Application of SOUTHERN CALIFORNIA GAS)					
COMPANY for authority to update its gas revenue						
requirement and base rates)					
effective January 1, 2016 (U 904-G))					

Application No. 14-11-___ Exhibit No.: (SCG-22-WP)

WORKPAPERS TO PREPARED DIRECT TESTIMONY OF DAVID I. SARKARIA ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

NOVEMBER 2014



2016 General Rate Case - APP INDEX OF WORKPAPERS

Exhibit SCG-22-WP - PENSION & PBOPS

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Overall Summary For Exhibit No. SCG-22-WP

Area: PENSION & PBOPs

Witness: David I. Sarkaria

Description
Non-Shared Services
Shared Services
Total

In 2013 \$ (000) Incurred Costs									
Adjusted-Recorded Adjusted-Forecast									
2013	2014	2015	2016						
65,157	26,600	0	83,610						
0	0	0	0						
65.157	26.600	0	83.610						

Area: PENSION & PBOPs Witness: David I. Sarkaria

Summary of Non-Shared Services Workpapers:

Description

A. EMPLOYEE PENSION

Total

In 2013 \$ (000) Incurred Costs									
Adjusted- Recorded	Adjusted-Forecast								
2013	2014	2015	2016						
65,157	26,600	0	83,610						
65,157	26,600	0	83,610						

In 2013\$ (000) Incurred Costs

Adjusted-Forecast

0.0

0.0

Area: PENSION & PBOPs Witness: David I. Sarkaria

Category: A. EMPLOYEE PENSION

Workpaper: VARIOUS

FTE

Summary for Category: A. EMPLOYEE PENSION

Adjusted-Recorded

0.0

	,		•			
	2013	2014	2015	2016		
Labor	0	0	0	0		
Non-Labor	65,157	0	0	0		
NSE	0	26,600	0	83,610		
Total	65,157	26,600	0	83,610		
FTE	0.0	0.0	0.0	0.0		
Workpapers belonging	to this Category:					
2PN000.000 EMPLOY	EE PENSION					
Labor	0	0	0	0		
Non-Labor	56,123	0	0	0		
NSE	0	26,600	0	82,090		
Total	56,123	26,600	0	82,090		
FTE	0.0	0.0	0.0	0.0		
2PN000.001 EMPLOY	EE PENSION - PBOP					
Labor	0	0	0	0		
Non-Labor	9,034	0	0	0		
NSE	0	0	0	1,520		
Total	9,034	0	0	1,520		

0.0

Beginning of Workpaper 2PN000.000 - EMPLOYEE PENSION

Area: PENSION & PBOPs Witness: David I. Sarkaria

Category: A. EMPLOYEE PENSION
Category-Sub 1. EMPLOYEE PENSION

Workpaper: 2PN000.000 - EMPLOYEE PENSION

Activity Description:

This is SCG's qualified retirement benefits plan, also known as the Southern California Gas Company Pension Plan. Represented and non-represented employees participate in the plan.

Forecast Explanations:

Labor - Zero-Based

Please see NSE below

Non-Labor - Zero-Based

Please see NSE below

NSE - Zero-Based

Zero Based method chosen as pension contributions are provided by the Company's certified actuary Towers Watson.

Summary of Results:

	In 2013\$ (000) Incurred Costs									
		Adjι	ısted-Recor	ded		Ad	justed-Fore	cast		
Years	2009	2010	2011	2012	2013	2014	2015	2016		
Labor	0	0	0	0	0	0	0	0		
Non-Labor	83,210	74,910	92,649	43,553	56,123	0	0	0		
NSE	0	0	0	0	0	26,600	0	82,090		
Total	83,210	74,910	92,649	43,553	56,123	26,600	0	82,090		
FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

Area: PENSION & PBOPs Witness: David I. Sarkaria

Category: A. EMPLOYEE PENSION
Category-Sub: 1. EMPLOYEE PENSION

Workpaper: 2PN000.000 - EMPLOYEE PENSION

Forecast Summary:

In 2013 \$(000) Incurred Costs											
Forecas	t Method	Base Forecast			Forecast Adjustments			Adjus	Adjusted-Forecast		
Years	s	2014	2015	2016	2014	2015	2016	2014	2015	2016	
Labor	Zero-Based	0	0	0	0	0	0	0	0	0	
Non-Labor	Zero-Based	0	0	0	0	0	0	0	0	0	
NSE	Zero-Based	0	0	0	26,600	0	82,090	26,600	0	82,090	
Tota	al	0	0	0	26,600	0	82,090	26,600	0	82,090	
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE	Adj Type
2014	0	0	26,600	26,600	0.0	1-Sided Adj
2014 Pensio	on Projection					
2014 Total	0	0	26,600	26,600	0.0	
2015	0	0	0	0	0.0	1-Sided Adj
2015 Pensio	on Projection					
2015 Total	0	0	0	0	0.0	
2016	0	0	82,090	82,090	0.0	1-Sided Adj
2016 Pension	on Projection					
2016 Total	0	0	82,090	82,090	0.0	

Area: PENSION & PBOPs Witness: David I. Sarkaria

Category: A. EMPLOYEE PENSION
Category-Sub: 1. EMPLOYEE PENSION

Workpaper: 2PN000.000 - EMPLOYEE PENSION

Determination of Adjusted-Recorded (Incurred Costs):

	-Recorded (incurred Cos 2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
ecorded (Nominal \$)*					
Labor	0	0	0	0	0
Non-Labor	75,105	69,315	89,101	42,800	56,123
NSE	0	0	0	0	0
Total	75,105	69,315	89,101	42,800	56,123
FTE	0.0	0.0	0.0	0.0	0.0
justments (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
FTE	0.0	0.0	0.0	0.0	0.0
corded-Adjusted (Nomin	al \$)				
Labor	0	0	0	0	0
Non-Labor	75,105	69,315	89,101	42,800	56,123
NSE	0	0	0	0	0
Total	75,105	69,315	89,101	42,800	56,123
FTE	0.0	0.0	0.0	0.0	0.0
cation & Sick (Nominal \$	5)				
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
calation to 2013\$					
Labor	0	0	0	0	0
Non-Labor	8,105	5,596	3,548	753	0
NSE	0	0	0	0	0
Total	8,105	5,596	3,548	753	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Consta	ant 2013\$)				
Labor	0	0	0	0	0
Non-Labor	83,210	74,910	92,649	43,553	56,123
NSE	0	0	0	0	0
Total	83,210	74,910	92,649	43,553	56,123
FTE	0.0	0.0	0.0	0.0	0.0

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

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

Area: PENSION & PBOPs Witness: David I. Sarkaria

Category: A. EMPLOYEE PENSION
Category-Sub: 1. EMPLOYEE PENSION

Workpaper: 2PN000.000 - EMPLOYEE PENSION

Summary of Adjustments to Recorded:

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

Detail of Adjustments to Recorded:

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

Supplemental Workpapers for Workpaper 2PN000.000

SoCalGas Pension Contribution Projection For Years 2014-2016

ASSUMPTIONS

 Pension contribution amounts based on estimates provided by the Company's certified actuary, Towers Watson.

	Actual		Proj	ected		
	2013	2014	2015		2016	
Pension Contributions	\$ 56,122,660	\$ 26,600,000	\$	-	\$ 82,090,000	

SoCalGas Qualified Pension Plan General Rate Case Forecast

FAS Costs - Minimum Required Contribution - Maximum Allowable Deduction
Reflecting New Segment Rates Passed in the Highway and Transportation Funding Act of 2014 (HATFA)

(in millions)

Cost and contributions are for the respective year	irs, headcount an 2014	d funded state 2015	us information 2016	is as of 1/1. 2017	2018	2019	2020	2021	2022	2023
• FRS Cost	69.37	79.54	100.12	106.44	104.02	105.02	103.70	101.74	99.72	94.51
Nemimum Required	26.60	0.00	82.09	91.75	111.01	129.68	144.69	150.65	145.72	100.87
• Maximum Deductible	1,352.30	1,280.36	1,431.22	1,455.23	1,577.45	1,695.07	1,788.06	1,826.48	1,789.53	1,76 <u>6.</u> 66
Active Participant Headcount (1)	7,953	8,196	8,418	8,742	9,018	9,018	9,018	9,018	9,018	97018
• Page 11 of 22 • Page 11 of 22	102% tion data, forecas	105% ted active pai	99%	99%	95% d by Sempra.	93% Values show	92% n reflect one-y	94% vear service re	98% equirement for	1,766Nor Shalled Service Workpapers

SoCalGas Qualified Pension Plan General Rate Case Forecast FAS Costs - Minimum Required Contribution - Maximum Allowable Deduction Reflecting New Segment Rates Passed in the Highway and Transportation Funding Act of 2014 (HATFA)

Assumptions and Notes

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Discount rate (FAS costs)	4.95%	4.55%	4.55%	4.55%	4.55%	4.55%	4.55%	4.55%	4.55%	4.55%
Effective interest rate (PPA - contributions)	6.48%	6.27%	6.08%	5.89%	5.42%	4.98%	4.63%	4.42%	4.40%	4.39%
Cash balance crediting rate	3.80%	3.52%	3.52%	3.52%	3.52%	3.52%	3.52%	3.52%	3.52%	3.52%
Annual compensation rate of increase	Age-graded									
Expected return on assets (FAS costs)	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%
Assumed investment return	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%
Lump sum rate	See notes									
Lump Sum Take Rate for All Years	90%									

Southern California

Gas Company

Non-Shared Service Workpapers

GRC

- January 1, 2014 participant census
- December 31, 2013 value of assets
- Plan provisions as of January 1, 2014
- April 30, 2014 capital market conditions used to determine discount rates and cash balance/HRA crediting rates for 2015 and beyond
- All plans reflect annual mortality improvements for 2014 and 2015
- The mortality tables were changed from RP-2000 "Employees"/"Healthy Annuitants" tables using Scale AA to RP-2014 mortality tables projected using Scale MP-2014 starting in 2016
- Balance of assumptions same as noted in draft 2014 actuarial valuation reports
- SoCalGas contributes minimum required contribution
- Forecasted counts reflect anticipated future headcount increases, and known participant transfers between plans during 2013
- For FAS costs, lump sum rate is a single effective rate based on PPA segment rates for November of prior year. For PPA contributions, lump sum rate is equal to the PPA segment rates.



Beginning of Workpaper 2PN000.001 - EMPLOYEE PENSION - PBOP

Area: PENSION & PBOPs Witness: David I. Sarkaria

Category: A. EMPLOYEE PENSION

Category-Sub 2. EMPLOYEE PENSION - PBOP

Workpaper: 2PN000.001 - EMPLOYEE PENSION - PBOP

Activity Description:

SCG provides post-retirement benefits other than pensions (PBOP) such as health and life insurance benefits, also known as the Southern California Gas Company Postretirement Welfare Plan. Represented and non-represented employees participate in the plan.

Forecast Explanations:

Labor - Zero-Based

Please see NSE below

Non-Labor - Zero-Based

Please see NSE below

NSE - Zero-Based

Zero Based method chosen as PBOP contributions are provided by the Company's certified actuary Towers Watson.

Summary of Results:

				In 2013\$ (00	0) Incurred (Costs		
		Adju	ısted-Recor	ded		Ad	justed-Fore	cast
Years	2009	2010	2011	2012	2013	2014	2015	2016
Labor	0	0	0	0	0	0	0	0
Non-Labor	28,741	35,288	54,852	23,102	9,034	0	0	0
NSE	0	0	0	0	0	0	0	1,520
Total	28,741	35,288	54,852	23,102	9,034	0	0	1,520
FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Area: PENSION & PBOPs Witness: David I. Sarkaria

Category: A. EMPLOYEE PENSION

Category-Sub: 2. EMPLOYEE PENSION - PBOP

Workpaper: 2PN000.001 - EMPLOYEE PENSION - PBOP

Forecast Summary:

			In 201	3 \$(000) lı	ncurred Co	sts					
Forecas	t Method	Bas	se Foreca	st	Forec	ast Adjust	tments	Adjusted-Forecast			
Years	s	2014	2015	2016	2014	2015	2016	2014	2015	2016	
Labor	Zero-Based	0	0	0	0	0	0	0	0	0	
Non-Labor	Zero-Based	0	0	0	0	0	0	0	0	0	
NSE	Zero-Based	0	0	0	0	0	1,520	0	0	1,520	
Tota	ıl	0	0	0	0		1,520	0	0	1,520	
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Forecast Adjustment Details:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>Total</u>	<u>FTE</u>	Adj Type
2014	0	0	0	0	0.0	1-Sided Adj
2014 PBOP	projection (proje	ected to be z	ero)			
2014 Total	0	0	0	0	0.0	
2015	0	0	0	0	0.0	1-Sided Adj
2014 PBOP	projection (expe	ected to be z	ero)			
2015 Total	0	0	0	0	0.0	
2016	0	0	0	0	0.0	1-Sided Adj
2016 PBOP	projection (expe	ected to be z	ero)			
2016	0	0	1,520	1,520	0.0	1-Sided Adj
2016 PBOP	Projection					
2016 Total	0	0	1,520	1,520	0.0	

Area: PENSION & PBOPs Witness: David I. Sarkaria

Category: A. EMPLOYEE PENSION

Category-Sub: 2. EMPLOYEE PENSION - PBOP

Workpaper: 2PN000.001 - EMPLOYEE PENSION - PBOP

Determination of Adjusted-Recorded (Incurred Costs):

	2009 (\$000)	2010 (\$000)	2011 (\$000)	2012 (\$000)	2013 (\$000)
corded (Nominal \$)*					
Labor	0	0	0	0	0
Non-Labor	25,942	33,180	52,751	22,384	9,034
NSE	0	0	0	0	0
Total	25,942	33,180	52,751	22,384	9,034
FTE	0.0	0.0	0.0	0.0	0.0
djustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	0	-528	0	318	0
NSE	0	0	0	0	0
Total	0	-528	0	318	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Nominal \$)					
Labor	0	0	0	0	0
Non-Labor	25,942	32,652	52,751	22,703	9,034
NSE	0	0	0	0	0
Total	25,942	32,652	52,751	22,703	9,034
FTE	0.0	0.0	0.0	0.0	0.0
acation & Sick (Nominal \$)					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
scalation to 2013\$					
Labor	0	0	0	0	0
Non-Labor	2,799	2,636	2,101	400	0
NSE	0	0	0	0	0
Total	2,799	2,636	2,101	400	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Constant 201	3\$)				
Labor	0	0	0	0	0
Non-Labor	28,741	35,288	54,852	23,102	9,034
NSE	0	0	0	0	0
Total	28,741	35,288	54,852	23,102	9,034
FTE	0.0	0.0	0.0	0.0	0.0

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

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

Area: PENSION & PBOPs Witness: David I. Sarkaria

Category: A. EMPLOYEE PENSION

Category-Sub: 2. EMPLOYEE PENSION - PBOP

Workpaper: 2PN000.001 - EMPLOYEE PENSION - PBOP

Summary of Adjustments to Recorded:

		In Nominal \$ (000)	Incurred Costs		
Years	2009	2010	2011	2012	2013
Labor	0	0	0	0	0
Non-Labor	0	-528	0	318	0
NSE	0	0	0	0	0
Total	0	-528	0	318	0
FTE	0.0	0.0	0.0	0.0	0.0

Detail of Adjustments to Recorded:

Year/Expl.	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type	From CCtr	RefID
2009 Total	0	0	0	0.0			
2010	0	-528	0	0.0 1-S	ided Adj	N/A	DSREED2013120
Transfer PBO	P costs to co	orrect workg	roup				6172713053
2010 Total	0	-528	0	0.0			
2011 Total	0	0	0	0.0			
2012	0	318	0	0.0 1-S	ided Adj	N/A	DSREED2013120
Transfer PBO	P costs to co	orrect workg	roup				6172841123
2012 Total	0	318	0	0.0			
2013 Total	0	0	0	0.0			

Supplemental Workpapers for Workpaper 2PN000.001

SoCalGas PBOP Contribution Projection For Years 2014-2016

ASSUMPTIONS

 PBOP contribution amounts based on estimates provided by the Company's certified actuary, Towers Watson.

	Actual			Pro	jected	
	2013	2	014	2	015	2016
PBOP Contributions	\$ 9,033,663	\$		\$		\$ 1,520,000

Page 20 of 22

Southern Californaia Gas Company PBOPs General Rate Case Forecast FAS Regulatory Costs (in millions)

Cost and contributions are for the respective years, headcount and funded status information is as of 1/1.

<i>w</i>	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
SoCahGas PBOP (1)	/ >									
F K CostC 中tiputions	(0.23)	(1.38)	1.52	2.73	3.49	4.27	5.04	5.95	6.88	7.82
Contributions A The Particle and Handanese	0.00	0.00	1.52	2.73	3.49	4.27	5.04	5.95	6.88	7.82
Active Participant Headcount Full Value of Assets	8,196	8,418	8,742	9,018	9,018	9,018	9,018	9,018	9,018	9,018
Fair value of Assets ABBO	847.50 759.98	868.32 817.12	887.00 890.95	905.39 908.58	922.96 925.30	939.73 941.18	956.55 957.09	974.10	993.47 992.27	1,015.20 1,013.04
	112%	106%	100%	100%	100%	100%	100%	973.79 100%	100%	1,013.04
Fodded Percentage (FV ÷ APBO) Z	11270	10076	100 /6	100 /6	100 /6	100 /6	100 /6	100 /6	100 %	100 /6
& (1) Pholudes an estimate for non-spouse dependent BOPs/Exh No:SCG-22-WP/Witness: D. Page 20 of 22	t coverage									2016 GRC - Non-Shared Service
Biologica an estimate for non spouse dependent	t coverage.									Ş
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Southern California Gas Company 2016 GRC - APP Non-Shared Service Workpapers

SCG/PENSION & PBOPs/Exh No:SCG-22-WP/Witness: D. Sarkaria

Sempra Energy PBOPs - with FTEs General Rate Case Forecast FAS Regulatory Costs

Assumptions and Notes

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Baseline Assumptions: Discount rate (FAS costs) Annual compensation rate of increase Expected return on assets (FAS costs) Assumed investment return Healthcare Trend	4.95% Age Based 7%/4% 7%/4%	4.55% Age Based 7%/4% 7%/4%	4.55% Age Based 7%/4% 7%/4%	4.55% Age Based 7%/4% 7%/4%	4.55% Age Based 7%/4% 7%/4%	4.55% Age Based 7%/4% 7%/4%	4.55% Age Based 7%/4% 7%/4%	4.55% Age Based 7%/4% 7%/4%	4.55% Age Based 7%/4% 7%/4%	4.55% Age Based 7%/4% 7%/4%
 Pre - 65 Post - 65	Varies by medical plan ⁽¹⁾ 4.75%	7.75% 4.75%	7.75% 4.75%	7.75% 4.75%	6.50% 4.75%	5.50% 4.75%	5.00% 4.50%	5.00% 4.50%	5.00% 4.50%	5.00% 4.50%

⁽¹⁾ The trend rate used in 2014 was 13.9% for Anthem plans and -4.3% for Kaiser plans

- January 1, 2013 participant census
- Forecasted counts reflect anticipated future headcount increases as provided by Sempra and known participant transfers between plans during 2013
- April 30, 2014 capital market conditions for determining discount rates and cash balance/HRA crediting rates for 2015 and beyond market conditions are expected to remain constant throughout the forecast period
- December 31, 2013 value of assets
- Includes all plan changes described with December 31, 2013 disclosure
- The 2014 trend rates were updated to reflect the most recent experience
- All plans reflect annual mortality improvements for 2014 and 2015
- The mortality tables were changed from RP-2000 "Employees"/"Healthy Annuitants" tables using Scale AA to RP-2014 mortality tables projected using Scale MP-2014 starting in 2016
- Other assumptions same as December 31, 2013 financial reporting
- · SoCal Gas contributes the lesser of FAS cost or maximum tax deductible contributions

Southern California C 2016 GRC -Non-Shared Service Workpapers Gas Company



Area: PENSION & PBOPs Witness: David I. Sarkaria

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	<u>Description</u>
2200-8001	000	EMPLOYEE PENSION