X3 4X4)
 Category-Sub: 2. GT PL RELOC-FRAN/PRV ROW/EXTERNAL DRIVEN
 Workpaper Group: 004140 - GT PL RELOC-FRAN/PRV ROW/EXTERNAL DRIVEN

Adjustments to Forecast

In 2013 \$ (000)										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Zero-Based	15	15	15	0	0	0	15	15	15
Non-Labor	Zero-Based	161	161	161	0	0	0	161	161	161
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		176	176	176	0	0	0	176	176	176
FTE	Zero-Based	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1

Forecast Adjustment Details

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

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00414.0
 Category: C. Relocations (BC 4X3 4X4)
 Category-Sub: 2. GT PL RELOC-FRAN/PRV ROW/EXTERNAL DRIVEN
 Workpaper Group: 004140 - GT PL RELOC-FRAN/PRV ROW/EXTERNAL DRIVEN

Determination of Adjusted-Recorded:

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	12	0	0
Non-Labor	0	0	149	9	0
NSE	0	0	0	0	0
Total	0	0	161	8	0
FTE	0.0	0.0	0.1	0.0	0.0
Adjustments (Nominal \$)**					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	0	0	12	0	0
Non-Labor	0	0	149	9	0
NSE	0	0	0	0	0
Total	0	0	161	8	0
FTE	0.0	0.0	0.1	0.0	0.0
Vacation & Sick (Nominal \$)					
Labor	0	0	2	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	2	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Escalation to 2013\$					
Labor	0	0	1	0	0
Non-Labor	0	0	11	0	0
NSE	0	0	0	0	0
Total	0	0	12	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	0	0	15	0	0
Non-Labor	0	0	160	9	0
NSE	0	0	0	0	0
Total	0	0	175	8	0
FTE	0.0	0.0	0.1	0.0	0.0

* After company-wide exclusions of Non-GRC costs

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

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00414.0
 Category: C. Relocations (BC 4X3 4X4)
 Category-Sub: 2. GT PL RELOC-FRAN/PRV ROW/EXTERNAL DRIVEN
 Workpaper Group: 004140 - GT PL RELOC-FRAN/PRV ROW/EXTERNAL DRIVEN

Adjustments to Recorded:

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

Detail of Adjustments to Recorded in Nominal \$:

Year/Explanation	Labor	NLbr	NSE	Total	FTE	RefID
2009 Total	0	0	0	0	0.0	
2010 Total	0	0	0	0	0.0	
2011	0	0	0	0	0.0	TPMJW20131121163237423
Removes CIAC amounts to show actual SDGE expenditures. (Per GRC procedural guidance.)						
2011 Total	0	0	0	0	0.0	
2012 Total	0	0	0	0	0.0	
2013 Total	0	0	0	0	0.0	

Note: Totals may include rounding differences.

**Beginning of Workpaper Sub Details for
Workpaper Group 004140**

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00414.0
 Category: C. Relocations (BC 4X3 4X4)
 Category-Sub: 2. GT PL RELOC-FRAN/PRV ROW/EXTERNAL DRIVEN
 Workpaper Group: 004140 - GT Stor Purifi Equip / Externally Driven
 Workpaper Detail: 004140.001 - GT - Relocate Lines due to Freeway (CalTrans) activities
 In-Service Date: Not Applicable
 Description:

Forecast In 2013 \$(000)				
Years		2014	2015	2016
Labor		15	15	15
Non-Labor		161	161	161
NSE		0	0	0
	Total	176	176	176
FTE		0.1	0.1	0.1

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Category: D. Compressor Stations (BC 4X5)
Workpaper: 004150

Summary for Category: D. Compressor Stations (BC 4X5)

	In 2013\$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	161	179	179	179
Non-Labor	1,962	2,948	2,948	2,948
NSE	0	0	0	0
Total	2,123	3,127	3,127	3,127
FTE	1.8	1.9	1.9	1.9

004150 Compressor Stations

Labor	161	179	179	179
Non-Labor	1,962	2,948	2,948	2,948
NSE	0	0	0	0
Total	2,123	3,127	3,127	3,127
FTE	1.8	1.9	1.9	1.9

Note: Totals may include rounding differences.

**Beginning of Workpaper Group
004150 - Compressor Stations**

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00415.0
 Category: D. Compressor Stations (BC 4X5)
 Category-Sub: 1. Compressor Stations
 Workpaper Group: 004150 - Compressor Stations

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

Forecast Method		Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016
Years									
Labor	Zero-Based	79	111	121	102	161	179	179	179
Non-Labor	Zero-Based	3,940	4,720	2,407	1,691	1,962	2,948	2,948	2,948
NSE	Zero-Based	0	0	0	0	0	0	0	0
Total		4,019	4,832	2,527	1,793	2,123	3,127	3,127	3,127
FTE	Zero-Based	0.7	1.2	1.3	1.0	1.8	1.9	1.9	1.9

Business Purpose:

This Budget Code includes costs associated with the installation and replacement of compressor station equipment used in operating the transmission system. The nature of compressor station operation requires consistent maintenance and replacement of key engine components and controls equipment to sustain the reliability and safety of the facility. To keep operating costs down, reliance is made on automating data gathering systems to monitor performance data such as flows, pressures, and temperatures. The upgrade and replacement of controls consisting of out dated technology is critical to enable the station to operate at its highest efficiency and that proper testing and diagnostics can be executed when the engine units are down.

Physical Description:

Individual project scopes can consist of one or a combination of the following installations: engine control panels, oxidation catalysts, evaporative ponds, cooling tower, blowdown silencer, station auxiliary systems, turbos, station physical security, and clearance pockets.

Project Justification:

Existing compressor station equipment has a finite life requiring regular replacement and/or upgrade as recommended by manufacturers or as required by operating experience to maintain reliability and transportation ability for the Southern California market. In addition, the need has been identified to harden the physical security at a critical compressor station. This need was driven by two factors. The first factor was the Transportation Security Administration (TSA) guidelines to objectively identify gas assets deemed as critical. The second factor was the various security breaches that recently occurred affecting the energy sector.

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00415.0
Category: D. Compressor Stations (BC 4X5)
Category-Sub: 1. Compressor Stations
Workpaper Group: 004150 - Compressor Stations

Forecast Methodology:

Labor - Zero-Based

The 5-year average is used for years 2014, 2015, and 2016. To the five-year average recorded costs is added an estimate for billed capital for engineering and/or planning provided by So Cal Gas to SDG&E. Such costs are accounted as indirects and are thus not included in the booked recorded costs. Labor amount is estimated using the last five years of recorded costs.

Non-Labor - Zero-Based

The 5-year average is used for years 2014, 2015, and 2016. Non-labor amount is estimated using the last five years of recorded costs.

NSE - Zero-Based

None.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00415.0
 Category: D. Compressor Stations (BC 4X5)
 Category-Sub: 1. Compressor Stations
 Workpaper Group: 004150 - Compressor Stations

Adjustments to Forecast

In 2013 \$ (000)										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Zero-Based	179	179	179	0	0	0	179	179	179
Non-Labor	Zero-Based	2,948	2,948	2,948	0	0	0	2,948	2,948	2,948
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		3,127	3,127	3,127	0	0	0	3,127	3,127	3,127
FTE	Zero-Based	1.9	1.9	1.9	0.0	0.0	0.0	1.9	1.9	1.9

Forecast Adjustment Details

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

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00415.0
Category: D. Compressor Stations (BC 4X5)
Category-Sub: 1. Compressor Stations
Workpaper Group: 004150 - Compressor Stations

Determination of Adjusted-Recorded:

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	56	82	98	89	139
Non-Labor	3,208	4,008	2,237	1,697	1,962
NSE	0	0	0	0	0
Total	3,263	4,090	2,335	1,786	2,101
FTE	0.6	1.0	1.1	0.9	1.5
Adjustments (Nominal \$)**					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	56	82	98	89	139
Non-Labor	3,208	4,008	2,237	1,697	1,962
NSE	0	0	0	0	0
Total	3,263	4,090	2,335	1,786	2,101
FTE	0.6	1.0	1.1	0.9	1.5
Vacation & Sick (Nominal \$)					
Labor	9	13	14	13	22
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	9	13	14	13	22
FTE	0.1	0.2	0.2	0.1	0.3
Escalation to 2013\$					
Labor	15	17	9	0	0
Non-Labor	732	712	170	-5	0
NSE	0	0	0	0	0
Total	747	729	178	-6	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	79	111	121	102	161
Non-Labor	3,940	4,720	2,407	1,691	1,962
NSE	0	0	0	0	0
Total	4,019	4,832	2,527	1,793	2,123
FTE	0.7	1.2	1.3	1.0	1.8

* 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
2016 GRC - REVISED
Capital Workpapers

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00415.0
 Category: D. Compressor Stations (BC 4X5)
 Category-Sub: 1. Compressor Stations
 Workpaper Group: 004150 - Compressor Stations

Adjustments to Recorded:

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

Detail of Adjustments to Recorded in Nominal \$:

Year/Explanation	Labor	NLbr	NSE	Total	FTE	RefID
2009 Total	0	0	0	0	0.0	
2010 Total	0	0	0	0	0.0	
2011 Total	0	0	0	0	0.0	
2012 Total	0	0	0	0	0.0	
2013 Total	0	0	0	0	0.0	

Note: Totals may include rounding differences.

**Beginning of Workpaper Sub Details for
Workpaper Group 004150**

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00415.0
 Category: D. Compressor Stations (BC 4X5)
 Category-Sub: 1. Compressor Stations
 Workpaper Group: 004150 - Compressor Stations
 Workpaper Detail: 004150.001 - Gas Transmission Compressor Stations operated by SDGE
 In-Service Date: Not Applicable
 Description:

This work paper includes costs associated with the installation and replacement of compressor station equipment used in operating the transmission system.

Forecast In 2013 \$(000)			
Years	2014	2015	2016
Labor	115	115	115
Non-Labor	2,948	2,948	2,948
NSE	0	0	0
Total	3,063	3,063	3,063
FTE	1.2	1.2	1.2

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00415.0
 Category: D. Compressor Stations (BC 4X5)
 Category-Sub: 1. Compressor Stations
 Workpaper Group: 004150 - Compressor Stations
 Workpaper Detail: 004150.002 - Billed Capital paid by SDGE

In-Service Date: Not Applicable

Description:

Gas Transmission - Compressor Stations

Forecast In 2013 \$(000)				
	Years	2014	2015	2016
Labor		64	64	64
Non-Labor		0	0	0
NSE		0	0	0
	Total	64	64	64
FTE		0.7	0.7	0.7

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Category: E. Cathodic Protection (BC 4X6)
 Workpaper: 004160

Summary for Category: E. Cathodic Protection (BC 4X6)

	In 2013\$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	11	79	86	86
Non-Labor	72	162	176	176
NSE	0	0	0	0
Total	<u>83</u>	<u>241</u>	<u>262</u>	<u>262</u>
FTE	0.1	0.7	0.8	0.8

004160 GT CATHODIC PROTECTION/EXTERNAL DRIVEN

Labor	11	79	86	86
Non-Labor	72	162	176	176
NSE	0	0	0	0
Total	<u>83</u>	<u>241</u>	<u>262</u>	<u>262</u>
FTE	0.1	0.7	0.8	0.8

Note: Totals may include rounding differences.

Beginning of Workpaper Group
004160 - GT CATHODIC PROTECTION/EXTERNAL DRIVEN

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00416.0
 Category: E. Cathodic Protection (BC 4X6)
 Category-Sub: 1. Cathodic Protection
 Workpaper Group: 004160 - GT CATHODIC PROTECTION/EXTERNAL DRIVEN

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

Forecast Method		Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016
Years									
Labor	Zero-Based	6	22	42	31	11	79	86	86
Non-Labor	Zero-Based	51	37	102	0	72	162	176	176
NSE	Zero-Based	0	0	0	0	0	0	0	0
Total		57	58	144	30	83	241	262	262
FTE	Zero-Based	0.0	0.2	0.3	0.2	0.1	0.7	0.8	0.8

Business Purpose:

This Budget Code includes costs associated with the installation of cathodic protection equipment used to preserve the integrity of transmission pipelines by protecting them from external corrosion. These projects are mandated by federal and state minimum pipeline safety regulations, and provide for the maintenance of adequate cathodic protection on company facilities.

Physical Description:

Typical expenditures include the replacement of surface anode beds, deep well anodes and/or rectifier systems, installation of new cathodic protection stations, and applying cathodic protection to existing steel mains and service lines. Cathodic protection projects may also include the installation of new remote satellite communication technology which allows for more efficient operation and monitoring of the cathodic protection system.

Project Justification:

Application of cathodic protection provides greater system protection against corrosion. It allows SDG&E to meet Federal and State safety compliance requirements, ensuring reliability of transportation into Southern California market.

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00416.0
Category: E. Cathodic Protection (BC 4X6)
Category-Sub: 1. Cathodic Protection
Workpaper Group: 004160 - GT CATHODIC PROTECTION/EXTERNAL DRIVEN

Forecast Methodology:

Labor - Zero-Based

All forecast years are zero-based on the Region's estimates in their 5-yr capital plan. The labor content was estimated based on the Labor/Non-Labor ratio in the five most recent recorded years.

Non-Labor - Zero-Based

All forecast years are zero-based on the Region's estimates in their 5-yr capital plan. The Non-labor content was estimated based on the Labor/Non-Labor ratio in the five most recent recorded years.

NSE - Zero-Based

None.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00416.0
 Category: E. Cathodic Protection (BC 4X6)
 Category-Sub: 1. Cathodic Protection
 Workpaper Group: 004160 - GT CATHODIC PROTECTION/EXTERNAL DRIVEN

Adjustments to Forecast

In 2013 \$ (000)										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Zero-Based	79	86	86	0	0	0	79	86	86
Non-Labor	Zero-Based	162	176	176	0	0	0	162	176	176
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		241	262	262	0	0	0	241	262	262
FTE	Zero-Based	0.7	0.8	0.8	0.0	0.0	0.0	0.7	0.8	0.8

Forecast Adjustment Details

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

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00416.0
 Category: E. Cathodic Protection (BC 4X6)
 Category-Sub: 1. Cathodic Protection
 Workpaper Group: 004160 - GT CATHODIC PROTECTION/EXTERNAL DRIVEN

Determination of Adjusted-Recorded:

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	4	16	34	27	10
Non-Labor	41	31	95	0	72
NSE	0	0	0	0	0
Total	46	47	128	27	81
FTE	0.0	0.2	0.3	0.2	0.1
Adjustments (Nominal \$)**					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	4	16	34	27	10
Non-Labor	41	31	95	0	72
NSE	0	0	0	0	0
Total	46	47	128	27	81
FTE	0.0	0.2	0.3	0.2	0.1
Vacation & Sick (Nominal \$)					
Labor	1	3	5	4	2
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	1	3	5	4	2
FTE	0.0	0.0	0.0	0.0	0.0
Escalation to 2013\$					
Labor	1	3	3	0	0
Non-Labor	9	6	7	0	0
NSE	0	0	0	0	0
Total	11	9	10	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	6	22	42	31	11
Non-Labor	51	37	102	0	72
NSE	0	0	0	0	0
Total	57	58	144	30	83
FTE	0.0	0.2	0.3	0.2	0.1

* 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
2016 GRC - REVISED
Capital Workpapers

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00416.0
 Category: E. Cathodic Protection (BC 4X6)
 Category-Sub: 1. Cathodic Protection
 Workpaper Group: 004160 - GT CATHODIC PROTECTION/EXTERNAL DRIVEN

Adjustments to Recorded:

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

Detail of Adjustments to Recorded in Nominal \$:

Year/Explanation	Labor	NLbr	NSE	Total	FTE	RefID
2009 Total	0	0	0	0	0.0	
2010 Total	0	0	0	0	0.0	
2011 Total	0	0	0	0	0.0	
2012 Total	0	0	0	0	0.0	
2013 Total	0	0	0	0	0.0	

Note: Totals may include rounding differences.

**Beginning of Workpaper Sub Details for
Workpaper Group 004160**

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00416.0
 Category: E. Cathodic Protection (BC 4X6)
 Category-Sub: 1. Cathodic Protection
 Workpaper Group: 004160 - GT CATHODIC PROTECTION/EXTERNAL DRIVEN
 Workpaper Detail: 004160.001 - Transmission - related Cathodic Protection activities
 In-Service Date: Not Applicable
 Description:

Gas Transmission - Cathodic Protection

Forecast In 2013 \$(000)				
	Years	<u>2014</u>	<u>2015</u>	<u>2016</u>
Labor		79	86	86
Non-Labor		162	176	176
NSE		0	0	0
	Total	241	262	262
FTE		0.7	0.8	0.8

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Category: F. Land Rights (BC 417)
Workpaper: 004170

Summary for Category: F. Land Rights (BC 417)

	In 2013\$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	0	30	0	0
Non-Labor	25	470	0	0
NSE	0	0	0	0
Total	<u>25</u>	<u>500</u>	<u>0</u>	<u>0</u>
FTE	0.0	0.4	0.0	0.0

004170 Gas Transmission - Land Rights

Labor	0	30	0	0
Non-Labor	25	470	0	0
NSE	0	0	0	0
Total	<u>25</u>	<u>500</u>	<u>0</u>	<u>0</u>
FTE	0.0	0.4	0.0	0.0

Note: Totals may include rounding differences.

Beginning of Workpaper Group
004170 - Gas Transmission - Land Rights

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00417.0
 Category: F. Land Rights (BC 417)
 Category-Sub: 1. Land Rights
 Workpaper Group: 004170 - Gas Transmission - Land Rights

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

Forecast Method		Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016
Years									
Labor	Zero-Based	0	0	0	1	0	30	0	0
Non-Labor	Zero-Based	0	0	0	0	25	470	0	0
NSE	Zero-Based	0	0	0	0	0	0	0	0
Total		0	0	0	1	25	500	0	0
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0

Business Purpose:

Purchase or renew easements, rights of way or other land rights for the purposes of installing and maintaining Transmission pipelines. Many rights of way expire after a defined period of time and must be renewed with the current land owners. This BC provides capital funding for such negotiations.

Physical Description:

Transmission line 2010 crosses a large military reservation southeast of NAS Miramar (former Camp Elliot) and the right of way expires in 2014. The Line occupies a strip of land approximately 50 feet wide and 4,400 feet long within the reservation.

Project Justification:

There are few, if any, alternatives to negotiating and paying for land rights within the reservation. The only alternative would be to abandon a very serviceable line and run a new one many miles around the reservation since this line is a principal supply to the Santee area as well as the principal path west to Lines 1600 and 3010 from Line 3012 that carries Mexican gas north to our system.

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00417.0
Category: F. Land Rights (BC 417)
Category-Sub: 1. Land Rights
Workpaper Group: 004170 - Gas Transmission - Land Rights

Forecast Methodology:

Labor - Zero-Based

Labor content is calculated at 5.9% based on recorded amounts in 2012 and 2013.

Non-Labor - Zero-Based

Estimate is based on the Operations' estimate of approx. \$500k to be spent in 2014 to complete the right-of-way negotiations for Line 2010.

NSE - Zero-Based

None. This expenditure is pipeline-related.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00417.0
 Category: F. Land Rights (BC 417)
 Category-Sub: 1. Land Rights
 Workpaper Group: 004170 - Gas Transmission - Land Rights

Adjustments to Forecast

In 2013 \$ (000)										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Zero-Based	30	0	0	0	0	0	30	0	0
Non-Labor	Zero-Based	470	0	0	0	0	0	470	0	0
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		500	0	0	0	0	0	500	0	0
FTE	Zero-Based	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0

Forecast Adjustment Details

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

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00417.0
Category: F. Land Rights (BC 417)
Category-Sub: 1. Land Rights
Workpaper Group: 004170 - Gas Transmission - Land Rights

Determination of Adjusted-Recorded:

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	1	0
Non-Labor	0	0	0	0	25
NSE	0	0	0	0	0
Total	0	0	0	1	25
FTE	0.0	0.0	0.0	0.0	0.0
Adjustments (Nominal \$)**					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	0	0	0	1	0
Non-Labor	0	0	0	0	25
NSE	0	0	0	0	0
Total	0	0	0	1	25
FTE	0.0	0.0	0.0	0.0	0.0
Vacation & Sick (Nominal \$)					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Escalation to 2013\$					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	0	0	0	1	0
Non-Labor	0	0	0	0	25
NSE	0	0	0	0	0
Total	0	0	0	1	25
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
2016 GRC - REVISED
Capital Workpapers

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00417.0
 Category: F. Land Rights (BC 417)
 Category-Sub: 1. Land Rights
 Workpaper Group: 004170 - Gas Transmission - Land Rights

Adjustments to Recorded:

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

Detail of Adjustments to Recorded in Nominal \$:

Year/Explanation	Labor	NLbr	NSE	Total	FTE	RefID
2009 Total	0	0	0	0	0.0	
2010 Total	0	0	0	0	0.0	
2011 Total	0	0	0	0	0.0	
2012	0	0	0	0	0.0	TPMJW20131125113613813
Reversing the subtraction of this amount. BC is being used correctly.						
2012 Total	0	0	0	0	0.0	
2013	0	0	0	0	0.0	TPMJW20140304095032100
Reversing this subtraction as BC is being used correctly						
2013 Total	0	0	0	0	0.0	

Note: Totals may include rounding differences.

**Beginning of Workpaper Sub Details for
Workpaper Group 004170**

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00417.0
 Category: F. Land Rights (BC 417)
 Category-Sub: 1. Land Rights
 Workpaper Group: 004170 - Gas Transmission - Land Rights
 Workpaper Detail: 004170.001 - Right of Way lease renewal for Line 2010
 In-Service Date: 09/30/2014

Description:

Gas Transmission - Land Rights

Forecast In 2013 \$(000)				
	Years	<u>2014</u>	<u>2015</u>	<u>2016</u>
Labor		30	0	0
Non-Labor		470	0	0
NSE		0	0	0
	Total	500	0	0
FTE		0.4	0.0	0.0

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Category: G. M&R Stations (BC 418)
Workpaper: 004180

Summary for Category: G. M&R Stations (BC 418)

	In 2013\$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	124	132	132	132
Non-Labor	264	1,052	1,052	1,052
NSE	0	0	0	0
Total	388	1,184	1,184	1,184
FTE	1.4	1.5	1.5	1.5

004180 M&R Stations

Labor	124	132	132	132
Non-Labor	264	1,052	1,052	1,052
NSE	0	0	0	0
Total	388	1,184	1,184	1,184
FTE	1.4	1.5	1.5	1.5

Note: Totals may include rounding differences.

**Beginning of Workpaper Group
004180 - M&R Stations**

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00418.0
Category: G. M&R Stations (BC 418)
Category-Sub: 1. M&R Stations
Workpaper Group: 004180 - M&R Stations

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

Forecast Method		Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016
Years									
Labor	Zero-Based	184	42	57	46	124	132	132	132
Non-Labor	Zero-Based	2,279	648	421	1,638	264	1,052	1,052	1,052
NSE	Zero-Based	0	0	0	0	0	0	0	0
Total		2,463	691	478	1,684	388	1,184	1,184	1,184
FTE	Zero-Based	1.9	0.5	0.6	0.6	1.4	1.5	1.5	1.5

Business Purpose:

This Budget Code includes costs of installing and rebuilding large meter set assemblies (MSAs) for transmission-served customers and pressure limiting stations residing on the gas transmission system. These assets require replacement for three principal reasons: aging, change in use patterns and/or population encroachment, and enhancement of the transmission system to contend with gas quality and capacity issues. The capital work sustains reliable operation of critical transmission assets to the extent that they are not compromised by equipment deployed past its useful life. This includes periodic replacement of local field measurement and control equipment directly linking with Gas Operations SCADA system via remote communications.

Physical Description:

Typical expenditures includes the instrumentation necessary for the metering or regulating of natural gas in connection with transmission operations and, in particular, costs associated with additions or replacements of station piping, valves, regulators, control and communications equipment, shelters and enclosures.

Project Justification:

Requested funding includes installation of new meter and regulation equipment associated with operation of the transmission pipeline system. It includes gas meters installed to help manage gas flows and quality on the transmission system, and to provide operating information to gas operations control personnel remotely managing the gas delivery system. Also included in this category are regulating stations used to control and limit gas pressure and the flow of gas within the gas transmission system, such as city gate stations. The installation of this equipment is associated with the safe and reliable local operation of SoCalGas pipelines in conformance with DOT and CPUC requirements for the limiting of pipeline and vessel operating pressures. All pipelines must be operated within their maximum allowable operating pressure parameters, and this equipment, whether for newly-installed pipelines or, where replacement is warranted, sustains this compliance and operating integrity.

In the last five recorded years approximately 38% of the work in this BC has been collectible.

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00418.0
Category: G. M&R Stations (BC 418)
Category-Sub: 1. M&R Stations
Workpaper Group: 004180 - M&R Stations

Forecast Methodology:

Labor - Zero-Based

All forecast years are the 5-yr average. To the 5-yr average was added an estimated amount for expected billings for SCG supporting labor ("billed capital"). The labor amount was determined using the Labor/Non-Labor ratio in the most recent recorded year.

Non-Labor - Zero-Based

All forecast years are the 5-yr average. The Non-labor amount was determined using the Labor/Non-Labor ratio in the most recent recorded year.

NSE - Zero-Based

None.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00418.0
 Category: G. M&R Stations (BC 418)
 Category-Sub: 1. M&R Stations
 Workpaper Group: 004180 - M&R Stations

Adjustments to Forecast

In 2013 \$ (000)										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Zero-Based	132	132	132	0	0	0	132	132	132
Non-Labor	Zero-Based	1,052	1,052	1,052	0	0	0	1,052	1,052	1,052
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		1,184	1,184	1,184	0	0	0	1,184	1,184	1,184
FTE	Zero-Based	1.5	1.5	1.5	0.0	0.0	0.0	1.5	1.5	1.5

Forecast Adjustment Details

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

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00418.0
Category: G. M&R Stations (BC 418)
Category-Sub: 1. M&R Stations
Workpaper Group: 004180 - M&R Stations

Determination of Adjusted-Recorded:

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	130	31	46	41	107
Non-Labor	-5,737	551	180	1,431	264
NSE	0	0	0	0	0
Total	-5,607	582	226	1,472	371
FTE	1.6	0.4	0.5	0.5	1.2
Adjustments (Nominal \$)**					
Labor	0	0	0	0	0
Non-Labor	7,592	0	212	212	0
NSE	0	0	0	0	0
Total	7,592	0	212	212	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	130	31	46	41	107
Non-Labor	1,856	551	392	1,643	264
NSE	0	0	0	0	0
Total	1,986	582	438	1,684	371
FTE	1.6	0.4	0.5	0.5	1.2
Vacation & Sick (Nominal \$)					
Labor	20	5	7	6	17
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	20	5	7	6	17
FTE	0.3	0.1	0.1	0.1	0.2
Escalation to 2013\$					
Labor	34	6	4	0	0
Non-Labor	423	98	30	-5	0
NSE	0	0	0	0	0
Total	458	104	34	-5	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	184	42	57	46	124
Non-Labor	2,279	648	421	1,638	264
NSE	0	0	0	0	0
Total	2,463	691	478	1,684	388
FTE	1.9	0.5	0.6	0.6	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
2016 GRC - REVISED
Capital Workpapers

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00418.0
 Category: G. M&R Stations (BC 418)
 Category-Sub: 1. M&R Stations
 Workpaper Group: 004180 - M&R Stations

Adjustments to Recorded:

		In Nominal \$(000)				
Years		2009	2010	2011	2012	2013
Labor		0	0	0	0	0
Non-Labor		7,592	0	212	212	0
NSE		0	0	0	0	0
Total		7,592	0	212	212	0
FTE		0.0	0.0	0.0	0.0	0.0

Detail of Adjustments to Recorded in Nominal \$:

Year/Explanation	Labor	NLbr	NSE	Total	FTE	RefID
2009	0	7,592	0	7,592	0.0	TPMJW20131121164331753
Removed CIAC amounts in order to show actual SDGE expenditure. (Per GRC prodecual guidance.)						
2009 Total	0	7,592	0	7,592	0.0	
2010	0	0	0	0	0.0	TPMJW20131121164413447
Removed CIAC amounts in order to show actual SDGE expenditure. (Per GRC prodecual guidance.)						
2010 Total	0	0	0	0	0.0	
2011	0	212	0	212	0.0	TPMJW20140218163006053
Removed negative CIAC per case mgt.						
2011 Total	0	212	0	212	0.0	
2012	0	212	0	212	0.0	TPMJW20131121164458143
Removed CIAC amounts in order to show actual SDGE expenditure. (Per GRC prodecual guidance.)						
2012 Total	0	212	0	212	0.0	
2013 Total	0	0	0	0	0.0	

Note: Totals may include rounding differences.

**Beginning of Workpaper Sub Details for
Workpaper Group 004180**

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00418.0
 Category: G. M&R Stations (BC 418)
 Category-Sub: 1. M&R Stations
 Workpaper Group: 004180 - M&R Stations
 Workpaper Detail: 004180.001 - Gas Transmission Meter & Regulator Stations - Collectible portion
 In-Service Date: Not Applicable
 Description:

Forecast In 2013 \$(000)					
Years		2014	2015	2016	
Labor		35	35	35	
Non-Labor		400	400	400	
NSE		0	0	0	
	Total	435	435	435	
FTE		0.5	0.5	0.5	

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00418.0
 Category: G. M&R Stations (BC 418)
 Category-Sub: 1. M&R Stations
 Workpaper Group: 004180 - M&R Stations
 Workpaper Detail: 004180.002 - Gas Transmission Meter & Regulator Stations - Non-Collectible portion.
 In-Service Date: Not Applicable
 Description:

Forecast In 2013 \$(000)				
Years	2014	2015	2016	
Labor	56	56	56	
Non-Labor	652	652	652	
NSE	0	0	0	
Total	708	708	708	
FTE	0.5	0.5	0.5	

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00418.0
 Category: G. M&R Stations (BC 418)
 Category-Sub: 1. M&R Stations
 Workpaper Group: 004180 - M&R Stations
 Workpaper Detail: 004180.003 - Billed Capital - M&R Stations

In-Service Date: Not Applicable

Description:

Gas Transmission - M&R Stations.

Forecast In 2013 \$(000)				
	Years	<u>2014</u>	<u>2015</u>	<u>2016</u>
Labor		41	41	41
Non-Labor		0	0	0
NSE		0	0	0
	Total	41	41	41
FTE		0.5	0.5	0.5

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Category: H. Capital Tools (BC 436)
Workpaper: 004360

Summary for Category: H. Capital Tools (BC 436)

	In 2013\$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	1	0	0	0
Non-Labor	32	130	130	130
NSE	0	0	0	0
Total	33	130	130	130
FTE	0.0	0.0	0.0	0.0

004360 GT CAPITAL TOOLS / QUALITY-ECON DRIVEN

Labor	1	0	0	0
Non-Labor	32	130	130	130
NSE	0	0	0	0
Total	33	130	130	130
FTE	0.0	0.0	0.0	0.0

Note: Totals may include rounding differences.

Beginning of Workpaper Group
004360 - GT CAPITAL TOOLS / QUALITY-ECON DRIVEN

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00436.0
 Category: H. Capital Tools (BC 436)
 Category-Sub: 1. Capital Tools
 Workpaper Group: 004360 - GT CAPITAL TOOLS / QUALITY-ECON DRIVEN

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

Forecast Method		Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016
Years									
Labor	Zero-Based	0	0	0	1	1	0	0	0
Non-Labor	Zero-Based	0	0	0	27	32	130	130	130
NSE	Zero-Based	0	0	0	0	0	0	0	0
Total		0	0	0	28	33	130	130	130
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Business Purpose:

Acquire and replace Capital Tools used on a daily basis by the Gas Transmission operating people of SDG&E.

Physical Description:

Hand tools, Volt/Amp Meters, Leak detectors, GPS receivers, pressure gauges, etc.

Project Justification:

Purchases are mostly to replace old, worn, obsolete or damaged tools used in the field.

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00436.0
Category: H. Capital Tools (BC 436)
Category-Sub: 1. Capital Tools
Workpaper Group: 004360 - GT CAPITAL TOOLS / QUALITY-ECON DRIVEN

Forecast Methodology:

Labor - Zero-Based

Have estimated no labor component for these tool purchases.

Non-Labor - Zero-Based

Used Transmission Operations' 5-yr capital plan amounts which are estimates by local people based on history and experience as well as awareness of the age and condition of existing tools used on a daily basis.

NSE - Zero-Based

None.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00436.0
 Category: H. Capital Tools (BC 436)
 Category-Sub: 1. Capital Tools
 Workpaper Group: 004360 - GT CAPITAL TOOLS / QUALITY-ECON DRIVEN

Adjustments to Forecast

In 2013 \$ (000)										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	Zero-Based	0	0	0	0	0	0	0	0	0
Non-Labor	Zero-Based	130	130	130	0	0	0	130	130	130
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		130	130	130	0	0	0	130	130	130
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Forecast Adjustment Details

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

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00436.0
 Category: H. Capital Tools (BC 436)
 Category-Sub: 1. Capital Tools
 Workpaper Group: 004360 - GT CAPITAL TOOLS / QUALITY-ECON DRIVEN

Determination of Adjusted-Recorded:

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	1	0
Non-Labor	0	0	0	27	32
NSE	0	0	0	0	0
Total	0	0	0	28	32
FTE	0.0	0.0	0.0	0.0	0.0
Adjustments (Nominal \$)**					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	0	0	0	1	0
Non-Labor	0	0	0	27	32
NSE	0	0	0	0	0
Total	0	0	0	28	32
FTE	0.0	0.0	0.0	0.0	0.0
Vacation & Sick (Nominal \$)					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Escalation to 2013\$					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	0	0	0	1	1
Non-Labor	0	0	0	27	32
NSE	0	0	0	0	0
Total	0	0	0	28	33
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
2016 GRC - REVISED
Capital Workpapers

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00436.0
 Category: H. Capital Tools (BC 436)
 Category-Sub: 1. Capital Tools
 Workpaper Group: 004360 - GT CAPITAL TOOLS / QUALITY-ECON DRIVEN

Adjustments to Recorded:

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

Detail of Adjustments to Recorded in Nominal \$:

Year/Explanation	Labor	NLbr	NSE	Total	FTE	RefID
2009 Total	0	0	0	0	0.0	
2010 Total	0	0	0	0	0.0	
2011 Total	0	0	0	0	0.0	
2012 Total	0	0	0	0	0.0	
2013 Total	0	0	0	0	0.0	

Note: Totals may include rounding differences.

**Beginning of Workpaper Sub Details for
Workpaper Group 004360**

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00436.0
Category: H. Capital Tools (BC 436)
Category-Sub: 1. Capital Tools
Workpaper Group: 004360 - GT CAPITAL TOOLS / QUALITY-ECON DRIVEN
Workpaper Detail: 004360.001 - Gas Transmission - Capital tool purchases & replacements
In-Service Date: Not Applicable
Description:

Forecast In 2013 \$(000)				
Years	2014	2015	2016	
Labor	0	0	0	
Non-Labor	130	130	130	
NSE	0	0	0	
Total	130	130	130	
FTE	0.0	0.0	0.0	

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Category: I. Local Engineering Pool (BC 903)
Workpaper: 009030

Summary for Category: I. Local Engineering Pool (BC 903)

	In 2013\$ (000)			
	Adjusted-Recorded	Adjusted-Forecast		
	2013	2014	2015	2016
Labor	76	92	92	92
Non-Labor	31	41	41	41
NSE	0	0	0	0
Total	107	133	133	133
FTE	0.8	1.0	1.0	1.0

009030 Local Engineering Pool - GT Pool

Labor	76	92	92	92
Non-Labor	31	41	41	41
NSE	0	0	0	0
Total	107	133	133	133
FTE	0.8	1.0	1.0	1.0

Note: Totals may include rounding differences.

Beginning of Workpaper Group
009030 - Local Engineering Pool - GT Pool

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00903.0
 Category: I. Local Engineering Pool (BC 903)
 Category-Sub: 1. Local Engineering Pool
 Workpaper Group: 009030 - Local Engineering Pool - GT Pool

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

Forecast Method		Adjusted Recorded					Adjusted Forecast		
		2009	2010	2011	2012	2013	2014	2015	2016
	Years								
Labor	4-YR Average	138	114	90	87	76	92	92	92
Non-Labor	4-YR Average	148	25	91	17	31	41	41	41
NSE	4-YR Average	0	0	0	0	0	0	0	0
	Total	286	140	181	105	108	133	133	133
FTE	4-YR Average	1.4	1.2	1.0	0.9	0.8	1.0	1.0	1.0

Business Purpose:

Provide a pool for overhead charges that will be reassigned to the various budget categories on a direct basis. Charges reside in this Budget Category temporarily and are reassigned on a monthly basis.

Physical Description:

Overhead charges stemming from labor spend on capital projects and reassigned to Capital budget categories specific to the Transmission activity.

Project Justification:

Continues an established accounting procedure for making charges for certain overheads, on a direct cost basis to Transmission's budget categories.

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00903.0
Category: I. Local Engineering Pool (BC 903)
Category-Sub: 1. Local Engineering Pool
Workpaper Group: 009030 - Local Engineering Pool - GT Pool

Forecast Methodology:

Labor - 4-YR Average

Used 4-yr Average because 2009 was out-of-pattern high and I wish to exclude it.

Non-Labor - 4-YR Average

Used 4-yr Average because 2009 was out-of-pattern high and I wish to exclude it.

NSE - 4-YR Average

None

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00903.0
 Category: I. Local Engineering Pool (BC 903)
 Category-Sub: 1. Local Engineering Pool
 Workpaper Group: 009030 - Local Engineering Pool - GT Pool

Adjustments to Forecast

In 2013 \$ (000)										
Forecast Method		Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years		2014	2015	2016	2014	2015	2016	2014	2015	2016
Labor	4-YR Average	92	92	92	0	0	0	92	92	92
Non-Labor	4-YR Average	41	41	41	0	0	0	41	41	41
NSE	4-YR Average	0	0	0	0	0	0	0	0	0
Total		133	133	133	0	0	0	133	133	133
FTE	4-YR Average	1.0	1.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0

Forecast Adjustment Details

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

Note: Totals may include rounding differences.

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

Area: GAS TRANSMISSION
Witness: Raymond K. Stanford
Budget Code: 00903.0
Category: I. Local Engineering Pool (BC 903)
Category-Sub: 1. Local Engineering Pool
Workpaper Group: 009030 - Local Engineering Pool - GT Pool

Determination of Adjusted-Recorded:

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
Recorded (Nominal \$)*					
Labor	98	84	73	77	66
Non-Labor	120	22	84	17	31
NSE	0	0	0	0	0
Total	218	105	157	94	97
FTE	1.2	1.0	0.9	0.8	0.7
Adjustments (Nominal \$)**					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal \$)					
Labor	98	84	73	77	66
Non-Labor	120	22	84	17	31
NSE	0	0	0	0	0
Total	218	105	157	94	97
FTE	1.2	1.0	0.9	0.8	0.7
Vacation & Sick (Nominal \$)					
Labor	15	13	11	11	10
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	15	13	11	11	10
FTE	0.2	0.2	0.1	0.1	0.1
Escalation to 2013\$					
Labor	26	17	6	0	0
Non-Labor	27	4	6	0	0
NSE	0	0	0	0	0
Total	53	21	13	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2013\$)					
Labor	138	114	90	87	76
Non-Labor	148	25	91	17	31
NSE	0	0	0	0	0
Total	286	140	181	105	108
FTE	1.4	1.2	1.0	0.9	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
2016 GRC - REVISED
Capital Workpapers

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00903.0
 Category: I. Local Engineering Pool (BC 903)
 Category-Sub: 1. Local Engineering Pool
 Workpaper Group: 009030 - Local Engineering Pool - GT Pool

Adjustments to Recorded:

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

Detail of Adjustments to Recorded in Nominal \$:

Year/Explanation	Labor	NLbr	NSE	Total	FTE	RefID
2009 Total	0	0	0	0	0.0	
2010 Total	0	0	0	0	0.0	
2011 Total	0	0	0	0	0.0	
2012 Total	0	0	0	0	0.0	
2013 Total	0	0	0	0	0.0	

Note: Totals may include rounding differences.

**Beginning of Workpaper Sub Details for
Workpaper Group 009030**

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

Area: GAS TRANSMISSION
 Witness: Raymond K. Stanford
 Budget Code: 00903.0
 Category: I. Local Engineering Pool (BC 903)
 Category-Sub: 1. Local Engineering Pool
 Workpaper Group: 009030 - Field Capital Support
 Workpaper Detail: 009030.001 - Gas Engineering Overheads pool
 In-Service Date: Not Applicable
 Description:

Forecast In 2013 \$(000)				
Years	2014	2015	2016	
Labor	92	92	92	
Non-Labor	41	41	41	
NSE	0	0	0	
Total	133	133	133	
FTE	1.0	1.0	1.0	

Note: Totals may include rounding differences.